

# FULL RESERVE STUDY

## The Oaks at Roper Mountain Homeowners Association, Inc.



**Greenville, South Carolina**

**October 24, 2018**



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Long-term thinking. Everyday commitment.

The Oaks at Roper Mountain Homeowners Association, Inc.  
Greenville, South Carolina

Dear Board of Directors of The Oaks at Roper Mountain Homeowners Association, Inc.:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of The Oaks at Roper Mountain Homeowners Association, Inc. in Greenville, South Carolina and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, October 24, 2018.

This *Full Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a "Level I Full Reserve Study."

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 years. We look forward to continuing to help The Oaks at Roper Mountain Homeowners Association, Inc. 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 November 5, 2018 by

*Reserve Advisors, Inc.*

Visual Inspection and Report by: Colin Niemeyer

Review by: Alan M. Ebert, RS<sup>1</sup>, PRA<sup>2</sup>, Director of Quality Assurance



<sup>1</sup> 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.

<sup>2</sup> 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>.



Long-term thinking. Everyday commitment.

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## 1. RESERVE STUDY EXECUTIVE SUMMARY

**Client:** The Oaks at Roper Mountain Homeowners Association, Inc. (The Oaks at Roper Mountain)

**Location:** Greenville, South Carolina

**Reference:** 150690

**Property Basics:** The Oaks at Roper Mountain Homeowners Association, Inc. is a planned unit development which is responsible for the common elements shared by 43 single family homes. The common elements of the Association were built from 2008 to 2015.

**Reserve Components Identified:** 18 Reserve Components.

**Inspection Date:** October 24, 2018. We conducted the original inspection on August 4, 2015.

**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 2048 due to total replacement of the asphalt pavement paved in 2008.

**Cash Flow Method:** 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
- 1.7% anticipated annual rate of return on invested reserves
- 3.2% 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.

### **Cash Status of Reserve Fund:**

- \$88,731 as of September 30, 2018
- 2018 budgeted Reserve Contributions of \$28,500
- 2019 budgeted Reserve Contributions of \$22,000

**Project Prioritization:** We recommend the Association prioritize the following projects in the next five years based on the conditions identified:

- Asphalt Pavement, Total Replacement, Walking Paths
- Stormwater Drainage

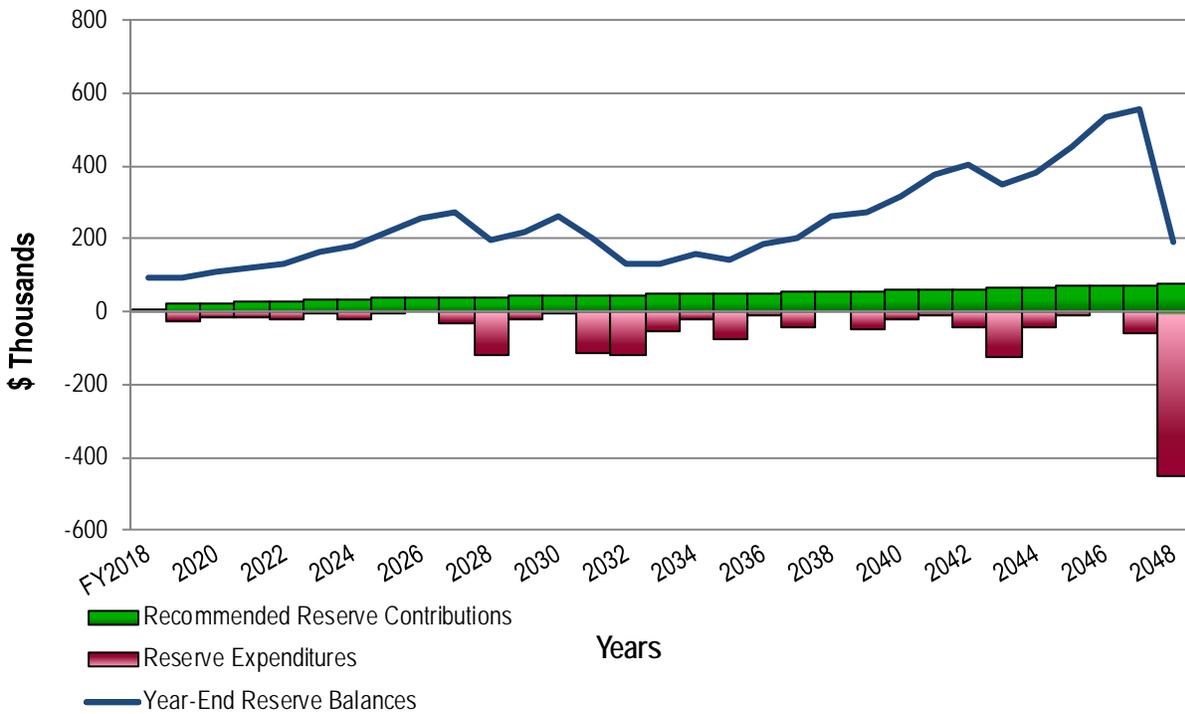
**Recommended Reserve Funding:** We recommend the following in order to achieve a stable and equitable Funding Plan:

- Phased increases of approximately \$2,800 from 2020 through 2024
- Inflationary increases from 2025 through 2048, the limit of this study's Cash Flow Analysis
- Initial recommended adjustment in Reserve Contributions of \$2,800 represents an average monthly increase of \$5.43 per homeowner and about a three percent (2.6%) adjustment in the 2019 total Operating Budget of \$107,040.



**The Oaks at Roper Mountain**  
Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2019	22,000	95,509	2029	42,200	221,045	2039	57,800	273,579
2020	24,800	107,466	2030	43,600	263,077	2040	59,600	318,845
2021	27,600	122,718	2031	45,000	201,297	2041	61,500	379,004
2022	30,400	132,584	2032	46,400	132,709	2042	63,500	406,532
2023	33,200	164,188	2033	47,900	129,568	2043	65,500	352,052
2024	36,000	180,874	2034	49,400	160,556	2044	67,600	384,134
2025	37,200	216,599	2035	51,000	141,035	2045	69,800	451,922
2026	38,400	259,008	2036	52,600	186,177	2046	72,000	532,217
2027	39,600	271,881	2037	54,300	200,985	2047	74,300	557,114
2028	40,900	198,079	2038	56,000	260,878	2048	76,700	190,924





## 2. RESERVE STUDY REPORT

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

**The Oaks at Roper Mountain Homeowners Association, Inc.**

**Greenville, South Carolina**

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, October 24, 2018. We conducted the original inspection on August 4, 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
- **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 and the Board. 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:

- The Oaks at Roper Mountain responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property 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 reserve funding at this time.

- Electrical Systems, Common
- Pipes, Subsurface Utilities

The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds. 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 \$3,800 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Bridge, Wood, Finish Applications and Interim Repairs
- Detention Ponds, Maintenance
- Drainage Swales, Subsequent Maintenance
- Fence, Metal, Entrance
- Irrigation System
- Landscape
- Paint Finishes, Touch Up
- Retaining Walls, Inspections and Capital Repairs
- Rip Rap, Maintenance and Augmentation
- Signage, Street and Traffic
- Other Repairs normally funded through the Operating Budget

Certain items have been 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:

- Homes and Lots

Certain items have been designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Light Poles and Fixtures (Leased)

### **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
- 2018 local cost of replacement
  - Per unit
  - Per phase
  - Replacement of total quantity
- Total future costs of replacement 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

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

**The Oaks at Roper Mountain  
Homeowners Association, Inc.**  
Greenville, South Carolina

**Explanatory Notes:**

- 1) **3.2%** is the estimated future Inflation Rate for estimating Future Replacement Costs.
- 2) FY2018 is Fiscal Year beginning January 1, 2018 and ending December 31, 2018.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2018	1 2019	2 2020	3 2021	4 2022	5 2023	6 2024	7 2025	8 2026	9 2027	10 2028	11 2029	12 2030	13 2031	14 2032	15 2033
						Useful	Remaining	Unit (2018)	Per Phase (2018)	Total (2018)	30-Year Total (Inflated)																
4.020	6,100	6,100	Square Yards	Asphalt Pavement, Crack Repair and Patch	2020	3 to 5	2	0.95	5,795	5,795	57,128			6,172			7,001										9,007
4.040	4,800	4,800	Square Yards	Asphalt Pavement, Mill and Overlay, 2008	2028	15 to 20	10	13.00	62,400	62,400	85,503																85,503
4.041	1,300	1,300	Square Yards	Asphalt Pavement, Mill and Overlay, 2015	2035	15 to 20	17	13.00	16,900	16,900	28,870																
4.045	4,800	4,800	Square Yards	Asphalt Pavement, Total Replacement, 2008	2048	15 to 20	30	33.00	158,400	158,400	407,517																
4.080	900	300	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Phased	2019	to 15	1 to 11	42.00	12,600	37,800	119,892	13,003					15,221										17,818
4.086	1	1	Allowance	Bridge, Wood	2028	15 to 25	10	8,000.00	8,000	8,000	10,962																10,962
4.100	19	19	Each	Catch Basins, Inspections and Capital Repairs	2028	15 to 20	10	450.00	8,550	8,550	33,713																11,716
4.110	4,500	450	Linear Feet	Concrete Gutters, Partial	2028	to 65	10 to 30+	17.00	7,650	76,500	30,163																10,482
4.140	8,600	430	Square Feet	Concrete Sidewalks and Aprons, Partial	2020	to 65	2 to 30+	9.00	3,870	77,400	38,004			4,122				4,825									5,648
4.200	660	660	Linear Feet	Fences, Aluminum, Detention Ponds	2033	to 25	15	45.00	29,700	29,700	47,638																47,638
4.285	4,000	2,000	Linear Feet	Fence, Wood, Phased	2031	15 to 20	13 to 14	35.00	70,000	140,000	214,219																105,423 108,796
4.286	4,000	4,000	Linear Feet	Fence, Wood, Stain Applications	2022	4 to 6	4	5.00	20,000	20,000	178,080					22,686						26,555					
4.310	1	1	Panel	Gate Entry System	2020	10 to 15	2	4,000.00	4,000	4,000	11,093			4,260													
4.320	4	1	Each	Gate Operators, Phased	2019	to 10	1 to 7	3,500.00	3,500	14,000	68,827	3,612			3,847		4,097										4,647 4,949 5,271 5,614
4.330	4	4	Each	Gates	2035	to 25	17	4,500.00	18,000	18,000	30,749																
4.745	1,200	1,200	Square Feet	Retaining Walls, Masonry	2043	to 35	25	45.00	54,000	54,000	118,682																
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2021	15 to 20	3	9,500.00	9,500	9,500	28,849					10,441											
4.801	1	1	Allowance	Stormwater Drainage, Bridge and Walking Path	2019	N/A	1	7,500.00	7,500	7,500	7,740		7,740														
<b>Anticipated Expenditures, By Year</b>											<b>\$1,517,629</b>	0	24,355	14,554	14,288	22,686	4,097	22,222	4,825	0	31,202	118,663	22,767	5,648	110,694	117,803	53,252

## RESERVE EXPENDITURES

**The Oaks at Roper Mountain  
Homeowners Association, Inc.**  
Greenville, South Carolina

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				16 2034	17 2035	18 2036	19 2037	20 2038	21 2039	22 2040	23 2041	24 2042	25 2043	26 2044	27 2045	28 2046	29 2047	30 2048			
						Useful	Remaining	Unit (2018)	Per Phase (2018)	Total (2018)	30-Year Total (Inflated)																		
4.020	6,100	6,100	Square Yards	Asphalt Pavement, Crack Repair and Patch	2020	3 to 5	2	0.95	5,795	5,795	57,128			10,216			11,588												
4.040	4,800	4,800	Square Yards	Asphalt Pavement, Mill and Overlay, 2008	2028	15 to 20	10	13.00	62,400	62,400	85,503																		
4.041	1,300	1,300	Square Yards	Asphalt Pavement, Mill and Overlay, 2015	2035	15 to 20	17	13.00	16,900	16,900	28,870	28,870																	
4.045	4,800	4,800	Square Yards	Asphalt Pavement, Total Replacement, 2008	2048	15 to 20	30	33.00	158,400	158,400	407,517																	407,517	
4.080	900	300	Square Yards	Asphalt Pavement, Total Replacement, Walking Paths, Phased	2019	to 15	1 to 11	42.00	12,600	37,800	119,892	20,857				24,414												28,579	
4.086	1	1	Allowance	Bridge, Wood	2028	15 to 25	10	8,000.00	8,000	8,000	10,962																		
4.100	19	19	Each	Catch Basins, Inspections and Capital Repairs	2028	15 to 20	10	450.00	8,550	8,550	33,713																	21,997	
4.110	4,500	450	Linear Feet	Concrete Gutters, Partial	2028	to 65	10 to 30+	17.00	7,650	76,500	30,163																	19,681	
4.140	8,600	430	Square Feet	Concrete Sidewalks and Aprons, Partial	2020	to 65	2 to 30+	9.00	3,870	77,400	38,004	6,611				7,739												9,059	
4.200	660	660	Linear Feet	Fences, Aluminum, Detention Ponds	2033	to 25	15	45.00	29,700	29,700	47,638																		
4.285	4,000	2,000	Linear Feet	Fence, Wood, Phased	2031	15 to 20	13 to 14	35.00	70,000	140,000	214,219																		
4.286	4,000	4,000	Linear Feet	Fence, Wood, Stain Applications	2022	4 to 6	4	5.00	20,000	20,000	178,080				36,387				42,593									49,859	
4.310	1	1	Panel	Gate Entry System	2020	10 to 15	2	4,000.00	4,000	4,000	11,093	6,833																	
4.320	4	1	Each	Gate Operators, Phased	2019	to 10	1 to 7	3,500.00	3,500	14,000	68,827				6,368		6,782		7,223									7,692	8,725
4.330	4	4	Each	Gates	2035	to 25	17	4,500.00	18,000	18,000	30,749	30,749																	
4.745	1,200	1,200	Square Feet	Retaining Walls, Masonry	2043	to 35	25	45.00	54,000	54,000	118,682																	118,682	
4.800	1	1	Allowance	Signage, Entrance Monuments, Renovation	2021	15 to 20	3	9,500.00	9,500	9,500	28,849						18,408												
4.801	1	1	Allowance	Stormwater Drainage, Bridge and Walking Path	2019	N/A	1	7,500.00	7,500	7,500	7,740																		
<b>Anticipated Expenditures, By Year</b>											<b>\$1,517,629</b>	20,857	73,063	10,216	42,755	0	49,604	19,327	7,223	42,593	126,374	41,723	9,059	0	58,584	449,195			

## RESERVE FUNDING PLAN

**CASH FLOW ANALYSIS**  
**The Oaks at Roper Mountain**  
**Homeowners Association, Inc.**

Individual Reserve Budgets & Cash Flows for the Next 30 Years

Greenville, South Carolina	FY2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<b>Reserves at Beginning of Year (Note 1)</b>	88,731	96,248	95,509	107,466	122,718	132,584	164,188	180,874	216,599	259,008	271,881	198,079	221,045	263,077	201,297	132,709
Plus Recommended Reserve Contributions	7,125	22,000	24,800	27,600	30,400	33,200	36,000	37,200	38,400	39,600	40,900	42,200	43,600	45,000	46,400	47,900
Plus Additional Assessment																
<b>Total Recommended Reserve Contributions (Note 2)</b>	<b>7,125</b>	<b>22,000</b>	<b>24,800</b>	<b>27,600</b>	<b>30,400</b>	<b>33,200</b>	<b>36,000</b>	<b>37,200</b>	<b>38,400</b>	<b>39,600</b>	<b>40,900</b>	<b>42,200</b>	<b>43,600</b>	<b>45,000</b>	<b>46,400</b>	<b>47,900</b>
Plus Estimated Interest Earned, During Year (Note 3)	392	1,616	1,711	1,940	2,152	2,501	2,908	3,350	4,009	4,475	3,961	3,533	4,080	3,914	2,815	2,211
Less Anticipated Expenditures, By Year	0	(24,355)	(14,554)	(14,288)	(22,686)	(4,097)	(22,222)	(4,825)	0	(31,202)	(118,663)	(22,767)	(5,648)	(110,694)	(117,803)	(53,252)
<b>Anticipated Reserves at Year End</b>	<b>\$96,248</b>	<b>\$95,509</b>	<b>\$107,466</b>	<b>\$122,718</b>	<b>\$132,584</b>	<b>\$164,188</b>	<b>\$180,874</b>	<b>\$216,599</b>	<b>\$259,008</b>	<b>\$271,881</b>	<b>\$198,079</b>	<b>\$221,045</b>	<b>\$263,077</b>	<b>\$201,297</b>	<b>\$132,709</b>	<b>\$129,568</b>

(continued)

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

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
<b>Reserves at Beginning of Year</b>	129,568	160,556	141,035	186,177	200,985	260,878	273,579	318,845	379,004	406,532	352,052	384,134	451,922	532,217	557,114
<b>Total Recommended Reserve Contributions</b>	<b>49,400</b>	<b>51,000</b>	<b>52,600</b>	<b>54,300</b>	<b>56,000</b>	<b>57,800</b>	<b>59,600</b>	<b>61,500</b>	<b>63,500</b>	<b>65,500</b>	<b>67,600</b>	<b>69,800</b>	<b>72,000</b>	<b>74,300</b>	<b>76,700</b>
Plus Estimated Interest Earned, During Year	2,445	2,542	2,758	3,263	3,893	4,505	4,993	5,882	6,621	6,394	6,205	7,047	8,295	9,181	6,305
Less Anticipated Expenditures, By Year	(20,857)	(73,063)	(10,216)	(42,755)	0	(49,604)	(19,327)	(7,223)	(42,593)	(126,374)	(41,723)	(9,059)	0	(58,584)	(449,195)
<b>Anticipated Reserves at Year End</b>	<b>\$160,556</b>	<b>\$141,035</b>	<b>\$186,177</b>	<b>\$200,985</b>	<b>\$260,878</b>	<b>\$273,579</b>	<b>\$318,845</b>	<b>\$379,004</b>	<b>\$406,532</b>	<b>\$352,052</b>	<b>\$384,134</b>	<b>\$451,922</b>	<b>\$532,217</b>	<b>\$557,114</b>	<b>\$190,924</b>

(NOTES 4&5)

**Explanatory Notes:**

- 1) Year 2018 starting reserves are as of September 30, 2018; FY2018 starts January 1, 2018 and ends December 31, 2018.
- 2) Reserve Contributions for 2018 are the remaining budgeted 3 months; 2019 is budgeted; 2020 is the first year of recommended contributions.
- 3) 1.7% is the estimated annual rate of return on invested reserves; 2018 is a partial year of interest earned.
- 4) Accumulated year 2048 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****The Oaks at Roper Mountain  
Homeowners Association, Inc.**

Greenville, South Carolina

Line Item	Reserve Component Inventory	RUL = 0 FY2018	1 2019	2 2020	3 2021	4 2022	5 2023
4.020	Asphalt Pavement, Crack Repair and Patch			6,172			
4.080	Asphalt Pavement, Total Replacement, Walking Paths, Phased		13,003				
4.140	Concrete Sidewalks and Aprons, Partial			4,122			
4.286	Fence, Wood, Stain Applications					22,686	
4.310	Gate Entry System			4,260			
4.320	Gate Operators, Phased		3,612		3,847		4,097
4.800	Signage, Entrance Monuments, Renovation				10,441		
4.801	Stormwater Drainage, Bridge and Walking Path		7,740				
	<b>Anticipated Expenditures, By Year</b>	0	24,355	14,554	14,288	22,686	4,097

## 4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *Full 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.*

### **Asphalt Pavement, Crack Repair and Patch**

---

**Line Item:** 4.020

**Quantity:** Approximately 6,100 square yards at the streets, 4,800 square yards were paved in 2008 and 1,300 square yards were paved in 2015.

**History:** Original

**Condition:** Good to fair overall with surface cracks evident

**Useful Life:** Three- to five-years

**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 crack repairs and patching of up to two percent (2%) of the pavement.

### **Asphalt Pavement, Repaving**

---

**Line Items:** 4.040, 4.041 and 4.045

**Quantity:** Approximately 4,800 square yards

**History:** Approximately 6,100 square yards at the streets, 4,800 square yards were paved in 2008 and 1,300 square yards were paved in 2015.

**Condition:** Good to fair overall with surface cracks evident



**Asphalt pavement overview of Charleston Oak Lane**



**Asphalt pavement overview of Charleston Oak Lane**



**Asphalt pavement overview of Garlington Oak Court – paved in 2015**



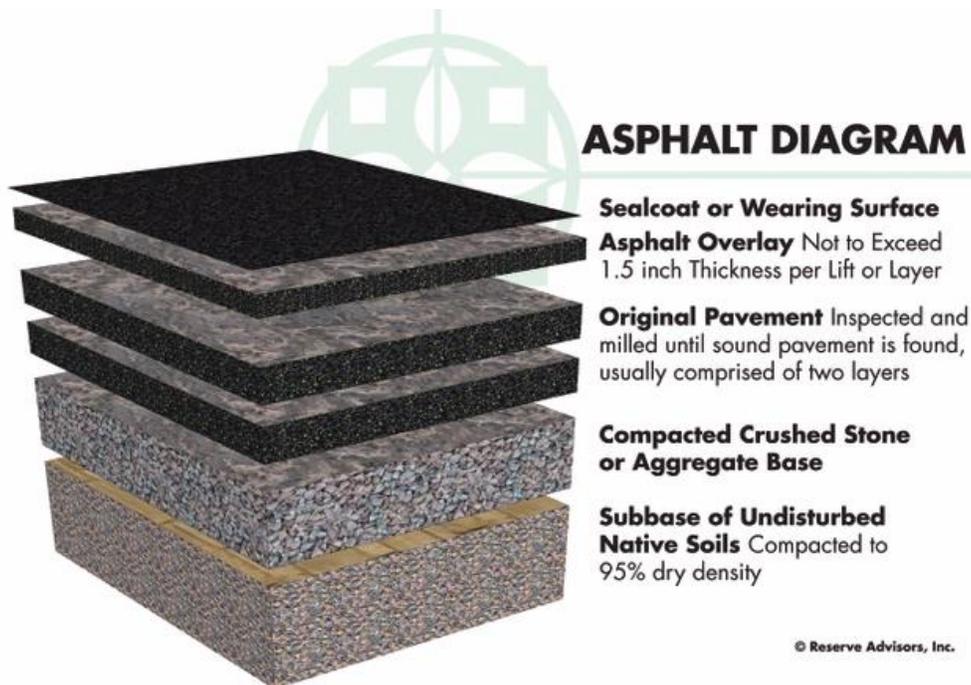
**Surface cracks evident**



**Asphalt pavement overview of Charleston Oak Lane**

**Useful Life:** 15- to 20-years

**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 The Oaks at Roper Mountain:



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 mill and overlay method for initial repaving followed by the total replacement method for subsequent repaving at The Oaks at Roper Mountain.

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

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for milling and overlayment includes area patching of up to ten percent (10%).

## **Asphalt Pavement, Repaving, Walking Paths**

---

**Line Item:** 4.080

**Quantity:** Approximately 900 square yards

**History:** Original

**Condition:** Good to fair overall with cracks and isolated deterioration evident



**Walking path overview**



**Fatigue and surface cracks evident**



**Surface cracks evident**



**Walking path overview**



**Surface cracks evident**

**Useful Life:** The need to maintain a safe pedestrian surface results in a useful life of up to 15 years

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

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

## **Bridge, Wood**

---

**Line Item:** 4.086

**Quantity:** One wood bridge which comprises approximately 150 square feet

**History:** Original with partial repairs made recently

**Condition:** Good overall



**Bridge overview**



**Bridge structure**

**Useful Life:** 15- to 25-years with proper maintenance.

**Component Detail Notes:** Bridge construction includes the following:

- Wood railings with vertical pickets
- Wood frames
- Frame in contact with ground (This condition results in accelerated deterioration of the column bases.)
- Cross bracing does not exist to stabilize the frame

**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. Proper maintenance should include the following activities funded through the operating budget:

- Annual inspections to identify and correct any unsafe conditions
- Securing of loose fasteners and replacement of deteriorated fasteners
- Replacement of deteriorated wood components
- Power washing with an algaecide and application of a sealer/stain

## Catch Basins

---

**Line Item:** 4.100

**Quantity:** 19 each

**History:** Original

**Condition:** Good overall



**Catch basin at the street**



**Landscape catch basin**



**Catch basin at the street**

**Useful Life:** The useful life of catch basins is up to 65 years. However, achieving this useful life usually requires interim capital repairs or partial replacements every 15- to 20-years.

**Component Detail Notes:** Erosion causes settlement around the collar of catch basins. Left unrepaired, the entire catch basin will shift and need 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. We recommend the Association plan for inspections and capital repairs to the catch basins in conjunction with repaving.

## **Concrete Gutters**

---

**Line Item:** 4.110

**Quantity:** 4,500 linear feet

**Condition:** Fair overall with cracks and spalling evident



**Gutter overview**



**Isolated spalling at driveway evident**



**Cracks at driveway evident**

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

**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 900 linear feet of gutters, or twenty percent (20%) of the total, will require replacement during the next 30 years.

## **Concrete Sidewalks and Aprons**

---

**Line Item:** 4.140

**Quantity:** 8,600 square feet

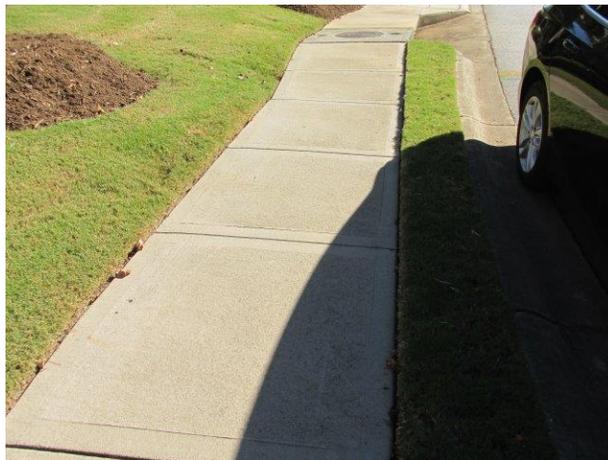
**Condition:** Good to fair overall with cracks evident



**Sidewalk overview**



**Cracks at the concrete apron evident**



**Sidewalk overview**

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

**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 thirty percent (30%) of the total, will require replacement during the next 30 years.

## **Fences, Aluminum**

---

**Line Item:** 4.200

**Quantity:** Approximately 660 linear feet at the detention ponds

**History:** Original

**Condition:** Good to fair overall



Aluminum fence at the detention pond off of Charleston Oak Lane



Aluminum fence at the detention pond off of Charleston Oak Lane

**Useful Life:** Up to 25 years

**Priority/Criticality:** Per Board discretion

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

## Fence, Wood

---

**Line Items:** 4.285 and 4.286

**Quantity:** Approximately 4,000 linear feet at the community perimeter

**History:** The fence is original and was stained in 2017.

**Condition:** Good overall



Wood fence overview



Wood fence overview



**Wood fence overview**

**Useful Life:** 15- to 20-years for the total replacement and stain applications every 4- to 6-years.

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The Association should anticipate periodic partial replacements due to the non-uniform nature of wood deterioration.

## **Gate Entry System**

---

**Line Item:** 4.310

**Quantity:** One panel

**History:** Original

**Condition:** Reported in unsatisfactory operational condition



**Panel at the community entrance**

**Useful Life:** 10- to 15-years

**Priority/Criticality:** Per Board discretion

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

## **Gates and Operators**

---

**Line Items:** 4.320 and 4.330

**Quantity:** Four gates and four operators

**History:** The Association informs us all the gates have been replaced due to damage. One operator has been replaced and the remaining operators are original.

**Condition:** Good overall



**Entrance gates**



**Original operator**



**New operator**

**Useful Life:** Up to 10 years for the operators and up to 25 years for the gates

**Priority/Criticality:** Per Board discretion

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

## **Retaining Walls, Masonry**

---

**Line Item:** 4.745

**Quantity:** 1,200 square feet

**History:** Original

**Condition:** Good overall



**Retaining wall at the swale by the walking path**



**Retaining wall at the swale by the walking path**

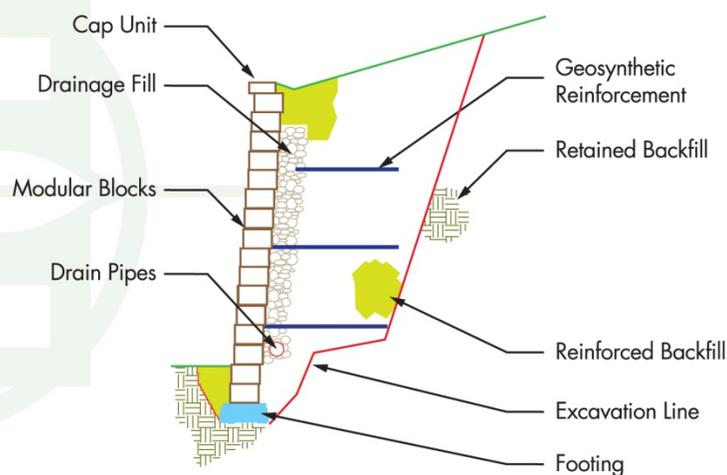


Retaining wall off of Charleston Oak Lane

**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 walls. The following schematic depicts the typical components of a retaining wall system although it may not reflect the actual configuration at The Oaks at Roper Mountain:

## MASONRY RETAINING WALL DETAIL



© Reserve Advisors, Inc.

**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, Entrance Monuments

---

**Line Item:** 4.800

**Quantity:** Two property identification signs

**History:** Original

**Condition:** Good to fair overall. The Association informs us of plans to renovate the monuments in the near future.



**Entrance monument**



**Masonry columns and fence**

**Useful Life:** 15- to 20-years

**Component Detail Notes:** Community signage contributes to the overall aesthetic appearance of the property to owners and potential buyers. Renovation or 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 times for replacement or renovation are discretionary. The signage includes the following elements:

- Fence
- Light fixtures
- Masonry

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for renovation includes repointing and repairs to the masonry and replacement of the remaining components listed above.

## Stormwater Drainage

---

**Line Item:** 4.801

**Quantity:** At the request of the Association we include a line item to address the drainage issues along the walking path leading up to the bridge. This allowance includes the creation of drainage swales totaling approximately 150 linear feet.

**History:** N/A

**Condition:** During heavy rain events water flows along the walking path carrying silt and debris and causing early deterioration of the walking path.



**Dirt and debris can be seen along the walking path leading up to the bridge**

**Useful Life:** Subsequent maintenance should be funded through the operating budget.

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

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

## 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.

The Oaks at Roper Mountain 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 standards<sup>1</sup> set forth by the Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Full Reserve Study." 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
- Local<sup>2</sup> 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 Greenville, South Carolina at an annual inflation rate. Isolated or regional markets of

<sup>1</sup> Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

<sup>2</sup> See Credentials for additional information on our use of published sources of cost data.

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

- The past and current maintenance practices of The Oaks at Roper Mountain 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, Inc. 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 principals are founders of Community Associations Institute's (CAI) Reserve Committee that developed national standards for reserve study providers. One of our principals 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 the 2,600,000-square foot 98-story Trump International Hotel and Tower in Chicago. 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.

**QUALIFICATIONS**  
**THEODORE J. SALGADO**  
**Principal Owner**

**CURRENT CLIENT SERVICES**

Theodore J. Salgado is a co-founder of Reserve Advisors, Inc., which is dedicated to serving community associations, city and country clubs, religious organizations, educational facilities, and public and private entities throughout the United States. He is responsible for the production, management, review, and quality assurance of all reserve studies, property inspection services and consulting services for a nationwide portfolio of more than 6,000 clients. Under his direction, the firm conducts reserve study services for community associations, apartment complexes, churches, hotels, resorts, office towers and vintage architecturally ornate buildings.



**PRIOR RELEVANT EXPERIENCE**

Before founding Reserve Advisors, Inc. with John P. Poehlmann in 1991, Mr. Salgado, a professional engineer registered in the State of Wisconsin, served clients for over 15 years through American Appraisal Associates, the world's largest full service valuation firm. Mr. Salgado conducted facilities analyses of hospitals, steel mills and various other large manufacturing and petrochemical facilities and casinos.

He has served clients throughout the United States and in foreign countries, and frequently acted as project manager on complex valuation, and federal and state tax planning assignments. His valuation studies led to negotiated settlements on property tax disputes between municipalities and property owners.

Mr. Salgado has authored articles on the topic of reserve studies and facilities maintenance. He also co-authored *Reserves*, an educational videotape produced by Reserve Advisors on the subject of Reserve Studies and maintaining appropriate reserves. Mr. Salgado has also written in-house computer applications manuals and taught techniques relating to valuation studies.

**EXPERT WITNESS**

Mr. Salgado has testified successfully before the Butler County Board of Tax Revisions in Ohio. His depositions in pretrial discovery proceedings relating to reserve studies of Crestview Estates Condominium Association in Wauconda, Illinois, Rivers Point Row Property Owners Association, Inc. in Charleston, South Carolina and the North Shore Club Associations in South Bend, Indiana have successfully assisted the parties in arriving at out of court settlements.

**EDUCATION** - Milwaukee School of Engineering - B.S. Architectural Engineering

**PROFESSIONAL AFFILIATIONS/DESIGNATIONS**

American Association of Cost Engineers - Past President, Wisconsin Section

Association of Construction Inspectors - Certified Construction Inspector

Association of Professional Reserve Analysts - Past President & Professional Reserve Analyst (PRA)

Community Associations Institute - Member and Volunteer Leader of multiple chapters

Concordia Seminary, St. Louis - Member, National Steering Committee

Milwaukee School of Engineering - Member, Corporation Board

Professional Engineer, Wisconsin (1982) and North Carolina (2014)

Ted continually maintains his professional skills through American Society of Civil Engineers, ASHRAE, Association of Construction Inspectors, and continuing education to maintain his professional engineer licenses.

**JOHN P. POEHLMANN, RS**  
**Principal**

John P. Poehlmann is a co-founder of Reserve Advisors, Inc. He is responsible for the finance, accounting, marketing, and overall administration of Reserve Advisors, Inc. He also regularly participates in internal Quality Control Team Reviews of Reserve Study reports.



Mr. Poehlmann directs corporate marketing, including business development, advertising, press releases, conference and trade show exhibiting, and electronic marketing campaigns. He frequently speaks throughout the country at seminars and workshops on the benefits of future planning and budgeting for capital repairs and replacements of building components and other assets.

**PRIOR RELEVANT EXPERIENCE**

Mr. Poehlmann served on the national Board of Trustees of Community Associations Institute. An international organization, Community Associations Institute (CAI) is a nonprofit 501(c)(3) trade association created in 1973 to provide education and resources to America's 335,000 residential condominium, cooperative and homeowner associations and related professionals and service providers.

He is a founding member of the Institute's Reserve Committee. The Reserve Committee developed national standards and the Reserve Specialist (RS) Designation Program for Reserve Study providers. Mr. Poehlmann has authored numerous articles on the topic of Reserve Studies, including Reserve Studies for the First Time Buyer, Minimizing Board Liability, Sound Association Planning Parallels Business Concepts, and Why Have a Professional Reserve Study. He is also a contributing author in Condo/HOA Primer, a book published for the purpose of sharing a wide background of industry knowledge to help boards in making informed decisions about their communities.

**INDUSTRY SERVICE AWARDS**

CAI Wisconsin Chapter Award  
CAI National Rising Star Award  
CAI Michigan Chapter Award

**EDUCATION**

University of Wisconsin-Milwaukee - Master of Science Management  
University of Wisconsin - Bachelor of Business Administration

**PROFESSIONAL AFFILIATIONS**

**Community Associations Institute (CAI)** - Founding member of Reserve Committee;  
former member of National Board of Trustees; Reserve Specialist (RS) designation;  
Member of multiple chapters

**Association of Condominium, Townhouse, & Homeowners Associations (ACTHA)** –  
member



**COLIN A. NIEMEYER**  
**Responsible Advisor**

**CURRENT CLIENT SERVICES**

Colin Niemeyer, a Chemical Engineer, is an Engineer for Reserve Advisors. Mr. Niemeyer is responsible for the inspection and analysis of the condition of clients' properties, 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 Analyses and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes and homeowner associations.

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

**Heron Lake Villas at Homeowners Association, Inc.** – This apartment community located in Myrtle Beach, South Carolina was constructed in 1995 and comprises three buildings constructed with fiber cement siding, asphalt shingle roofs, and wood decks. The property is situated in the middle of a golf course allowing for wonderful views.

**Brookhaven Citizens Assembly, Inc.** - This single family home community contains over 550 residential homes and is located in Matthews, North Carolina. The Master Association maintains the shared common elements including a luxurious clubhouse, a pool featuring a massive waterslide, as well as multiple recreational courts.

**Rozzelles Landing Homeowners Association, Inc.** - This townhome and single family home community in Huntersville, North Carolina comprises 157 townhome units in 27 buildings in addition to 129 single family homes. Expenditures of this property include large quantities parking areas and streets, large retaining walls, a pool with an adjoining pool house, and retention pond. The townhomes comprise a combination of brick and vinyl siding construction, featuring multiple different styles. Several of the townhomes feature attached garages.

**Del Webb Carolina Orchards Community Association** - A lavish single family home community located just outside of Rock Hill, South Carolina. Features of this property include an extravagant amenities center, including multiple conference rooms, a spa, yoga and fitness rooms. This property includes both an indoor and outdoor pool with pool house.

**The Cape Townhomes Owners Association, Inc.** - This townhome community built in the early 2000's is located in Hickory, NC that is adjacent to a public park. The property contains 12 units comprising 8 buildings, featuring multiple different style units, ranging from single family homes to triplexes.

**Atlantic Towers Condominium** - Located next to the sandy beaches of Carolina Beach, North Carolina, this apartment building contains 137 residential units. The townhomes are comprised of brick, fiber cement siding, asphalt shingle roofs and wood balconies at the unit rears. The community includes a pool, pool house, ponds, and a large quantity of stone retaining walls.

**PRIOR RELEVANT EXPERIENCE**

Before joining Reserve Advisors, Mr. Niemeyer successfully completed the bachelors program in Chemical Engineering at West Virginia University. In the past, he has worked for multiple engineering companies covering a wide variety of roles but with a concentration in improving efficiency and optimization with a focus on Lean and Six Sigma strategies. He has also spent time working in design engineering for one the Nation's leading construction companies.

**EDUCATION**

West Virginia University – B.S. in Chemical 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

*Reserve Specialist (RS)* - Community Associations Institute

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



## RESOURCES

Reserve Advisors, Inc. 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](http://www.iami.org). Several advisors and a Principal of Reserve Advisors, Inc. hold Senior Memberships with ACI.

**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](http://www.ashrae.org). Reserve Advisors, Inc. 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](http://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](http://www.rsmeans.com).

Reserve Advisors, Inc., 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 The Oaks at Roper Mountain 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) The Oaks at Roper Mountain 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** - (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 our report. The inspection is made by employees generally familiar with real estate and building construction but in the absence of invasive testing RA cannot opine on, nor is RA responsible for, the structural integrity of the property including its conformity to specific governmental code requirements for fire, building, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

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 water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions. RA assumes no responsibility for any such conditions. The Report contains opinions of estimated costs and remaining useful lives which are neither a guarantee of the actual costs of replacement 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.

**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, however, considers any additional information made available to us within 6 months of issuing the Report if a timely request for a revised Report is made. 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 this Report is limited to only the purpose stated herein. You hereby acknowledge that any use or reliance by you on the Report for any unauthorized purpose is at your own risk and you shall hold RA harmless from any consequences of such use. Use by any unauthorized third party is unlawful. 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 our Report in its entirety to the following third parties: members of your organization, your accountant, attorney, financial institution and property manager who need to review the information contained herein. Without the written consent of RA, you shall not disclose the Report to any other third party. The Report contains intellectual property developed by RA and ***shall not be reproduced or distributed to any party that conducts reserve studies without the written consent of RA.***

RA will include your name in our client lists. RA reserves the right to 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** - 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. Any litigation necessary to collect an unpaid balance shall be venued in Milwaukee County Circuit Court for the State of Wisconsin.