

**Revised**  
**RESERVE STUDY**  
**Royal Oaks Residential**  
**Community Owners Association**



**Houston, Texas**  
**Inspected - July 10, 2019**  
**Revised - September 30, 2019**



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Royal Oaks Residential Community Owners Association  
Houston, Texas

Dear Board of Directors of Royal Oaks Residential Community Owners Association:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of Royal Oaks Residential Community Owners Association in Houston, Texas and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, July 10, 2019.

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

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

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

Respectfully submitted on September 30, 2019 by

*Reserve Advisors, Inc.*

Visual Inspection and Report by: Stephanie A. Mueller, RS<sup>1</sup>

Review by: Alan M. Ebert, RS, 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:** Royal Oaks Residential Community Owners Association (Royal Oaks)

**Location:** Houston, Texas

**Reference:** 061185

**Property Basics:** Royal Oaks Residential Community Owners Association is a homeowners association which is responsible for the common elements shared by 875 single family homes. The common elements of the Association were built beginning in 2000.

**Reserve Components Identified:** 29 Reserve Components.

**Inspection Date:** July 10, 2019. We conducted the original inspection on April 30, 2014.

**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 does not recognize a critical year. The Reserve Funding Plan recommends 2049 year end accumulated reserves of approximately \$1,506,100. We judge this amount of accumulated reserves in 2049 necessary to fund the continued replacement of the concrete streets after 2049. Future replacement costs beyond the next 30 years for the concrete streets are likely to more than double the current cost of replacement. These future needs, although beyond the limit of the Cash Flow Analysis of this Reserve Study, are reflected in the amount of accumulated 2049 year end reserves.

**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
- 1.5% average current annual rate of return on invested reserves
- 2.2% 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:**

- \$2,208,032 as of June 30, 2019
- 2019 budgeted Reserve Contributions of \$212,208

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

- Replacement of gate components
- Partial replacement of perimeter walls
- Bridge repairs
- Replacement of deteriorated concrete streets

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

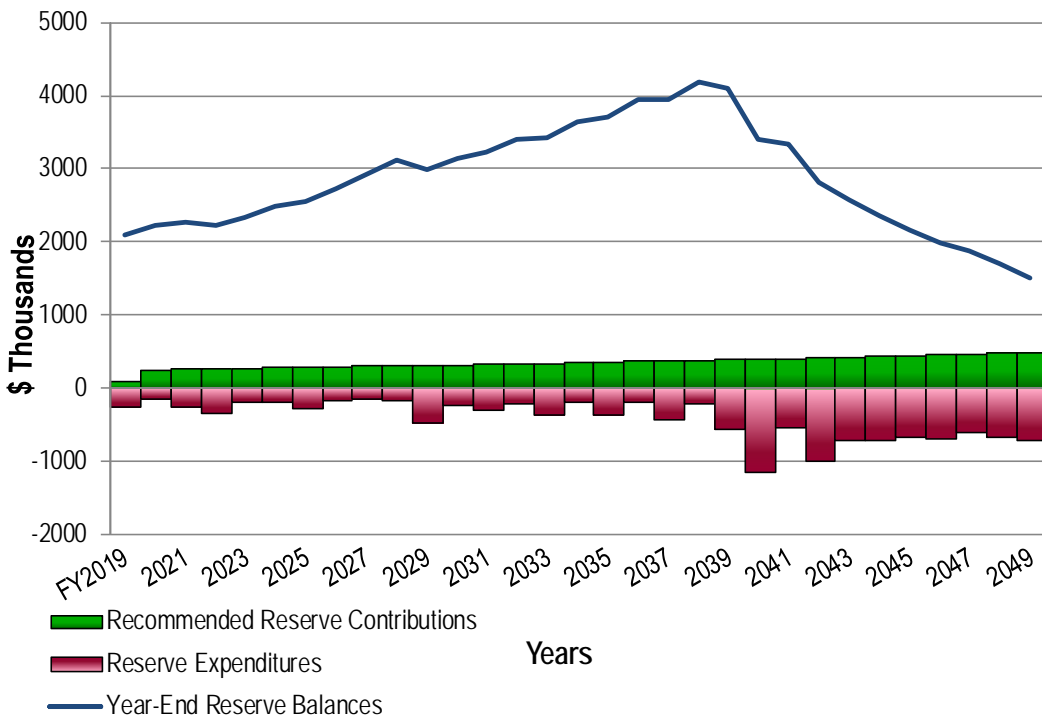
- Phased increases of approximately \$27,400 from 2020 through 2021
- Inflationary increases through 2049, the limit of this study's Cash Flow Analysis



- Initial adjustment in Reserve Contributions of \$27,392 represents an average monthly increase of \$2.61 per homeowner and about a one percent (1.0%) adjustment in the 2019 total Operating Budget of \$2,804,886.

**Royal Oaks**  
Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2020	239,600	2,214,633	2030	324,700	3,148,663	2040	403,600	3,406,220
2021	267,000	2,260,163	2031	331,800	3,222,860	2041	412,500	3,340,956
2022	272,900	2,226,272	2032	339,100	3,394,272	2042	421,600	2,810,823
2023	278,900	2,342,716	2033	346,600	3,431,583	2043	430,900	2,575,579
2024	285,000	2,483,029	2034	354,200	3,645,130	2044	440,400	2,345,602
2025	291,300	2,544,054	2035	362,000	3,709,984	2045	450,100	2,165,227
2026	297,700	2,718,957	2036	370,000	3,942,546	2046	460,000	1,974,865
2027	304,200	2,920,307	2037	378,100	3,950,748	2047	470,100	1,871,967
2028	310,900	3,107,996	2038	386,400	4,188,790	2048	480,400	1,707,188
2029	317,700	2,998,361	2039	394,900	4,092,857	2049	491,000	1,506,113





## 2. RESERVE STUDY REPORT

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

### **Royal Oaks Residential Community Owners Association**

### **Houston, Texas**

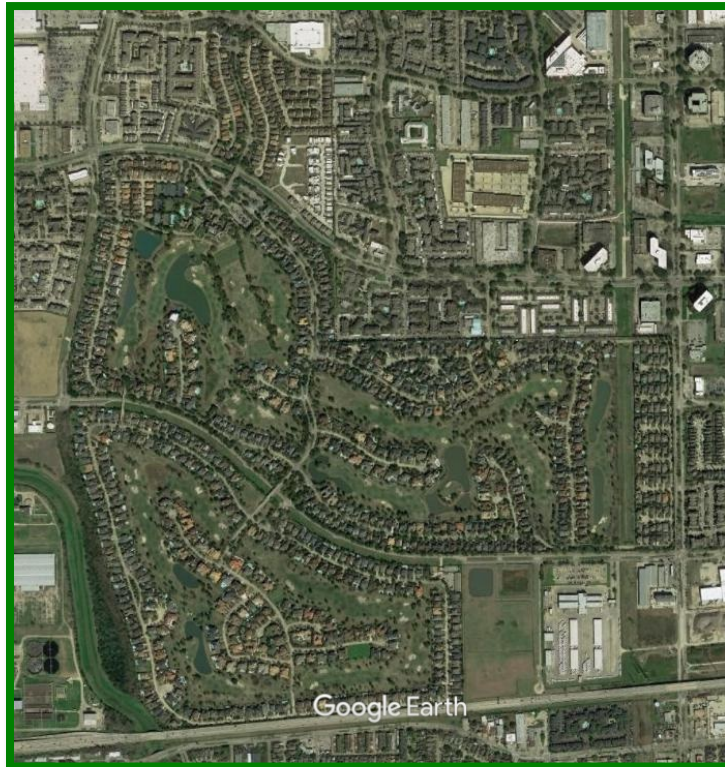
and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, July 10, 2019. We conducted the original inspection on April 30, 2014.

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

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



## IDENTIFICATION OF PROPERTY



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

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

- Royal Oaks 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.

- Bridges, Replacement
- Electrical Systems, Common
- Foundations, Common
- Pipes, Interior Building, Domestic Water, Sanitary Waste and Vent, Common
- Pipes, Subsurface Utilities
- Structural Frames, Common

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 \$6,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Bridges, Inspections
- Concrete Sidewalks
- Concrete Streets, Joint Sealants
- Gate Swing Arms
- Golf Carts
- Guard House, Westpark South, Interim Repairs and Renovations
- Irrigation System, Controls
- Landscape (Including Light Fixtures)
- Office Equipment
- Paint Finishes, Touch Up
- Pavers, Masonry, Miscellaneous
- Shade Structures, Interim Canvas Replacement
- Soccer Goals
- Speed Bumps
- Split Systems, Common
- Sport Court, Color Coat
- Windows and Doors, Playground Rest Room Building



- 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:

- Catch Basins (MUD)
- Clubhouse (Royal Oaks Country Club)
- Golf Course (Royal Oaks Country Club)
- Ponds (Royal Oaks Country Club)
- Pool (Royal Oaks Country Club)
- Tennis Courts (Royal Oaks Country Club)

### 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
- 2019 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

#### Five-Year Outlook

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

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

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

## RESERVE EXPENDITURES

**Royal Oaks Residential  
Community Owners Association**  
Houston, Texas

**Explanatory Notes:**

- 1) **2.2%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2019 is Fiscal Year beginning January 1, 2019 and ending December 31, 2019.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024	6 2025	7 2026	8 2027	9 2028	10 2029	11 2030	12 2031	13 2032	14 2033	15 2034								
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																								
<b>Property Site Elements</b>																																			
4.090	2	2	Each	Bridges, Capital Repairs	2022	to 15	3	25,000.00	50,000	50,000	127,348				53,373																				
4.180	1,375,000	15,280	Square Feet	Concrete Streets (Incl. Curbs), Partial	2021	to 75	2 to 30+	8.00	122,240	11,000,000	3,419,664		127,678			139,290				151,958		158,717			165,778										
4.310	1	1	Allowance	Gate Entry System, Cameras	2019	10 to 15	0	30,000.00	30,000	30,000	122,635	30,000													39,809										
4.311	4	4	Each	Gate Entry System, Kiosk Entry Panels	2032	10 to 15	13	5,200.00	20,800	20,800	65,033														27,601										
4.312	24	6	Each	Gate Entry System, Loop Detectors, Phased	2020	10 to 15	1 to 10	800.00	4,800	19,200	60,150		4,906			5,237			5,590		5,967						6,653								
4.313	16	4	Each	Gate Entry System, Readers, Phased	2020	10 to 15	1 to 10	5,400.00	21,600	86,400	307,581		22,075			23,564			25,154		26,851					29,293									
4.314	2	2	Each	Gate Entry System, Scanners	2030	10 to 15	11	4,000.00	8,000	8,000	23,651													10,164											
4.320	41	4	Each	Gate Operators, Phased	2020	to 10	1 to 10	5,000.00	20,500	205,000	877,080		20,951	21,412	21,883	22,364	22,856	23,359	23,873	24,398	24,935	25,484	26,044	26,617	27,203	27,801	28,413								
4.330	24	24	Each	Gates	2022	to 20	3	6,500.00	156,000	156,000	423,857				166,524																				
4.420	315	315	Zones	Irrigation System	2040	to 40+	21	1,250.00	393,750	393,750	621,855																								
4.560	34	34	Each	Light Poles and Fixtures	2029	to 25	10	3,500.00	119,000	119,000	147,930													147,930											
4.620	3,700	3,700	Square Feet	Pavers, Masonry, Main Entrance	2024	15 to 20	5	9.00	33,300	33,300	94,502					37,128																			
4.640	43,900	878	Linear Feet	Perimeter Walls, Panelized Masonry, Partial, Through 2038	2020	to 40	1 to 30+	105.00	92,190	4,609,500	2,192,937		94,218	96,291	98,409	100,574	102,787	105,048	107,359	109,721	112,135	114,602	117,123	119,700	122,334	125,025	127,775								
4.641	43,900	1,756	Linear Feet	Perimeter Walls, Panelized Masonry, Partial, 2039-2049	2039	to 40	20 to 30+	105.00	184,380	4,609,500	3,502,731																								
4.660	1	1	Allowance	Playground Equipment	2023	15 to 20	4	41,000.00	41,000	41,000	113,849				44,729																				
4.665	1	1	Allowance	Playground, Rest Room, Renovation	2030	to 20	11	8,000.00	8,000	8,000	10,164													10,164											
4.667	4	2	Each	Playground, Shade Structures, Partial	2043	to 40	24 to 30+	14,500.00	29,000	58,000	48,890																								
4.668	2,550	2,550	Square Feet	Play Surface, Artificial Turf	2028	to 10	9	10.00	25,500	25,500	117,505										31,017														
4.800	1	1	Allowance	Signage, Renovation, Main Entrance	2030	15 to 20	11	20,000.00	20,000	20,000	60,626													25,409											
4.810	150	30	Each	Signage, Replacement, Street and Traffic, Phased	2021	15 to 25	2 to 14	300.00	9,000	45,000	102,443		9,400			10,035			10,711				11,434			12,205									
4.850	4	4	Each	Sport Court, Light Poles and Fixtures	2039	to 35	20	2,200.00	8,800	8,800	13,599																								
4.860	4,770	4,770	Square Feet	Sport Court, Surface Replacement	2044	40 to 50	25	9.00	42,930	42,930	73,966																								
<b>Guard House and Office Elements</b>																																			
5.300	1	1	Allowance	Exterior Renovation, Main Guard House	2024	to 10	5	7,000.00	7,000	7,000	29,568					7,805											9,702								
5.400	1	1	Allowance	Furniture, Offices	2019	to 15	0	15,000.00	15,000	15,000	64,605	15,000															20,790								
5.500	1	1	Allowance	Interior Renovation, Main Guard House (2019 is Budgeted)	2019	to 20	0	100,000.00	100,000	100,000	264,957	100,000																							
5.600	13	13	Squares	Roofs, Concrete Tiles (Incl. Playground Rest Room)	2030	to 30	11	1,200.00	15,600	15,600	19,819													19,819											
5.705	1	1	Allowance	Westpark South Guard House, Replacement (Incl. Concrete, Landscape)	2019	N/A	0	100,000.00	100,000	100,000	100,000	100,000																							
5.800	300	300	Square Feet	Windows and Doors, Main Guard House	2035	to 35	16	45.00	13,500	13,500	19,123																								
<b>Anticipated Expenditures, By Year</b>																																			
											<b>\$13,026,068</b>	245,000	142,150	254,781	340,189	196,468	180,611	267,697	161,976	144,830	168,087	472,792	220,157	305,034	216,947	360,102	193,333								

## RESERVE EXPENDITURES

### Royal Oaks Residential Community Owners Association Houston, Texas

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$				16 2035	17 2036	18 2037	19 2038	20 2039	21 2040	22 2041	23 2042	24 2043	25 2044	26 2045	27 2046	28 2047	29 2048	30 2049	
						Useful	Remaining	Unit (2019)	Per Phase (2019)	Total (2019)	30-Year Total (Inflated)																
<b>Property Site Elements</b>																											
4.090	2	2	Each	Bridges, Capital Repairs	2022	to 15	3	25,000.00	50,000	50,000	127,348			73,975													
4.180	1,375,000	15,280	Square Feet	Concrete Streets (Incl. Curbs), Partial	2021	to 75	2 to 30+	8.00	122,240	11,000,000	3,419,664	173,152		180,855		188,900	193,055	197,303	201,643	206,080	210,613	215,247	219,982	224,822	229,768	234,823	
4.310	1	1	Allowance	Gate Entry System, Cameras	2019	10 to 15	0	30,000.00	30,000	30,000	122,635											52,826					
4.311	4	4	Each	Gate Entry System, Kiosk Entry Panels	2032	10 to 15	13	5,200.00	20,800	20,800	65,033												37,432				
4.312	24	6	Each	Gate Entry System, Loop Detectors, Phased	2020	10 to 15	1 to 10	800.00	4,800	19,200	60,150			7,102		7,581				8,092					9,022		
4.313	16	4	Each	Gate Entry System, Readers, Phased	2020	10 to 15	1 to 10	5,400.00	21,600	86,400	307,581		31,269			33,379			35,631				38,871			41,494	
4.314	2	2	Each	Gate Entry System, Scanners	2030	10 to 15	11	4,000.00	8,000	8,000	23,651									13,487							
4.320	41	4	Each	Gate Operators, Phased	2020	to 10	1 to 10	5,000.00	20,500	205,000	877,080	29,038	29,677	30,330	30,997	31,679	32,376	33,088	33,816	34,560	35,320	36,098	36,892	37,703	38,533	39,380	
4.330	24	24	Each	Gates	2022	to 20	3	6,500.00	156,000	156,000	423,857								257,333								
4.420	315	315	Zones	Irrigation System	2040	to 40+	21	1,250.00	393,750	393,750	621,855						621,855										
4.560	34	34	Each	Light Poles and Fixtures	2029	to 25	10	3,500.00	119,000	119,000	147,930																
4.620	3,700	3,700	Square Feet	Pavers, Masonry, Main Entrance	2024	15 to 20	5	9.00	33,300	33,300	94,502										57,374						
4.640	43,900	878	Linear Feet	Perimeter Walls, Panelized Masonry, Partial, Through 2038	2020	to 40	1 to 30+	105.00	92,190	4,609,500	2,192,937	130,586	133,459	136,395	139,396												
4.641	43,900	1,756	Linear Feet	Perimeter Walls, Panelized Masonry, Partial, 2039-2049	2039	to 40	20 to 30+	105.00	184,380	4,609,500	3,502,731					284,926	291,194	297,600	304,148	310,839	317,677	324,666	331,809	339,109	346,569	354,194	
4.660	1	1	Allowance	Playground Equipment	2023	15 to 20	4	41,000.00	41,000	41,000	113,849								69,120								
4.665	1	1	Allowance	Playground, Rest Room, Renovation	2030	to 20	11	8,000.00	8,000	8,000	10,164																
4.667	4	2	Each	Playground, Shade Structures, Partial	2043	to 40	24 to 30+	14,500.00	29,000	58,000	48,890									48,890							
4.668	2,550	2,550	Square Feet	Play Surface, Artificial Turf	2028	to 10	9	10.00	25,500	25,500	117,505				38,557										47,931		
4.800	1	1	Allowance	Signage, Renovation, Main Entrance	2030	15 to 20	11	20,000.00	20,000	20,000	60,626											35,217					
4.810	150	30	Each	Signage, Replacement, Street and Traffic, Phased	2021	15 to 25	2 to 14	300.00	9,000	45,000	102,443								15,173				16,196			17,289	
4.850	4	4	Each	Sport Court, Light Poles and Fixtures	2039	to 35	20	2,200.00	8,800	8,800	13,599					13,599											
4.860	4,770	4,770	Square Feet	Sport Court, Surface Replacement	2044	40 to 50	25	9.00	42,930	42,930	73,966										73,966						
<b>Guard House and Office Elements</b>																											
5.300	1	1	Allowance	Exterior Renovation, Main Guard House	2024	to 10	5	7,000.00	7,000	7,000	29,568										12,061						
5.400	1	1	Allowance	Furniture, Offices	2019	to 15	0	15,000.00	15,000	15,000	64,605															28,815	
5.500	1	1	Allowance	Interior Renovation, Main Guard House (2019 is Budgeted)	2019	to 20	0	100,000.00	100,000	100,000	264,957							164,957									
5.600	13	13	Squares	Roofs, Concrete Tiles (Incl. Playground Rest Room)	2030	to 30	11	1,200.00	15,600	15,600	19,819																
5.705	1	1	Allowance	Westpark South Guard House, Replacement (Incl. Concrete, Landscape)	2019	N/A	0	100,000.00	100,000	100,000	100,000																
5.800	300	300	Square Feet	Windows and Doors, Main Guard House	2035	to 35	16	45.00	13,500	13,500	19,123	19,123															
<b>Anticipated Expenditures, By Year</b>											<b>\$13,026,068</b>	351,899	194,405	428,657	208,950	552,483	1,146,061	527,991	997,528	706,241	707,011	664,054	681,182	601,634	671,823	715,995	

## RESERVE FUNDING PLAN

**CASH FLOW ANALYSIS  
Royal Oaks Residential  
Community Owners Association**

Individual Reserve Budgets & Cash Flows for the Next 30 Years

Houston, Texas	FY2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
<b>Reserves at Beginning of Year (Note 1)</b>	2,208,032	2,085,175	2,214,633	2,260,163	2,226,272	2,342,716	2,483,029	2,544,054	2,718,957	2,920,307	3,107,996	2,998,361	3,148,663	3,222,860	3,394,272	3,431,583
<b>Total Recommended Reserve Contributions (Note 2)</b>	<b>106,104</b>	<b>239,600</b>	<b>267,000</b>	<b>272,900</b>	<b>278,900</b>	<b>285,000</b>	<b>291,300</b>	<b>297,700</b>	<b>304,200</b>	<b>310,900</b>	<b>317,700</b>	<b>324,700</b>	<b>331,800</b>	<b>339,100</b>	<b>346,600</b>	<b>354,200</b>
Plus <b>Estimated Interest Earned, During Year (Note 3)</b>	16,039	32,008	33,311	33,398	34,012	35,924	37,422	39,179	41,980	44,876	45,457	45,759	47,431	49,259	50,813	52,680
Less <b>Anticipated Expenditures, By Year</b>	(245,000)	(142,150)	(254,781)	(340,189)	(196,468)	(180,611)	(267,697)	(161,976)	(144,830)	(168,087)	(472,792)	(220,157)	(305,034)	(216,947)	(360,102)	(193,333)
<b>Anticipated Reserves at Year End</b>	<u>\$2,085,175</u>	<u>\$2,214,633</u>	<u>\$2,260,163</u>	<u>\$2,226,272</u>	<u>\$2,342,716</u>	<u>\$2,483,029</u>	<u>\$2,544,054</u>	<u>\$2,718,957</u>	<u>\$2,920,307</u>	<u>\$3,107,996</u>	<u>\$2,998,361</u>	<u>\$3,148,663</u>	<u>\$3,222,860</u>	<u>\$3,394,272</u>	<u>\$3,431,583</u>	<u>\$3,645,130</u>

(continued)

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

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
<b>Reserves at Beginning of Year</b>	3,645,130	3,709,984	3,942,546	3,950,748	4,188,790	4,092,857	3,406,220	3,340,956	2,810,823	2,575,579	2,345,602	2,165,227	1,974,865	1,871,967	1,707,188
<b>Total Recommended Reserve Contributions</b>	<b>362,000</b>	<b>370,000</b>	<b>378,100</b>	<b>386,400</b>	<b>394,900</b>	<b>403,600</b>	<b>412,500</b>	<b>421,600</b>	<b>430,900</b>	<b>440,400</b>	<b>450,100</b>	<b>460,000</b>	<b>470,100</b>	<b>480,400</b>	<b>491,000</b>
Plus <b>Estimated Interest Earned, During Year</b>	54,753	56,967	58,759	60,592	61,650	55,824	50,227	45,795	40,097	36,634	33,579	30,820	28,636	26,644	23,920
Less <b>Anticipated Expenditures, By Year</b>	(351,899)	(194,405)	(428,657)	(208,950)	(552,483)	(1,146,061)	(527,991)	(997,528)	(706,241)	(707,011)	(664,054)	(681,182)	(601,634)	(671,823)	(715,995)
<b>Anticipated Reserves at Year End</b>	<u>\$3,709,984</u>	<u>\$3,942,546</u>	<u>\$3,950,748</u>	<u>\$4,188,790</u>	<u>\$4,092,857</u>	<u>\$3,406,220</u>	<u>\$3,340,956</u>	<u>\$2,810,823</u>	<u>\$2,575,579</u>	<u>\$2,345,602</u>	<u>\$2,165,227</u>	<u>\$1,974,865</u>	<u>\$1,871,967</u>	<u>\$1,707,188</u>	<u>\$1,506,113</u>

**Explanatory Notes:**

- 1) Year 2019 starting reserves are as of June 30, 2019; FY2019 starts January 1, 2019 and ends December 31, 2019.
- 2) Reserve Contributions for 2019 are the remaining budgeted 6 months; 2020 is the first year of recommended contributions.
- 3) 1.5% is the estimated annual rate of return on invested reserves; 2019 is a partial year of interest earned.
- 4) Accumulated year 2049 ending reserves consider the need to fund for continued replacement of the concrete streets shortly after 2049, and the age, size, overall condition and complexity of the property.

**FIVE-YEAR OUTLOOK****Royal Oaks Residential  
Community Owners Association**  
Houston, Texas

Line Item	Reserve Component Inventory	RUL = 0 FY2019	1 2020	2 2021	3 2022	4 2023	5 2024
<b><u>Property Site Elements</u></b>							
4.090	Bridges, Capital Repairs				53,373		
4.180	Concrete Streets (Incl. Curbs), Partial			127,678			
4.310	Gate Entry System, Cameras	30,000					
4.312	Gate Entry System, Loop Detectors, Phased		4,906			5,237	
4.313	Gate Entry System, Readers, Phased		22,075			23,564	
4.320	Gate Operators, Phased		20,951	21,412	21,883	22,364	22,856
4.330	Gates				166,524		
4.620	Pavers, Masonry, Main Entrance						37,128
4.640	Perimeter Walls, Panelized Masonry, Partial, Through 2038		94,218	96,291	98,409	100,574	102,787
4.660	Playground Equipment					44,729	
4.810	Signage, Replacement, Street and Traffic, Phased			9,400			10,035
<b><u>Guard House and Office Elements</u></b>							
5.300	Exterior Renovation, Main Guard House						7,805
5.400	Furniture, Offices	15,000					
5.500	Interior Renovation, Main Guard House (2019 is Budgeted)	100,000					
5.705	Westpark South Guard House, Replacement (Incl. Concrete, Landscape)	100,000					
<b>Anticipated Expenditures, By Year</b>		245,000	142,150	254,781	340,189	196,468	180,611



## 4. RESERVE COMPONENT DETAIL

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

### Property Site Elements

#### Bridges, Capital Repairs

---

**Line Item:** 4.090

**Quantity:** Two vehicular bridges located on Bonnebridge Way Boulevard and Royal Oaks Club Drive

**History and Condition:** The Association consulted Paramount Engineering LLC to inspect the bridges in 2018. The bridges were reported in good condition with minor repairs recommended.



**Bridge at Bonnebridge Way Boulevard over Westpark Drive**



**Bridge at Bonnebridge Way Boulevard over Westpark Drive**



**Bridge at Royal Oaks Club Drive over Richmond Avenue**

**Useful Life:** Capital repairs up to every 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. The cost to complete the recommended repairs was not available at the time of our inspection. We include a budgetary amount of \$25,000 per bridge, though the actual cost may vary. The Association should budget for regular inspections funded through the operating budget.

## **Concrete Streets**

---

**Line Item:** 4.180

**Quantity:** Approximately 1,375,000 square feet

**Condition:** Good overall with limited locations of cracks, settlement, standing water and joint deterioration evident



**Concrete street overview**



**Concrete spalls and deterioration at Tudor Manor**



**Cracks and standing water evident at Royal Oaks Club Drive**



**Bonnebridge Way Boulevard**



**Montmarte Boulevard**



**Cracks and deterioration along joint at Legend Manor Drive**



**Previous partial replacement at Empress Oaks Court**



**Various cracks and standing water along curb at Versailles Lakes Lane**



**Various cracks and deterioration at Gallant Ridge Lane**



**Isolated section with settlement and significant cracks at Noblewood Boulevard**



**Cracks and standing water along curb at Antibes Lane**

**Useful Life:** Up to 75 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 275,040 square feet of concrete streets, or twenty percent (20%) of the total, will require replacement during the next 30 years with an accelerated rate of replacement as the concrete streets age. Our project costs include allowances for partial replacement of concrete curbs.

## Gate Entry Systems

**Line Items:** 4.310 through 4.314

**Quantity and History:** The gated entrances utilize camera surveillance equipment which will be replaced in 2019 for approximately \$30,000 funded through reserves. The Association will also complete wiring upgrades at all the gate locations and replace a portion of the loop detectors in 2019 funded through the operating budget.

The table below summarizes the locations and quantities of the major gate entry components. Each entry or exit lane utilizes one loop detector. The majority of the components have been replaced in recent years. Recent activities include reader replacements in 2016, kiosk entry panels including brick repairs from 2017 to 2018, processor upgrades in 2018 and partial loop detector replacements in 2019.

Gate Location	Entry Lanes	Exit Lanes	Tag Readers	Kiosk Entry Panels	Scanners
Kirkwood	1	1	2	0	0
Main	2	1	1	0	1
Richmond	2	1	3	0	0
Westpark North	2	1	3	0	0
Westpark South	2	1	3	0	1
Bonnebridge Way	1	1	0	0	0
Empress Oaks	1	1	1	1	0
Bistro Island	1	1	1	1	0
Nobles Lakes	1	1	1	1	0
Versailles	1	1	1	1	0
Totals	14	10	16	4	2



**Camera and tag reader**



**Entry panel**



**Scanner**

**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.

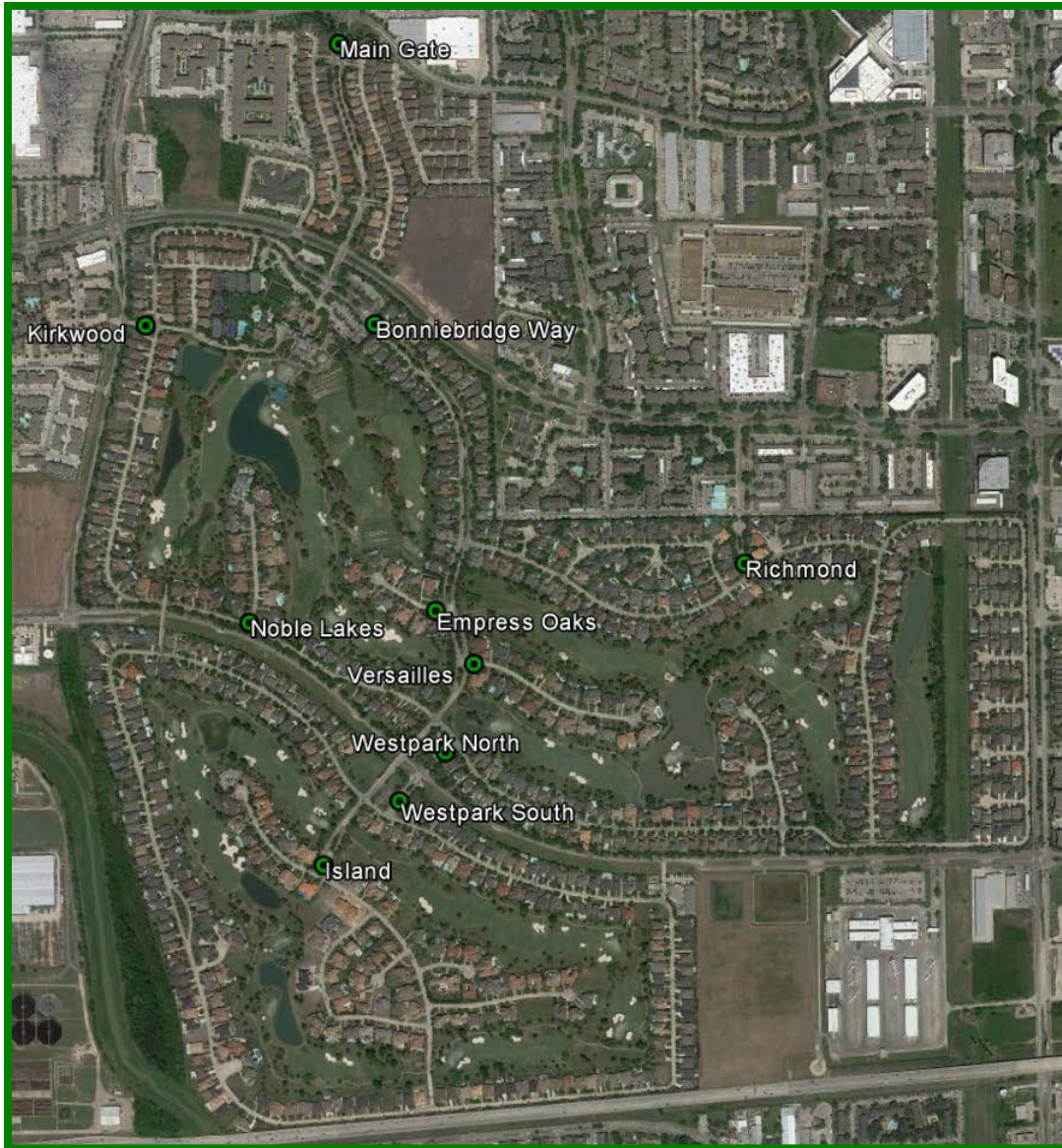
## **Gates and Operators**

---

**Line Items:** 4.320 and 4.330

**Quantity:** We summarize the locations and quantities in the aerial image and table below.

**History and Condition:** The steel gates are original and in fair overall condition. The operators vary in age and condition.



Gate Location	Operators (Incl. Swing Arm)	Bi-parting Gates	Swing Single Gates	Barrier Swing Arms
Kirkwood	4	0	2	2
Main	6	2	0	2
Richmond	6	0	3	3
Westpark North	6	0	3	3
Westpark South	6	0	3	3
Non-egress	0	1	0	0
Bonnebridge Way	4	2	0	0
Empress Oaks	2	0	2	0
Bistro Island	3	1	1	0
Nobles Lakes	2	0	2	0
Versailles	2	0	2	0
<b>Totals</b>	<b>41</b>	<b>6</b>	<b>18</b>	<b>13</b>



**Bi-parting gate and operators**



**Entry and exit gates at Empress Oaks**



**Swing arm operator**



**Rust at steel gate**

**Useful Life:** Up to 10 years for the operators and up to 20 years for the gates

**Priority/Criticality:** Not recommended to defer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The Association should budget for replacement of barrier swing arms as needed funded through the operating budget.

## **Irrigation System**

---

**Line Item:** 4.420

**Quantity:** Approximately 315 zones at the entrances

**History:** Original

**Condition:** Good overall and Management does not report any significant deficiencies



**Useful Life:** Up to 40 and sometimes beyond years

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

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

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

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

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

## Light Poles and Fixtures

---

**Line Item:** 4.560

**Quantity:** 34 metal poles with light fixtures located along the main streets

**History:** The poles are primarily original and the fixtures were upgraded to light-emitting diode (LED) fixtures in 2014.

**Condition:** Good to fair overall



Light pole and fixture

**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. Our cost is based, in part, on information provided by the Association. We assume cost savings if replaced in aggregate.

## **Pavers, Masonry**

---

**Line Item:** 4.620

**Quantity:** 3,700 square feet at the main entrance

**History:** Original

**Condition:** Good to fair overall with minor settlement evident



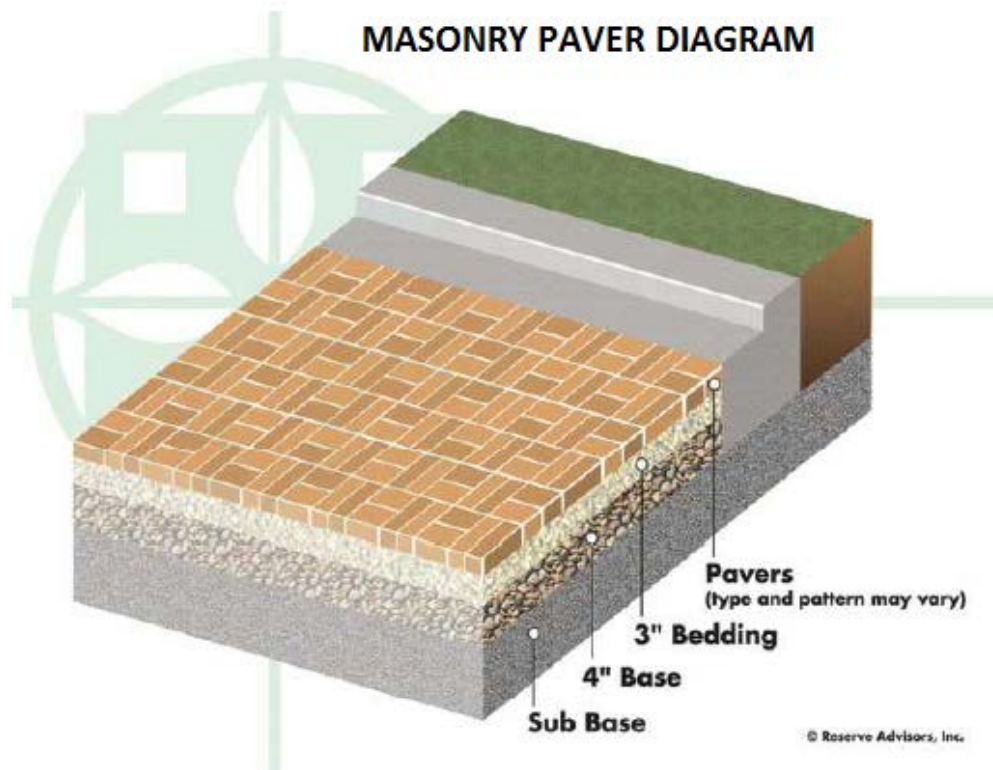
**Pavers at main entrance**



**Pavers at main entrance**

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

**Component Detail Notes:** The following diagram depicts the typical components of a masonry paver system although it may not reflect the actual configuration at Royal Oaks:



**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. Based on condition, we defer replacement until 2024. We suggest the Association conduct interim resetting and replacement of minor areas of pavers as normal maintenance, funded from the operating budget.

## **Perimeter Walls, Panelized Masonry**

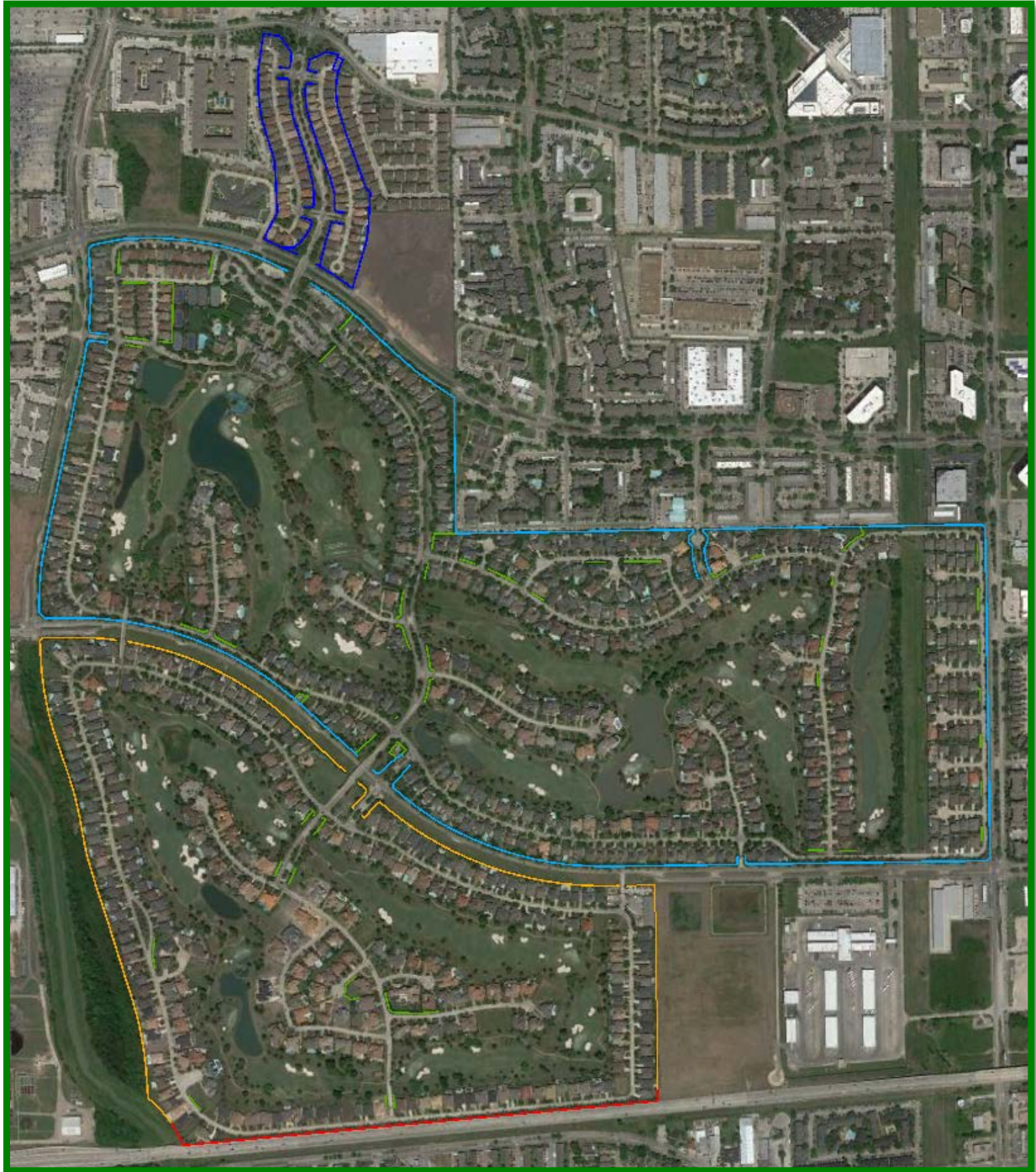
---

**Line Items:** 4.640 and 4.641

**Quantity:** 43,900 linear feet and approximately 340,000 square feet of surface area, which includes one side of the wall. The wall height varies from approximately 7- to 16-feet at the south perimeter. We include an aerial image of the perimeter walls with colored lines depicting the sections. The blues and yellow highlight the outer perimeters, and the red line highlights the taller walls at the south perimeter. The green lines highlight the interior locations.

**History:** The Association completed extensive repairs from approximately 2014 to 2017. The Association also budgets for annual repairs and partial replacements through the operating budget.

**Condition:** Condition varies throughout the property with areas of mortar deterioration, rust at support wire, deflection and previous repairs evident.





**Previous repairs at perimeter wall**



**Panel movement**



**Deflection evident**



**Loose mortar evident and rust at steel support**



**Loose mortar evident and rust at steel support**



**Deflection evident**



**Taller wall at south perimeter**

**Useful Life:** Up to 40 years

**Component Detail Notes:** These walls comprise brick masonry panels with a thickness of one brick and do not utilize a foundation for support. Rather, the panels are supported internally with ladder wire and externally by traditional masonry columns. These types of walls are prone to damage primarily as a result of water infiltration due to precipitation or errant spray from irrigation systems. Water infiltration within the panels or columns results in deterioration of the internal metal support wire. Sag, cracks, spalls and mortar deterioration are evidence of water infiltration and the likely need to replace the panels. Therefore, we anticipate a significantly shorter useful life when compared to typical brick masonry walls.

**Priority/Criticality:** Not recommended to defer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget for replacement of approximately two percent (2%) of the total on an annual basis to supplement annual operating expenses allocated to wall repairs and partial replacements through 2038. Beginning in 2039, we include an annual expenditure to replace approximately four percent (4%) of the total.

## **Playground Equipment**

---

**Line Item:** 4.660

**Quantity:** The playground equipment is located on Legend Manor Drive near the Bonnebridge Way bridge.

**History:** Original

**Condition:** Good overall



**Playset and shade structure**



**Swing set and shade structure**

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

**Component Detail Notes:** Safety is the major purpose for maintaining playground equipment. We recommend an annual inspection of the playground equipment to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We suggest the Association learn more about the specific requirements of playground equipment at [PlaygroundSafety.org](http://PlaygroundSafety.org). We recommend the use of a specialist for the design or replacement of the playground equipment environment.

**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 include an allowance in the unit cost for replacement of the safety surface and border.

## **Playground, Rest Room**

---

**Line Item:** 4.665

**Quantity:** One rest room at the playground

**History:** Components are original to 2010

**Condition:** Good overall



**Rest room finishes**

**Useful Life:** Renovation up to every 20 years

**Component Detail Notes:** Components include:

- Polished concrete floors
- Partial tile wall coverings
- Paint finishes
- Light fixtures
- Plumbing fixtures

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We include exterior building renovations and replacement of the tile roof under separate line items and coordinated with the main guard house.

## **Playground, Shade Structures**

---

**Line Item:** 4.667

**Quantity:** Four each at the playground

**History:** Two shades were installed in 2003 and the remaining two shades were installed in 2018.

**Condition:** Good overall

**Useful Life:** The steel structures have a long useful life of up to 40 years with periodic replacement of the canvas coverings. We recommend the Association budget for these interim replacements through the operating budget.

**Priority/Criticality:** Per Board discretion



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

## **Play Surface, Artificial Turf**

---

**Line Item:** 4.668

**Quantity:** Approximately 2,550 square feet

**History:** Installed in 2018

**Condition:** Good overall



**Artificial turf**

**Useful Life:** Up to 10 years

**Priority/Criticality:** Per Board discretion

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

## **Signage, Renovation**

---

**Line Item:** 4.800

**Quantity:** Main entrance signage with a water feature

**History:** Replaced in 2015

**Condition:** Good overall



**Water feature**



**Filter and pumps**

**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:

- Coating at water feature basin
- Equipment, filter, chlorinator and four pumps
- Light fixtures
- Letters
- Masonry, stone

**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 concrete basin, and replacement of the remaining components listed above.

## **Signage, Replacement**

---

**Line Item:** 4.810

**Quantity:** Approximately 150 street and traffic management signs

**History:** The signs are primarily original and were refinished in 2014.

**Condition:** Condition varies overall with paint and finish deterioration evident



**Sign**

**Useful Life:** 15- to 25-years

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

**Priority/Criticality:** Per Board discretion

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

## **Sport Court, Light Poles and Fixtures**

---

**Line Item:** 4.850

**Quantity:** Four each

**History:** Installed in 2004

**Condition:** Good overall



**Light pole and fixture at sport court**

**Useful Life:** Up to 35 years

**Priority/Criticality:** Per Board discretion

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

## **Sport Court, Surface**

---

**Line Item:** 4.860

**Quantity:** 4,770 square feet of concrete comprising one sport court

**History:** Installed in 2004

**Condition:** Good overall



**Sport court**



**Sport court**

**Useful Life:** 40- to 50-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.

## Guard House and Office Elements



**Main guard house**



**Westpark South entry with original guard house**

## Exterior Renovations

---

**Line Item:** 5.300

**History:** Renovated in 2014

**Condition:** We note isolated deterioration and stains at the stucco finish.



**Stucco discoloration at main guard house**

**Useful Life:** Exterior renovations up to every 10 years



**Component Detail Notes:**

- Stone masonry
- Stucco
- Light fixtures
- Trim

**Priority/Criticality:** Per Board discretion

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

- Inspection and repairs of the stone veneer
- Application of paint finish including capital repairs of the stucco
- Replacement of light fixtures as needed
- Application of paint finish including partial replacement of the and trim
- Replacement of the window and door joint sealant as needed

## **Furniture, Offices**

---

**Line Item:** 5.400

**Component Detail Notes:** Royal Oaks leases office space for use by management. The furniture was purchased in 2019.

**Useful Life:** Vary significantly up to 15 years

**Priority/Criticality:** Per Management discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost is based on information provided by Management and the recent expenditure is included in 2019.

## Interior Renovations

---

**Line Item:** 5.500

**History:** The Association is currently conducting a complete renovation of the main guard house.



Interior of main guard house currently under renovation



Interior of main guard house currently under renovation

**Useful Life:** Complete interior renovation up to every 25 years.

**Component Detail Notes:** The main guard house interior includes:

- Tile floor coverings
- Paint finishes
- Plumbing fixtures
- Light fixtures including exit and emergency lights
- Cabinets and countertops
- Furnishings

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The complete renovation should include replacement of all the interior components listed above. We include the budgeted amount of \$100,000 at the direction of Management.

## Roof, Concrete Tiles

---

**Line Item:** 5.600

**Quantity:** 13 squares<sup>1</sup> at the main guard house and playground rest room building

**History:** Original

**Condition:** Good condition overall



Rest room building at playground



Tiles at main guard house

**Useful Life:** Up to 30 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.

## Westpark South Guard House, Complete Replacement

---

**Line Item:** 5.705

**Component Detail Notes:** The Association will replace the Westpark South guard house in 2019.

**Useful Life:** Updates to the reserve study will revisit the need to reserve for component replacement.

**Priority/Criticality:** Per Board discretion

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





**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost is based on information provided by Management, and includes budgetary amounts for concrete and landscaping.

## Windows and Doors

---

**Line Item:** 5.800

**Quantity:** 300 square feet at the main guard house

**History:** Original

**Condition:** Good condition overall

**Useful Life:** Up to 35 years

**Priority/Criticality:** Not recommended to defer

**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.

Royal Oaks 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 "Level II Reserve Study Update." These standards require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

- The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan
- 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 Houston,

<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.

Texas at an annual inflation rate<sup>3</sup>. Isolated or regional markets of greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Royal Oaks 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.

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



## 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 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

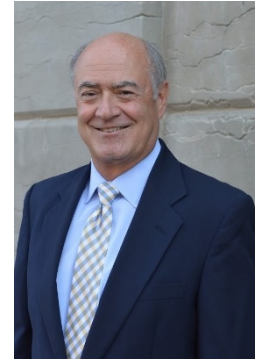
Professional Engineer, Wisconsin (1982) and North Carolina (2014)

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



**STEPHANIE A. MUELLER, P.E., RS**  
**Responsible Advisor**

**CURRENT CLIENT SERVICES**

Stephanie A. Mueller, a Civil Engineer, is an Advisor for Reserve Advisors. Ms. Mueller is responsible for the inspection and analysis of the condition of clients' properties, and recommending engineering solutions to prolong the lives of the components. She also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. She is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast services on townhomes and planned unit developments.

The following is a partial list of clients served by Stephanie Mueller demonstrating her breadth of experiential knowledge of community associations in construction and related buildings systems.

**Mountain Park Ranch** A large-scale community with more than 7,000 units in southern Phoenix, Arizona with views of South Mountain Park features three amenity centers with multiple pools, tennis courts and playgrounds.

**Privada Community** Construction of this exclusive neighborhood in Scottsdale, Arizona began in 2002. The community includes gated entry, streets, an irrigation system and detailed landscaping.

**Sunset Point II** Located in Tucson, Arizona, this community comprises 273 single family homes built in 1987. The primary amenities are a pool, spa and wading pool.

**Holiday at Pueblo del Sol** Located in Sierra Vista, Arizona, this homeowners association still under development includes a community center with fitness and meeting rooms, two pools, walking paths, and parks with playgrounds and gazebos.

**Canyon Gate at Cinco Ranch** Recreational facilities include sport courts, walking trail, skate park, playgrounds, a clubhouse and pools for the 721 homes located in Katy, Texas. The Association also maintains the gated entrances, street systems, and perimeter fencing and walls.

**One Park Place Tower** Situated south of downtown Kansas City, this 19-story previously used office building was converted into condominiums in 2005. Great views, an indoor pool and wine cellar are among the many amenities.

**Palazzo Tornabuoni Associazione** Located in the heart of Florence, Italy, this 15<sup>th</sup> century palace includes 38 luxury residences. The ground floor includes upscale retail spaces and a restaurant. The building features many historic details such as the tile roofs and original fresco paintings. Members enjoy the private lounge, sauna and steam room.

**PRIOR RELEVANT EXPERIENCE**

Before joining Reserve Advisors, Ms. Mueller attended the University of Wisconsin in Madison, Wisconsin where she attained her Bachelor of Science degree in Civil Engineering. Her studies focused on structural engineering. At the University of Wisconsin, she managed a team responsible for the design of a new drinking water facility for a rural Wisconsin town.

**EDUCATION**

University of Wisconsin-Madison - B.S. Civil Engineering  
University of Wisconsin-Milwaukee - M.S. Civil Engineering

**PROFESSIONAL AFFILIATIONS**

*Reserve Specialist (RS)* - Community Associations Institute  
*Professional Engineer (P.E.)* - Wisconsin, Arizona



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

**CURRENT CLIENT SERVICES**

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

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

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

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

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

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

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

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

**PRIOR RELEVANT EXPERIENCE**

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

**EDUCATION**

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

**PROFESSIONAL AFFILIATIONS/DESIGNATIONS**

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

*Reserve Specialist (RS)* - Community Associations Institute

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





## RESOURCES

Reserve Advisors, 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 Royal Oaks 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) Royal Oaks responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.

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

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

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

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

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

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

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



## 8. PROFESSIONAL SERVICE CONDITIONS

**Our Services** - Reserve Advisors, Inc. (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.