

**Precision 20/20  
Full Reserve Study  
for  
3300 Park Avenue  
Condominium Association, Inc.  
Bridgeport, Connecticut  
March 24, 2011**





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## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	Page 1
NARRATIVE REPORT .....	Page 7
Manner of Report Presentation .....	Page 8
Considerations and Methodology .....	Page 10
Identification of Reserve Components .....	Page 12
Condition Assessment .....	Page 15
Exterior Building Elements .....	Page 15
Balconies and Bridges, Metal .....	Page 15
Chimney Caps, Metal .....	Page 16
Gutters and Downspouts .....	Page 16
Light Fixtures .....	Page 18
Roofs, Asphalt Shingles .....	Page 18
Roofs, EPDM .....	Page 24
Sealants, Windows and Doors .....	Page 26
Walls, Masonry .....	Page 28
Walls, Wood Siding, Paint Finishes and Partial Replacements .....	Page 32
Walls, Wood Siding, Replacement .....	Page 34
Property Site Elements .....	Page 38
Asphalt Pavement, Crack Repair, Patch and Seal Coat .....	Page 38
Asphalt Pavement, Repaving .....	Page 39
Catch Basins .....	Page 43
Concrete Curbs .....	Page 44
Concrete Flatwork .....	Page 44
Fences and Handrails, Metal .....	Page 45
Light Poles and Fixtures .....	Page 46
Mailbox Stations and Shelter .....	Page 46
Pavers, Brick .....	Page 47
Signage .....	Page 48
Pool Elements .....	Page 48
Fence, Metal .....	Page 48
Furniture .....	Page 49
Mechanical Equipment .....	Page 49
Plaster Finish .....	Page 50
Pool House, Rest Rooms .....	Page 51
Structure and Deck .....	Page 51
Reserve Study Update .....	Page 52
Explanation of the Exhibits .....	Page 54
CONCLUSION .....	Page 57
SUPPLEMENTARY INFORMATION FOR FINANCIAL STATEMENTS .....	Page 60
DEFINITIONS .....	Page 62

April 22, 2011

**3300 Park Avenue Condominium Association, Inc.  
Bridgeport, Connecticut**

## EXECUTIVE SUMMARY

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Precision 20/20 Full Reserve Study* of 3300 Park Avenue Condominium Association, Inc. (3300 Park Avenue) located in Bridgeport, Connecticut and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, March 24, 2011. This Reserve Study is a budget planning tool that identifies the current status of the reserve fund and a stable and equitable Reserve Funding Plan to offset the anticipated future major common area expenditures.

This study is in compliance with and exceeds the standards set forth by Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a “Full Reserve Study.” For brevity, we use the term Reserve Study herein. A Reserve Study comprises two parts:

### Physical Analysis

- Component Inventory
- Condition Assessment
- Estimated Useful Life, Remaining Useful Life and Replacement Cost

### Financial Analysis

- Fund Status
- Funding Plan

**Exhibit B** presents the numerical data of the Physical and Financial Analyses.

3300 Park Avenue Condominium Association, Inc. is a townhome style development of 26 units in three buildings. The exteriors of the buildings comprise asphalt shingle roofs, brick masonry and wood siding. Buildings 1, 2, and 3 were built in 1982, 1984, and 1987, respectively. The development contains 13 detached garage buildings with flat EPDM roofs, asphalt pavement, concrete flatwork, mailbox stations with shelter, brick pavers, a pool and a pool house. We identify 28 major common elements that are likely to require capital repair or replacement during the next 30 years.

The unaudited cash status of the reserve fund, as of February 28, 2011, as reported by the Board is \$22,000. If the Association were to continue to fund reserves at its 2011 budgeted amount of \$16,200, the reserve fund would incur a potential shortage by 2013.

The Funding Goal of this Reserve Study is to keep the reserve balance above an adequate, not excessive threshold when reserves are needed the most due to one or more years of significant expenditures. Our recommended Funding Plan recognizes these threshold or critical points in 2013, 2024, and 2041.

3300 Park Avenue 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 owners 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 applies the Cash Flow Method to compute the Reserve Funding Plan. The Reserve Funding Plan determines adequate, not excessive, Reserve Contributions through a 30-year Cash Flow Analysis that incorporates the current reserve funds, future interest earned, and projected Reserve Expenditures.

The Reserve Expenditures reflect current and future *local* costs of replacement, projected earned interest, the average annual fund balances and anticipated inflation. Sources for *local* costs of replacement include our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

We identified the anticipated Reserve Expenditures for Reserve Components during the next 30 years as either near term or long term. *Near term* expenditures relate to capital needs from now through 2016, the next five years beyond this current fiscal year. These *near term* expenditures comprise \$217,325, or about nine percent (8.7%), of the next 30 years of **Exhibit B**

*Reserve Expenditures.* Expenditures during the next five years are more important when compared with the future needs of 3300 Park Avenue and tend to govern the amounts of recommended Reserve Contributions. The current Reserve Expenditures relate primarily to replacement of the gutters, downspouts, remaining original asphalt shingle roofs and brick masonry facade repairs.

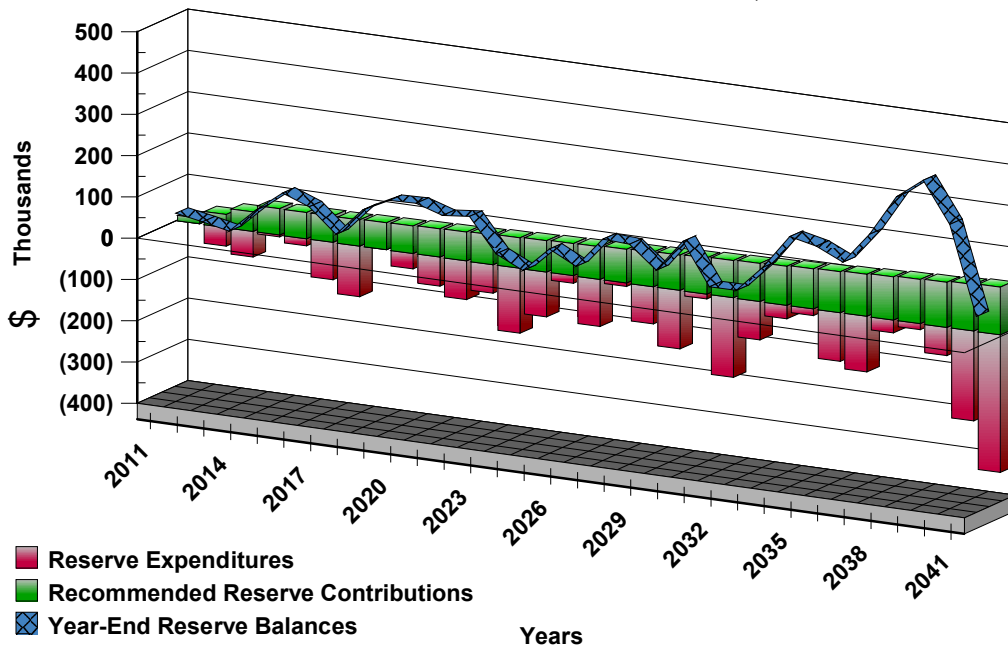
The Association budgeted \$16,200 for Reserve Contributions in 2011. We recommend that the Association adopt a reserve budget of \$32,100 in 2012, \$48,000 in 2013, and \$63,900 in 2014. Afterwards, the Association should budget level Reserve Contributions of \$63,900 through 2017, followed by gradual annual increases in reserve funding, that in part consider the effects of inflation through 2041, the limit of this study's Cash Flow Analysis. The recommended year 2012 Reserve Contribution of \$32,100 is \$15,900 more than the prior budgeted amount and represents about a fifteen percent (14.5%) adjustment in the 2011 total Operating Budget of \$110,021. This initial adjustment of \$15,900 is equivalent to an average monthly increase of \$50.96 per unit owner. These contributions will maintain a Reserve Fund for the major expenditures as identified in **Exhibit B**. We recognize that the initial recommended Reserve Contributions are significant and may require approval of the homeowners. **Exhibit B Reserve Funding Plan** enumerates the details regarding recommended annual Reserve Contributions and projected year end reserve balances.

Based on the investigation and analysis as detailed in the accompanying narrative, we recommend the following Reserve Funding Plan (Reserve Contributions) to offset the anticipated future Reserve Expenditures of the subject Reserve Components during the next 30 years.

### Recommended Reserve Contributions

Year	\$	Year	\$	Year	\$
2012	32,100	2022	72,300	2032	92,500
2013	48,000	2023	74,100	2033	94,800
2014	63,900	2024	76,000	2034	97,200
2015	63,900	2025	77,900	2035	99,600
2016	63,900	2026	79,800	2036	102,100
2017	63,900	2027	81,800	2037	104,700
2018	65,500	2028	83,800	2038	107,300
2019	67,100	2029	85,900	2039	110,000
2020	68,800	2030	88,000	2040	112,800
2021	70,500	2031	90,200	2041	115,600

### Recommended Reserve Funding Plan 3300 Park Avenue Condominium Association, Inc.





Ongoing Board reviews and an Update of this Reserve Study in two- to three- years 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. Examples include deferred or accelerated projects based on Board discretion, interest rate changes on reserve investments and *local* construction inflation rate changes. We have not investigated any liabilities against the property.

Respectfully submitted on April 22, 2011 by  
RESERVE ADVISORS, INC.



Michelle A. Stephans, PRA<sup>1</sup>, RS<sup>2</sup>, Associate Director of Quality Assurance  
Reference #: 101439  
Visual Inspection and Report by: Matthew P. Ksionzyk, RS

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<sup>1</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>.

<sup>2</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.

## NARRATIVE REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Precision 20/20 Full Reserve Study* of certain property exhibited to us as that of

**3300 Park Avenue Condominium Association, Inc.**

**Bridgeport, Connecticut**

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, March 24, 2011.

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.

This Reserve Study uses a 30-year Cash Flow Analysis to project and illustrate the Reserve Funding Plan. National standards<sup>3</sup> require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate and may involve more than one life cycle for a particular Reserve Component. Construction inflation can also vary greatly over many years.

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<sup>3</sup> Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

### **Manner of Report Presentation**

Our report comprises an Executive Summary, Narrative, Conclusion, Supplementary Information, Definitions and Exhibits. The Executive Summary identifies the property, fiscal considerations, recommended reserve funding and projections concerning reserve funding. The Narrative sets forth the nature and extent of the investigation and includes the following sections:

- Manner of Report Presentation
- Considerations and Methodology
- Identification of Reserve Components
- Condition Assessment
- Explanation of the Exhibits
- Conclusion
- Supplementary Information for Financial Statements

Supplementary Information for Financial Statements contains significant unaudited information from the Reserve Expenditures about Reserve Component categories and estimated current and future replacement costs. Definitions contains terms and definitions used throughout this Reserve Study and the industry. **Exhibits A, B, C, D** and **E** contain pertinent information relating to the analysis.

**Exhibit A *Photographs*** documents the conditions of various property components as of the date of our visual inspection, March 24, 2011. The Condition Assessment contains references to these photographs.

**Exhibit B** presents two tables. The first table Reserve Expenditures includes the Reserve Component Inventory, Reserve Expenditures, estimates of future costs and anticipated times of

replacements during the next 30 years. The second table Reserve Funding Plan includes Reserve Contributions for the next 30 years based on Reserve Expenditures.

**Exhibit C *Reserve Funding Graphs*** contains two graphs and one pie chart. The graph Recommended Reserve Funding Plan shows the future fund balances based on the anticipated Reserve Expenditures and recommended annual Reserve Contributions during the next 30 years. The second graph Reserve Balances compares the recommended year end amounts of accumulated reserves with the potential shortage of reserves if the Association were to continue contributing to reserves at its current budgeted amount for the next 30 years. The pie chart Estimated Future Reserve Expenditures illustrates the relative importance of Reserve Expenditures and relative funding during the next 30 years.

**Exhibit D** describes Assumptions of the Reserve Study of how we collect and analyze data. The statement of Professional Service Conditions identifies the general manner of professional services provided, as stated in the original authorized Confirmation of Services for this Reserve Study.

**Exhibit E *Credentials*** contains the Qualifications of the Firm, Responsible Advisor and Review Coordinator, and resources we use in our analysis, i.e., published sources of cost data.

### Considerations and Methodology

This Reserve Study is in compliance with and exceeds the standards set forth by Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a “Full Reserve Study.” For brevity, we use the term Reserve Study herein. We considered the following factors in our analysis:

<b>Information Furnished by the Association</b>	
February 28, 2011 unaudited Cash Status of the Reserve Fund	\$22,000
Remaining 2011 Budgeted Reserve Contributions	\$13,500
Anticipated Interest on Reserve Fund	\$479
Less Anticipated Reserve Expenditures	\$0
<b>Projected 2011 Year-End Reserve Balance</b>	<b>\$35,979</b>

The Cash Flow Method to compute the 30-year Reserve Funding Plan

The identification of individual Reserve Components with their anticipated year of replacement as detailed in **Exhibit B Reserve Expenditures**

Local<sup>4</sup> costs of material, equipment and labor

The current and future costs of replacement for the Reserve Components

The costs of removal of the worn out elements 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 Bridgeport, Connecticut at an annual inflation rate of 2.5%

The past and current maintenance practices of 3300 Park Avenue and their effects on remaining useful lives

The Funding Plan excludes necessary operating budget expenditures. It is our understanding that the current operating budget and future operating budgets will provide for the ongoing normal maintenance of Reserve Components or property elements unless specifically identified in the *Reserve Component Inventory* of **Exhibit B Reserve Expenditures**. 3300 Park Avenue should continue to include these costs of maintenance in the operating budget.

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<sup>4</sup> See **Exhibit E Credentials** for addition information on our use of published sources of cost data.

The anticipated effects of appreciation of the reserves over time in accord with an anticipated future return or yield on investment of your cash equivalent assets at an annual rate of 2.0% (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income)

Interest rates on reserves are steady or increasing in concert with the certificates of deposit and money market rates. Slight increases exist in the savings rates of one, two or three-year CDs. Without significant differences in these savings rates, shorter term investments are the choice of many investors. We recommend consultation with a professional investment adviser before investing reserves to determine an appropriate investment strategy to maximize a safe return on reserve savings.

Updates to this Reserve Study will continue to monitor historical facts and trends concerning the external market conditions. The following table summarizes rates of inflation and key rates for government securities, generally considered as safe investment alternatives.

Interest Rate and Inflation Data								
Average or Last Actual = (A)	2009:1 (A)	2009:2 (A)	2009:3 (A)	2009:4 (A)	2010:1 (A)	2010:2 (A)	2010:3 (A)	2010:4 (E)
90-Day Treasury Bill	0.250%	0.25%	0.25%	0.05%	0.05%	0.10%	0.1%	0.2%
1-Year Treasury Bill	0.95	0.90	0.30	0.30	0.30	0.34	0.26	0.22
10-Year Treasury Note	2.75	2.84	3.20	3.45	3.50	3.30	2.67	2.50
30-Year Treasury Bond	3.70	3.70	4.00	4.45	4.50	4.20	3.79	3.90
Consumer Price Index	0.00	0.5%	0.0%	0.2%	1.0%	1%	1%	1%
Residential Construction Inflation, Bureau of Labor Statistics (2-year %)	\$0		2.2%	1.4%	1.9%	-0.6%	-0.6%	
<b>National Market Savings Rates as found</b>	0.87%	for Money Market Savings			1.5%	for 2-Year Certificate of Deposit		
	1.0%	for 1-Year Certificate of Deposit			1.8%	for 3-Year Certificate of Deposit		
<b>Estimated Near Term Yield Rate for Reserve Savings</b>	. . . . . 2.0%							
<b>Estimated Near Term Inflation Rate for Future Capital Expenditures</b>	. . . . . 2.5%							

With localized exceptions, the inflation rates for construction materials and labor are steady or trending higher. Isolated or regional markets of greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

### **Identification of Reserve Components**

3300 Park Avenue Condominium Association, Inc. is a townhome style development of 26 units in three buildings. The exteriors of the buildings comprise asphalt shingle roofs, brick masonry and wood siding. Buildings 1, 2, and 3 were built in 1982, 1984, and 1987, respectively. The development contains 13 detached garage buildings with flat EPDM roofs, asphalt pavement, concrete flatwork, mailbox stations with shelter, brick pavers, a pool and a pool house. We identify 28 major common elements that are likely to require capital repair or replacement during the next 30 years.

Our investigation included Reserve Components or property elements as set forth in your Declaration. Our analysis began by segregating the property elements into several areas of responsibility for repair and replacement. We derived these segregated classes of property from our review of the information provided to us and through conversations with the Board. These classes of property include:

- 1) Reserve Components
- 2) Long-Lived Property Elements
- 3) Operating Budget Funded Repairs and Replacements
- 4) Property Maintained by Homeowners

We advise that 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 following pages briefly describe these classes.

Reserve Components are defined as property elements with: 1) 3300 Park Avenue responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.

The Reserve Components comprise 28 line items likely to require Reserve Expenditures during the next 30 years. **Exhibit B Reserve Expenditures** details this first class of property which we summarize as follows:

**Exterior Building Elements** (Line Items 1.081 through 1.945)

- Balconies and Bridges, Metal
- Chimney Caps, Metal
- Gutters and Downspouts
- Light Fixtures
- Roofs, Asphalt Shingles
- Roof, EPDM
- Sealants, Windows and Doors
- Walls, Masonry
- Walls, Wood Siding

**Property Site Elements** (Line Items 4.020 through 4.810)

- Asphalt Pavement
- Catch Basins
- Concrete Curbs
- Concrete Flatwork
- Fences and Handrails, Metal
- Light Poles and Fixtures
- Mailbox Stations and Shelter
- Pavers, Brick
- Signage

**Pool Elements** (Line Items 6.400 through 6.900)

- Fence, Metal
- Furniture
- Mechanical Equipment
- Plaster Finish
- Pool House, Rest Rooms
- Structure and Deck



In addition to the Reserve Components listed above, we list the following Long-Lived Property Elements, defined as those items without predictable Remaining Useful Life expectancies:

- Electrical Systems, Common
- Foundations
- Pipes, Interior Building, Water and Sewer, Common
- Pipes, Subsurface Utilities
- Structural Frames

Long-Lived Property Elements (without predictable Remaining Useful Lives) may require infrequent repairs due to abuse, normal wear and tear or unknown construction defects. 3300 Park Avenue should fund the cost of these infrequent replacements from the operating budget. Funding untimely or unexpected replacements from reserves will necessitate adjustments to future Reserve Contributions. An update of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan.

The operating budget provides money for the repair and replacement of certain Reserve Components. Operating Budget Funded Repairs and Replacements relate to:

- General Maintenance to the Common Elements
- Expenditures less than \$3,000 (*These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.*)
- Catch Basins, Landscape
- Fences and Handrails, Metal, Paint Finishes and Repairs (includes pool fence)
- Fences, Wood
- Landscape
- Light Fixtures
- Paint Finishes, Touch Up
- Pool Cover
- Pool House, Windows and Doors
- Pool Paint Finish
- Retaining Walls, Concrete, Inspections and Repairs
- Retaining Walls, Stone, Inspections and Resetting
- Other Repairs normally funded through the Operating Budget

Certain items have been designated as the responsibility of the homeowner to repair or replace. Property Maintained by Homeowners relates to unit:

- Balconies and Bridges, Metal, Paint Finishes and Repairs
- Doors, Garage
- Doors, Pedestrian, Front, Side and Garage Entrances
- Doors, Trash Bins
- Electrical System
- Heating, Ventilating and Air Conditioning (HVAC) Units
- Interiors
- Pipes, Interior Building, Water and Sewer
- Skylights
- Windows and Balcony/Patio Doors

### **Condition Assessment**

The Condition Assessment of this *Precision 20/20 Full Reserve Study* includes *Enhanced Solutions and Procedures (ESP)* for select significant components. These narratives describe the Reserve Components, document specific problems and conditions, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.*

### **Exterior Building Elements**

**Balconies and Bridges, Metal** - The buildings at 3300 Park Avenue utilize ten metal balconies and two metal bridges that comprise 510 square feet of decking and 190 linear feet of railings. The balconies and bridges exhibit areas of rust, pitting and metal deterioration. Page 1 of **Exhibit A Photographs** depicts these conditions. Balcony and bridge assemblies of this type have a long useful life of up to 45 years with inspections, paint finish applications and repairs

every six- to eight-years. The Board informs us that homeowners are responsible for periodic paint finish applications, maintenance and repairs to the balconies and bridges. We suggest the homeowners apply paint finishes, inspect all anchor attachments to the buildings and conduct repairs to the metal balcony and bridge assemblies in order to extend the remaining useful life of the balconies and bridges. We recommend the Association anticipate replacement of the balconies and bridges by 2024. We include this information on Line Item 1.081 of **Exhibit B Reserve Expenditures**.

**Chimney Caps, Metal** - 3300 Park Avenue maintains 16 metal chimney caps atop the chimney chases. The Board apprises us that the Association replaced siding at several chimney chases. However, the chimney caps appear original and in fair to poor overall condition. We observe areas of rust and deterioration at the chimney caps, as depicted on Page 2 of **Exhibit A Photographs**. Chimney caps of this type have useful lives of up to 25 years. We recommend the Association anticipate phased replacement of the chimney caps and related flashing beginning in 2012 and concluding by 2013. A subsequent phased replacement is likely beginning by 2037 and concluding by 2038. We depict this information on Line Item 1.140 of **Exhibit B Reserve Expenditures**.

**Gutters and Downspouts** - Approximately 3,300 linear feet of aluminum gutters and downspouts drain storm water from the sloped roofs of 3300 Park Avenue. The Board informs us that the gutters and downspouts at Building 2 were replaced in 2008. The Building 2 gutters and downspouts are in good overall condition. The remaining 2,050 linear feet of original gutters and downspouts at Buildings 1 and 3 are in fair overall condition. We include the following

solutions and procedures for gutter and downspout maintenance and replacements for present and future board members.

The most common and economical type of gutter profile is the metal roll-formed seamless K-style. The five-inch wide K-style gutter is standard but six-inch wide K-style gutters should be used on larger roofs. The size of the gutter is determined by the *roof's watershed area*, a *roof pitch factor* and the *rainfall intensity number* of the Association's region. We recommend sloping gutters 1/16 inch per linear foot and providing fasteners a maximum of every three feet.

Downspouts can drain 100 square feet of roof area per one square inch of downspout cross sectional area. Downspouts should be of the same material as the gutters. We recommend the use of downspout extensions and splash blocks at the downspout discharge to direct storm water away from the foundations. Downspouts that discharge directly onto roofs cause premature deterioration of the roofs due to the high concentration of storm water. We recommend either routing these downspouts directly to the ground, connecting the downspouts to the gutters of the lower roof or distributing the storm water discharge over a large area.

Maintenance of the gutters and downspouts should include semiannual inspections, repairs at seams and fastening points, verification that the downspouts discharge away from foundations and cleaning. More frequent maintenance may be required for gutters and downspouts in areas of concentrated landscape growth. The Association should fund these expenses through the operating budget. A lack of maintenance resulting in misdirected storm water will result in deterioration of soffits, fascia, siding, foundations, and the gutters and downspouts themselves.

The useful life of gutters and downspouts coincides with that of the roofs. Therefore, we recommend the Association budget for the phased replacement of the remaining original gutters and downspouts in conjunction with the remaining original phased roof replacements beginning in 2012 and concluding by 2013. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements. Subsequent phased replacements of all gutters and downspouts are likely beginning by 2023, concluding by 2032, and every 18 years thereafter. We depict this information on Line Items 1.240 and 1.241 of **Exhibit B Reserve Expenditures**.

**Light Fixtures** - 3300 Park Avenue maintains approximately 80 exterior wall mounted light fixtures to accent the garages, and the front and rear entries. The light fixtures are in fair overall condition and appear original. The useful life of exterior light fixtures of this type and quality is up to 25 years. We recommend that the Association plan for replacement of the light fixtures by 2015 and again by 2039. The Association should aggregate the replacement of the light fixtures to ensure their availability and to maintain aesthetic continuity throughout the community. We include this information on Line Item 1.260 of **Exhibit B Reserve Expenditures**.

**Roofs, Asphalt Shingles** - Approximately 285 *squares*<sup>5</sup> of asphalt shingles comprise the roofs of 3300 Park Avenue over three residential buildings and the pool house building. The following list describes the locations, quantities, history of replacements and conditions of the asphalt shingle roofs.

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<sup>5</sup>We quantify the roof area in *squares* where one square is equal to 100 square feet of surface area.

- Building 1: two units, or 22 squares, replaced in 2010 and three units, or 32 squares, will be replaced in 2011 by means of a special assessment or loan; good condition
- Building 3: eight units, or 87 squares, replaced in 2005, good condition
- Pool House Building: four squares replaced in 2003, good to fair condition
- Remaining Roofs: 140 squares over 13 units at Buildings 1 and 2 are at ages of 27- and 29-years; fair to poor condition with considerable shingle lift and sheathing deflection evident, as depicted on Pages 2 and 3 of **Exhibit A Photographs**

The useful life of asphalt shingle roofs in Bridgeport is from 15- to 20-years. We include the following solutions and procedures pertaining to the *components* of an asphalt shingle roof system, *times* of replacement, recommended *method of replacement* and *coordination* of other related work for the benefit of present and future board members.

*Insulation* and *ventilation* are two major *components* of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

In addition to moisture control and energy conservation, proper attic insulation and ventilation are essential components to prevent the formation of ice dams. Ice dams occur when warm air accumulates at the peak of an attic while the roof eaves remain cold. Warm air from the attic melts the snow at the ridge of the roof and the water runs down the slope of the roof. At the cold roof eaves, the water refreezes and forms a buildup of snow and ice. This buildup often traps water that can prematurely deteriorate asphalt shingles and ultimately seep under the shingles and cause water damage to the roof deck and building interiors. Proper insulation minimizes the amount of heat that enters attic spaces in the winter and adequate ventilation helps to remove any heat that enters the attic spaces. Together, these components prevent ice dams with a cold roof deck that melts snow and ice evenly.

Roof vents provide ventilation to the attic space through the combined use of soffit, gable and ridge vents. The Association should periodically ensure that the soffit vents are clear of debris and are not blocked from above by attic insulation. If the soffit vents are blocked from above, the Association should install polystyrene vent spaces or baffles between the roof joists at these locations to ensure proper ventilation. 3300 Park Avenue should fund this ongoing maintenance through the operating budget.

Certain characteristics of condition govern the *times of replacement*. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated sections of sheathing and greatly increases the

cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system. Our estimate of remaining useful life considers this possibility and the Association should anticipate the need for capital repairs to the shingles and other roof system components to achieve or maximize the remaining useful life of the roofs. The Association should fund ongoing roof repairs as normal maintenance from the operating budget.

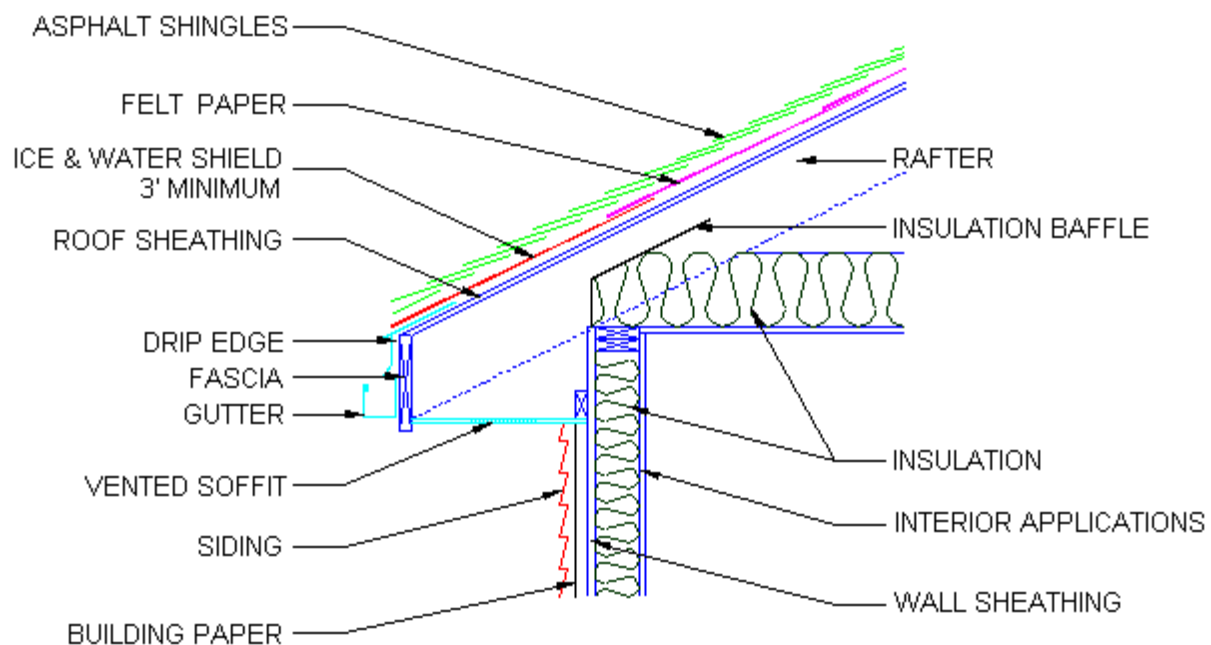
Contractors use one of two *methods of replacement* for sloped roofs, either an *overlayment* or a *tear-off*. *Overlayment* is the application of new shingles over an existing roof. Although this method is initially more economical, the following disadvantages exist for this type of replacement:

1. Overlaid shingles hide condition defects of the roof system and do not allow for replacement of critical flashings, underlayments and ventilation.
2. Additional layers of shingles absorb and store more heat resulting in premature deterioration of the new shingles and continued deterioration of the underlying shingles and other roof system components.
3. New shingles installed over deteriorated shingles may result in an uneven appearance.

The above disadvantages result in a shorter useful life of 10- to 15-years for overlaid roofs. This shortened useful life and the inevitable eventual replacement of both shingle layers will actually result in increased long-term replacement costs. The costs of an eventual total replacement are deferred onto future homeowners thereby conflicting with the purpose of a reserve study to ensure that homeowners pay their “fair share” of the weathering and aging of this commonly owned property. Therefore, we recommend only the tear-off method of replacement. The advantages of the tear-off method include the correction of hidden or latent defects and extend the useful life of the new roof.



The *tear-off* method of replacement includes removal of the existing shingles, flashings if required and underlayments. The contractor should then inspect the roof sheathing for areas of water damage and partially replace the sheathing as needed. Once the roof sheathing is repaired, the contractor can begin installation of the new underlayments, flashings and shingles. The following cross-sectional schematic illustrates an asphalt shingle roof system.



The two types of underlayment most often used in an asphalt shingle roof system are ice and water shield membrane, and organic felt paper of varying weights depending on local building codes. Both types of underlayment protect the roof sheathing from moisture damage and wind-driven ice and snow. They have a low vapor resistance that impedes the accumulation of moisture between the underlayment and the roof sheathing. Ice and water shield membrane is thicker than organic paper and is used in areas that are subject to ice dams and standing water. The contractor should install ice and water shield membranes (often a modified bitumen product) at the outer 36 inches of the gutter and rake edge roof eaves, and in the roof valleys. Standard

15-pound organic felt paper should provide sufficient protection over the remaining portions of the roof. Underlayments work in conjunction with flashings to form a watertight roof system.

The function of flashing is to provide a watertight junction between the roofing material and the other parts of the structure and between roof sections. Flashing material is usually galvanized metal, although some roofs use copper or synthetic rubber. The Association *should require the contractor* to augment existing flashings or replace deteriorated flashings at the time of roof replacement:

- Changes in the slope
- Valleys
- Roof intersections with a wall, vertical structure, roof penetration, i.e., vent stacks
- Rakes (sloped edges of the roof) and soffits (lower roof edges)

Another critical type of flashing is drip edge flashing. This important flashing sheds water off the edges of the roofs. The drip edge flashing allows storm water to run off the roof into the gutters without coming into contact with the underlayment and eave board. The special profile of a metal drip edge also prevents or minimizes the possibility of rain water blowing back under the shingles. The contractor should install this flashing at the gutter edge *before* the installation of underlayment and at the rake edge *after* the installation of underlayment.

Asphalt shingles include both fiberglass shingles and organic mat shingles. Both shingle types are made with asphalt. Fiberglass shingles use a fiberglass reinforcing mat while organic shingles use a wood based cellulose fiber mat. Fiberglass shingles are thinner, lighter and carry a better fire rating than organic shingles. Organic-mat shingles are more durable and stay more

flexible in cold weather. The contractor should install the shingles atop the underlayment and in conjunction with certain types of flashing, i.e., chimney flashing. Based on a better fire rating, we suggest 3300 Park Avenue use a standard strip, fiberglass, Class A, minimum weight class of 210 pounds per square self-sealing shingle at the time of replacement. The self-sealing strip affixes the lower exposed edges of the shingles. Heat from ambient weather and sunlight activates the shingle adhesive material and seals the two adjacent courses of shingles together. Contractor proposals should specify the types of proposed materials and types of proposed fasteners. The Association should require the use of nail fasteners, not staples, at the time of replacement. Nail guns are acceptable. Staples are of lesser quality and might not withstand wind forces as well as nails.

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

Based on their age and condition, we recommend that 3300 Park Avenue plan to replace the remaining original roofs beginning in 2012 and concluding by 2013. Subsequent phased replacements of all asphalt shingle roofs are likely beginning by 2023, concluding by 2032, and every 18 years thereafter. We note this information on Line Items 1.280 and 1.281 of **Exhibit B Reserve Expenditures**. The Association should fund any repairs prior to the complete replacement of the roofs through the operating budget.

**Roofs, EPDM** - The 13 detached garage roofs at 3300 Park Avenue consist of 69 squares of EPDM (ethylene propylene diene monomer) roofing. The roofs are in good to fair overall

condition and were replaced in a phased manner in 1999, 2003, 2008, and 2009. We note areas of deterioration, as depicted on Page 3 of **Exhibit A Photographs**. The useful life of EPDM roofs in Bridgeport is from 15- to 20-years. We include the following solutions and procedures pertaining to replacement of EPDM roofs for the benefit of present and future board members.

Reroofing is always more labor intensive than an original installation. Removal and disposal are a problem in multistory buildings because of problems conveying the materials off and onto the roofs. Replacement costs are proportionally higher and make replacement less economically viable. Repairs are a lower cost alternative. However, we regard repairs as normal maintenance. The Association should retain a maintenance company for inspections of the roofs semiannually and fund these inspections through the operating budget.

EPDM membrane roofing is a synthetic-rubber compound that provides outstanding physical performance properties and weathering characteristics. EPDM is a single-ply roof membrane which is used on flat and low-pitch roofs. Unlike built-up roofing systems, EPDM roofs require a less labor intensive installation.

Contractors can install a new EPDM roof in one of two ways: tear-off or an overlay. An overlay is the application of a new roof membrane over an existing roof. This method, although initially more economical, often covers up problems with the deck, flashings, and saturated insulation. The contractor should follow the manufacturer's directions and specifications upon installation of the roofs. The contractor should remove the original insulation if saturated or compacted and apply a new layer of insulation from ½ inch to one inch thick per the manufacturer's instructions. The insulation should fit loosely with gaps no greater than ¼ inch.

Gaps will cause failure of the membrane later. Mechanical fastening of the insulation is the best manner of installation. The contractor should start the installation of a roof membrane from the lowest points of the roof. The exposed top of an EPDM membrane (synthetic rubber) roof system ranges in thickness from 45- to 120-mils but 60 mils is most common. Seams overlap one another with a chemical or thermoset heat weld. The EPDM membrane attaches to the underlying roof system with a combination of mechanical fasteners, adhesives or stone ballast.<sup>6</sup>

The time or need to replace the roofs becomes apparent with multiple or recurring leaks. The Association should determine whether the origin of the leaks is from the membrane or flashings. Repairs of the flashings may be more cost-effective than replacement of the roofs. However, because of the difficulty in finding several or many breaks in the roofs, replacement eventually becomes the more economical option rather than repair. Based on the ages of 2- to 12-years and condition of the roofs, we recommend 3300 Park Avenue prepare for a complete tear-off at the time of phased replacement beginning by 2019 and concluding by 2029. A subsequent phased replacement is likely beginning by 2039. We depict this information on Line Item 1.380 of **Exhibit B Reserve Expenditures**. The Association should monitor outside vendors when they service any elements on the roofs to minimize unreported roof damage.

**Sealants, Windows and Doors** - The perimeters of the window and door frames use approximately 7,600 linear feet of exterior sealants or *caulk*.<sup>7</sup> Sealants are flexible, allow for differential movement between dissimilar materials and prevent water infiltration into the building. The sealants are in good to fair overall condition at varied ages. The periodic inspection and replacement of deteriorated sealants is essential to maximize the useful life of the

<sup>6</sup> Learn more about single-ply membrane roofs at <http://www.spri.org>. SPRI is the association representing sheet membrane and component suppliers to the commercial roofing industry.

<sup>7</sup>The terms sealant and caulk are used interchangeably throughout this text and throughout the industry.

window and door systems and prevent water infiltration. The Association should anticipate a useful life of up to 20 years for exterior caulk used for this application. We discuss solutions and procedures related to replacement of sealants in the following narrative.

Sealant failure allows for the infiltration of water into the building. There are three types of joint sealant failure. *Adhesion failure* occurs when sealant pulls away from the sides of the joint due to improper surface preparation or too much joint movement. *Cohesive failure* occurs when sealant tears down the center of the joint due to inadequate sealant thickness or too much joint movement. Finally, *reversion* occurs when sealant traps water behind the joint and is identified by dark and dirty sealant, typically on a horizontal joint.

Correct preparation of the joint surfaces before re-application of a sealant is important to ensure proper adhesion. The surfaces must be removed of all contaminants, including the previous sealant material, paint, rust and other corrosion, water, grease, etc. The surfaces should also be dry and free from dust and grit, which can be removed using dry compressed air or brushes. The Association should ensure the manufacturer's instructions are followed in determining if the substrate is compatible with the sealant and that the chemical cleaners and solvents used to prepare the surfaces are also compatible with the sealant.

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

perform better than most other caulk materials. The weathering and elongation properties of silicone-based caulk give it a much longer useful life than other caulk materials.

The rate of deterioration of the sealants is not uniform due to the different exposures to sunlight and weather. The Association should anticipate gradual dispersed deterioration as the sealants age and result in a useful life of up to 20 years. For budgetary purposes, we conservatively recommend 3300 Park Avenue replace up to twenty-five percent (25%), or 1,900 linear feet of joint sealant, by 2016 and every five years thereafter in conjunction with paint finishes to the wood siding and repointing of the brick masonry. We note this information on Line Item 1.540 of **Exhibit B Reserve Expenditures**.

**Walls, Masonry** - Brick comprises approximately 37,500 square feet of the exterior walls. This quantity includes the trash bins located at the front elevations of the buildings and the pool house. The masonry exhibits areas of efflorescence, masonry cracks, mortar cracks, mortar deterioration and lintel rust. Pages 4 and 5 of **Exhibit A Photographs** depict these conditions. We elaborate on solutions and procedures necessary for the optimal maintenance of masonry walls in the following discussion.

Brick generally requires less maintenance than other types of exteriors. However, brick is not maintenance free. Brick exteriors should last the life of the building with proper maintenance. 3300 Park Avenue should plan for the periodic inspection of the brick to identify and repair areas of deterioration. Common types of masonry deterioration include efflorescence, spalling and cracking.

The primary cause of *efflorescence* and *spalling* is water infiltration, therefore prevention of water infiltration is the principal concern for the maintenance of masonry applications. Masonry walls normally shed storm water and condensate from behind the wall through weep holes. However, trapped water within masonry walls can cause corrosion of metal masonry ties, studs, structural members and potentially damage building interiors. The first sign of water infiltration is usually a water stain. Eventually, water infiltration can lead to deterioration of the masonry. If left unrepaired, water infiltration can lead to both efflorescence and spalling as described below.

Trapped water can also migrate through areas of cracked mortar or other points within the cavity of a masonry wall. This moisture then typically migrates to the exterior face of the masonry where it evaporates. As the moisture evaporates, it deposits soluble white salts either on the surface as efflorescence or below the surface as subflorescence. Efflorescence mars the appearance of the masonry, is typically harmless but can also indicate a harmful condition known as subflorescence. Subflorescence within a masonry unit can create pressure that will eventually spall the masonry face. In addition, accumulated (trapped) storm water within or behind mortar joints in conjunction with inclement weather can also gradually spall masonry, create mold or damage adjacent components, i.e., windows or interior finishes. Spalling is a form of deterioration where small fragments of masonry break away from the wall system. Spalls can also occur as a result of a chemical reaction or from movement of a building structure. Spalled masonry may eventually dislodge individual masonry units.

Mortar is the bonding material of a masonry wall. Mortar, as recommended by the Brick Industry Association (<http://www.gobrick.com>) and other masonry experts, is made from



Portland cement, specialized sand, water, in some cases pigment for color and additives to improve mortar workability, durability and curing (hardening). Accelerators are a class of additives to speed the hydration (hardening) of the mortar in cold weather so that preheating of the mortar materials is not necessary. Calcium chloride, one such accelerant, tends to corrode steel reinforcement within the mortar. This steel holds the brick to the building. Accelerators, even those that do not contain calcium chloride, tend to create efflorescence. We recommend against use of such additives. The mortar joint is tooled to create a relatively smooth, hardened surface that is less porous than the underlying mortar. Wind and weather will naturally abrade this tooled surface and reveal the softer, more porous mortar. Water has greater propensity for absorption into the mortar joint as the surface abrades through time and exposure which creates the need for repointing.

*Repointing* is a process of raking and cutting out defective mortar to a depth of not less than  $\frac{1}{2}$  inch nor more than  $\frac{3}{4}$  inch and replacing it with new mortar. *Face grouting* is the process of placing mortar over top of the existing mortar. We advise against face grouting because the existing, often deteriorated mortar does not provide a solid base for the new mortar. New mortar spalls at face grouted areas will likely occur. One purpose of a mortar joint is to protect the brick by relieving stresses within the wall caused by expansion, contraction, moisture migration and settlement. Repointed mortar joints are more effective if the mortar is softer and more permeable than the masonry units, and no harder or less permeable than the existing mortar. The masonry contractor should address these issues within the proposed scope of work. The contract for repointing should also include attention to other related activities such as repair and partial replacement of window sills, lintel beams and sealants. Together, these aggregated capital repairs maximize the useful life of a masonry wall system. We advise a complete inspection of

the exterior walls, and partial repointing with related masonry repairs every 8- to 12-years to forestall deterioration.

We also recommend inspection, repair and replacement of the steel lintels. Lintels are structural supports or beams above windows and doors. Fatigued lintels also allow the direct penetration of storm water into the wall assembly. These inspections should locate areas of rust on the lintels and cracks or other structural damage to the walls around lintels. The contractor should remove any areas of rust, prime and paint these lintels. Paint protects and maximizes the remaining useful life of the lintels and therefore the exterior wall systems. Structural damage can eventually lead to costly replacements of lintels and surrounding wall systems. We include allowances to paint and partially replace the lintels within our overall cost estimate for repointing.

With the onset of rust, a portion of the metal lintels will also require replacement during the next 30 years. Replacement of lintels includes the following activities:

- Removal of deteriorated lintels and surrounding brick
- Installation of new pre-primed and painted metal lintels
- Installation of asphaltic flashing above the lintels
- Reinstallation of the brick with new mortar and weeps

A complete inspection of the exterior walls can only identify the exact scope of masonry repairs and replacements. Based on the age and condition of the masonry, we recommend the Association budget for the following activities:

- Complete inspection of the brick

- Repointing of up to five percent (5%) of the brick
- Replacement of less than one percent (0.5%) of the brick
- Replacement of up to one percent (1%) of the metal lintels
- Paint applications to the metal lintels

We recommend the Association anticipate this work by 2016 and every ten years thereafter. The times and extent of the brick repointing and related work may vary. However, we judge at this time the estimated amounts noted on Line Item 1.820 of **Exhibit B Reserve Expenditures** appropriate to estimate sufficient reserves. Updates of this Reserve Study will again consider the need to modify the anticipated scope and estimated cost of future repointing.

**Walls, Wood Siding, Paint Finishes and Partial Replacements** - Wood siding comprises 17,100 square feet of exterior finish materials of the buildings. Periodic application of a protective finish of paint or stain is an essential maintenance activity to maintain the physical appearance and integrity of the wood siding at the buildings. The finish is in fair to poor overall condition at varied ages. We observe chipped, blistered and deteriorated paint finishes. Pages 5 and 6 of **Exhibit A Photographs** depict these conditions. The Board informs us that the Association will fund a paint finish application, including partial replacement of significantly deteriorated or rotted wood siding, in 2011 by means of a special assessment or loan. The Board also appraises us that 3300 Park Avenue will expend approximately \$6,000 in 2011 through operating funds to partially replace the wood siding at several chimney chases. The Board is likely familiar with many of the requirements for the periodic application of *paint*<sup>8</sup> products. We

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<sup>8</sup> The term *paint* is a generic reference to a specialized mixture of solid pigment in a liquid solution that results in a clear, opaque or solid color protective finish. Product types are too numerous to list but include latex, oil, acrylic and elastomeric based products.

include the following solutions and procedures as a summary of the minimum requirements for a successful paint finish application for present and future board members.

Correct and complete *preparation* of the surface before application of the paint finish maximizes the useful life of the paint finish and surface. The contractor should remove all loose, peeled or blistered paint before application of the new paint finish. The contractor should then power wash the surface to remove all dirt or chalking of the prior paint finish.

The contractor should follow the manufacturer's directions for paint application. The most common methods of paint application are by brush, roller and spray. Brushing is the slowest method. Roller coating is much faster while spraying is usually the fastest and least costly. The contractor should specify the proposed method of application in their bids. We recommend brushing for smaller or irregular shaped surfaces. Roller coating is most effective on large flat surfaces. Spray applications require tight control of the equipment, personnel and preparation of the paint product which may prohibit a cost-effective spray application of paint. Regardless of the method of application, the contractor should protect surrounding elements.

Summarizing the minimum requirements of the proposed scope of work, all bids should include the following:

- 1) Method of application
- 2) Name of paint finish product
- 3) The contractor will apply paint during periods of favorable weather as required and specified by the manufacturer of the paint
- 4) The contractor will apply the paint to clean and dry surfaces at the manufacturer's recommended spreading rates

- 5) The contractor will apply successive coats of the paint finish, with sufficient time elapse between coats, as necessary to ensure uniform appearance
- 6) The contractor will replace deteriorated or damaged siding, trim, soffit and fascia prior to the application of the paint finish

The useful life of protective paint finishes in Bridgeport is from four- to six-years. Based on the condition of the paint finishes, we recommend the Association budget for the following activities by 2016:

- Paint finish applications
- Replacement of 860 square feet, or up to five percent (5%), of the wood siding, trim, soffit and fascia (The exact amount of material in need of replacement will depend on the actual future conditions and desired appearance. We recommend replacement wherever holes, cracks and deterioration impair the ability of the material to prevent water infiltration.)

3300 Park Avenue should budget subsequent applications and associated replacements every five years thereafter, except when replacement occurs. We depict this information on Line Item 1.944 of **Exhibit B Reserve Expenditures**.

**Walls, Wood Siding, Replacement** - Natural cedar wood siding comprises approximately 17,100 square feet of the exterior walls. This quantity includes the wood trim, soffit and fascia. The siding is in fair overall condition at ages of 24- to 29-years. The useful life of wood siding varies depending on the type of wood siding, quality of wood, species and maintenance. We discuss these factors in the following narrative.

The following are three types of common solid wood siding:

- **Board and Batten** - Siding boards are installed vertically. The joints between boards are covered by narrow strips of wood. This siding tends to warp as the board width increases.

- **Shiplap** - Siding boards are installed vertically, horizontally or diagonally. Boards are milled to make a rabbeted joint on each edge to fit together tightly for increased strength and stability. This siding tends to warp as the board width increases.
- **Lap** - Siding boards are installed horizontally or diagonally and boards have a beveled profile. This siding has the most stability, primarily with an exposure of six inches or less.

Lap siding tends to have the longest useful life due to its beveled profile to shed water and its stability. Board and batten, and shiplap siding tend to warp as these types of siding typically have greater overall exposure and a lesser ability to shed storm water. The Association utilizes solid lap wood siding.

The quality of wood siding is determined based on the grade and type of lumber. The grade of lumber (best is "A") describes the occurrence of natural defects, i.e., knots and checks. Lumber is typically cut from logs in either a *plain-sawn* or *quarter-sawn* cutting pattern. Plain-sawn lumber is cut so the growth rings run parallel with the width of the board. This sawing technique produces the least amount of waste. Quarter-sawn lumber is cut so the growth rings run perpendicular to the width of the board. Quarter-sawn lumber is more dimensionally stable and costly than plain-sawn lumber. Determination of the grade and type of lumber cut at 3300 Park Avenue is beyond the scope of this Reserve Study.

Naturally occurring defects in lumber as a result of growth patterns or lumber cut include the following:

- **Bow** - ends of board move towards each other and form a “rocking chair”
- **Case Harden Crack** - lumber is dried too fast creating internal stresses noted by cracks in the surface
- **Crook** - board warps from side to side, or “sags”

- **Cup** - parallel edges of the board move towards each other, or forms the letter "C"
- **Heart Pith** - soft, spongy tissue at the center of a tree
- **Knot** - location of branch growth
- **Twist** - ends of board rotate in opposite directions
- **Wane** - absence of material at board edge due to lumber cut

Isolated occurrences of these defects is normal in lumber. However, an inordinate occurrence of these defects indicates a low lumber grade. Low lumber grades have a shorter useful life than high lumber grades. The most common defect in the siding at 3300 Park Avenue is isolated locations of knots. Deterioration as a result of weathering and aging includes cracked, rotted, loose, warped and bowed wood siding. Pages 6 and 7 of **Exhibit A Photographs** depict these conditions. We base the useful life of the siding on the occurrence of *natural* defects and the remaining useful life of the siding on the amount of *existing* deterioration.

Lumber is either air-dried or kiln-dried. The moisture content of lumber used for siding should be less than eighteen percent (18%) of the total board weight. If primer and paint is applied to siding that exceeds this percentage, the paint will trap moisture inside the board and it may rot from the inside out or the paint finish may not properly adhere to the wood.

The most common species of wood siding are cedar and pine. Cedar is naturally resistant to deterioration from ultraviolet sunlight, insects and moisture, takes stain and finish well, and is relatively inexpensive. Pine is often used as trim to compliment building lines. Pine is less resistant to moisture but is less expensive than cedar. 3300 Park Avenue utilizes natural cedar siding.

Ideally, the Association should install new siding with a cross-dimensional exposure not exceeding six inches. Exceeding this dimensional width can increase the occurrence of developing cracks and warping. 3300 Park Avenue should fasten the siding with galvanized nails that penetrate into the wall studs. Prior to installation, the Association should require the contractor to back-prime any associated trim boards prior to their installation. Once installed, the Association should require the contractor to apply prime and finish coats of paint to the face side of the siding, or apply a stain and sealer. See “**Walls, Wood Siding, Paint Finishes and Partial Replacements**” for our recommendations on these applications. Applications of paint preceded by partial replacements of deteriorated siding boards every four- to six-years will extend the overall remaining useful life of the siding.

Summarizing the minimum requirements of the proposed scope of work, all bids should include the following:

- Type of siding installation
- Grade of lumber
- Species of siding
- Type of fasteners

Based on the condition, type, occurrence of defects and history of maintenance, 3300 Park Avenue should anticipate a useful life of up to 40 years. *This useful life is dependent upon paint applications and partial replacements of deteriorated siding every four- to six-years.* Therefore, we anticipate a phased wood siding replacement beginning by 2020 and concluding by 2022. We depict this information on Line Item 1.945 of **Exhibit B Reserve Expenditures**.



## Property Site Elements

**Asphalt Pavement, Crack Repair, Patch and Seal Coat** - Asphalt pavement comprises 2,020 square yards of streets and parking areas throughout the community. The pavement is in fair to poor overall condition and is original. We observe areas of deterioration along with alligator, surface and lateral cracks. The Board informs us that the Association intends to conduct a mill and overlay of the existing pavement and expand the asphalt parking area in 2011 by means of a special assessment or loan. We estimate the proposed parking area will consist of 300 additional square yards of asphalt pavement. Parked vehicles leak motor oil and other fluids that can damage asphalt pavement. We recommend periodic *seal coat* applications to maintain the pavement. Seal coat applications minimize the damaging effects of these vehicle fluids, maintain a uniform and positive appearance, and maximize the useful life of the pavement. The Association should plan seal coat applications every three- to five-years. We elaborate on solutions and procedures necessary for the optimal maintenance of asphalt pavement in the following discussion.

There are four main types of seal coats available: fog coat, acrylic sealer, chip seals and asphaltic emulsion. A *fog coat* is a simple mixture of water and asphalt. *Acrylic sealers* include an acrylic additive to the water and asphalt mixture for greater resistance to abrasion. *Fog coats* and *acrylic sealers* are typically spray applied and are only for aesthetic purposes. *Chip seal* is the most substantial type of seal coat which involves placement of oil and aggregate on the driving surface. Either a roller or normal vehicular traffic works the gravel into the oil. *Asphaltic emulsions* combine a sharp sand mixture or mineral fibers and an emulsifying agent with the water and asphalt mixture. *Asphaltic emulsions* are typically hand applied with squeegees to ensure that the sealer fills surface abrasions and minor cracks. This prevents the

infiltration of water through cracks into the underlying pavement base. Seal coats therefore minimize the damaging effects of water from expansion and contraction. We regard *asphaltic emulsions* as the most effective and economical type of seal coat.

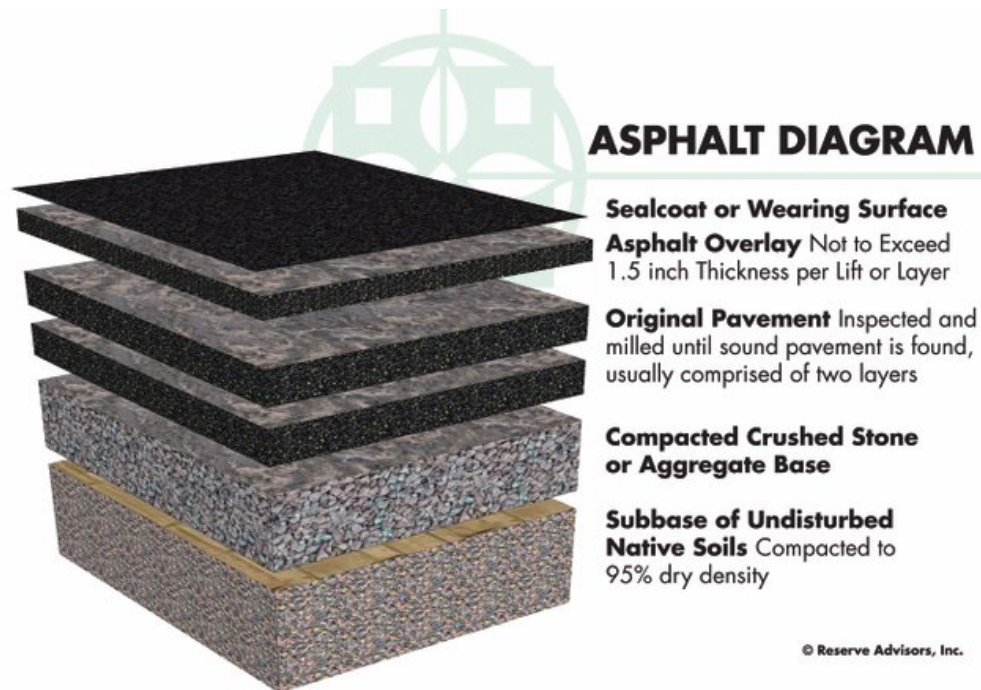
3300 Park Avenue should repair any isolated areas of deteriorated pavement prior to seal coat applications. Proposals for seal coat applications should include both crack repair and area patching. These activities reduce water infiltration and the effects of inclement weather. The contractor should only apply seal coat applications after remedial crack and surface repairs are completed. A seal coat does not bridge or close cracks, therefore, unrepaired cracks render the seal coat applications useless. Our future estimates of cost include an allowance for both crack repair and area patching.

We recommend the Association defer the initial application of seal coat until 18 months after the near term asphalt repaving. This initial application of seal coat usually does not require crack repair or area patching. Therefore, we recommend the Association fund this initial application through the operating budget. 3300 Park Avenue should plan subsequent applications of seal coat that include crack repair and area patching beginning by 2015 and every four years thereafter except when repaving occurs. Line Item 4.020 of **Exhibit B Reserve Expenditures** notes our estimate of future costs, anticipated times of these subsequent seal coat applications and the proposed parking area.

**Asphalt Pavement, Repaving** - As stated in the previous narrative, asphalt pavement comprises 2,020 square yards of streets and parking areas throughout the community. The pavement is in fair to poor overall condition and is original. We observe areas of deterioration

along with alligator, surface and lateral cracks. Pages 8 and 9 of **Exhibit A Photographs** depict these conditions. The Board informs us that the Association intends to conduct a mill and overlay of the existing pavement and expand the asphalt parking area in 2011 by means of a special assessment or loan. We estimate the proposed parking area will consist of 300 additional square yards of asphalt pavement. The useful life of pavement in Bridgeport is from 15- to 20-years. We include the following solutions and procedures pertaining to *components* of the pavement, the *manner of repaving*, *time* of repaving and *coordination* of other possible replacements with the repaving for the benefit of the present and future board members.

*Components* of asphalt pavement include native soil, aggregate and asphalt. First the contractor creates a base course of aggregate or crushed stone and native soil. The base course is individually compacted to ninety-five percent (95%) dry density prior to the application of the asphalt. Compaction assures a stable base for the asphalt that reduces the possibility of settlement. 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 these components.



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 of the asphalt pavement, we agree with the Association’s plan of utilizing the *mill and overlay* method for initial repaving and recommend the *total replacement* method for subsequent repaving at 3300 Park Avenue.

A variety of repairs are necessary to deteriorated pavement prior to the application of an overlay. The contractor should use a combination of area patching, crack repair and milling before the overlayment. The contractor should patch areas that exhibit potholes, alligator or spider web pattern cracks and areas of pavement that are severely deteriorated from oil and gasoline deposits from parking vehicles. Area patching requires total replacement of isolated areas of pavement. The contractor should mechanically rout and fill all cracks with hot emulsion. Crack repair minimizes the chance of the underlying cracks transmitting through the overlayment. In addition to area patching and crack repair, the contractor should mill the pavement prior to overlayment. Properly milled pavement removes part of the existing pavement and permits the overlay to match the elevation of adjacent curbs, catch basins and other areas not subject to repaving. Milling also allows the contractor to make adjustments to the slope of the pavement to ensure proper drainage. The contractor should clean the milled pavement to ensure proper bonding of the new overlayment. We recommend an overlayment thickness that averages 1½ inches (not less than one inch or more than two inches). Variable thicknesses are often necessary to create an adequate slope for proper drainage. The contractor should identify and quantify areas of pavement that require area patching, crack repair and milling to help the Association compare proposed services.

Total replacement requires the removal of all existing asphalt. For area patching, we recommend the contractor use a rectangular saw cut to remove the deteriorated pavement. For larger areas such as entire parking areas or driveways, we recommend the contractor grind, mill or pulverize the existing pavement to remove it. The contractor should then augment and compact the existing aggregate and native soil to create a stable base. Finally the contractor should install the new asphalt in at least two lifts.

The *time* of replacement is dependent on the useful life, age and condition of the pavement. The useful life of 15- to 20-years is dependent in part on the maintenance applied to the pavement, the amounts and concentration of auto solvents that penetrate the pavement, the exposure to sunlight and detrimental effects of inclement weather. 3300 Park Avenue should repair any isolated areas of deteriorated pavement concurrent with periodic seal coat applications. After the mill and overlay in 2011, we recommend the Association plan for a total replacement of the asphalt pavement 2031. Our cost estimate on Line Item 4.045 of **Exhibit B Reserve Expenditures** includes the proposed parking area. The Association should *coordinate* asphalt repaving with related activities such as partial replacement of concrete curbs and capital repairs to catch basins.

**Catch Basins** - Five catch basins collect storm water from the pavement and conduct it into the storm water system. The overall condition of the catch basins is good to fair without settlement visually apparent. The useful life of catch basins is up to 70 years. However, achieving this useful life usually requires interim capital repairs or partial replacements every 15- to 20-years.

The Association should anticipate the occasional displacement or failure of a catch basin and the surrounding pavement from erosion. Erosion causes settlement around the collar of catch basins. Left unrepaired, the *entire catch basin* will shift and need replacement. 3300 Park Avenue should plan to repair or replace any displaced or failed catch basins concurrently with surrounding pavement or curbs. The exact times and amount of capital repairs or replacements are dependent upon variable natural forces. Based on the age and condition of the catch basins, we recommend the Association anticipate the inspection, capital repair or partial replacement of

the five catch basins in conjunction with the total replacement repaving event. We include this information on Line Item 4.100 of **Exhibit B Reserve Expenditures**. We assume the Association will inspect and repair the catch basins in 2011 in conjunction with the mill and overlay repaving event funded by means of a special assessment or loan.

**Concrete Curbs** - The Association maintains 1,520 linear feet of concrete curbs that line the asphalt pavement. Concrete curbs have useful lives of up to 65 years although isolated deterioration of limited areas of concrete is common. Inclement weather, inadequate subsurface preparation and improper concrete mixtures or finishing techniques can result in premature deterioration such as settlement, chips, cracks and spalls. Variable conditions like these result in the need to plan for periodic partial replacements of the concrete curbs throughout the next 30 years. These curbs are in fair condition overall with areas of cracks and spalls visible. Page 9 of **Exhibit A Photographs** depicts these conditions. We estimate that up to 610 linear feet of curbs, or forty percent (40%) of the total, will require replacement in conjunction with the total replacement repaving event. We depict this information on Line Item 4.110 of **Exhibit B Reserve Expenditures**. We assume the Association will partially replace curbs in 2011 in conjunction with the mill and overlay repaving event funded by means of a special assessment or loan.

**Concrete Flatwork** - 3300 Park Avenue maintains the following applications of concrete flatwork.

- Driveways: 26 each (3,250 square feet)
- Patios: two each (200 square feet)
- Stairs: 250 each (1,500 linear feet of nose)

- Stoops and Landings: 1,100 square feet

The existing concrete flatwork is in fair overall condition. We note areas of cracks, spalls and deterioration, as depicted on Page 10 of **Exhibit A Photographs**. The Board informs us that the Association intends to install four concrete parking areas in 2011 by means of a special assessment or loan. We estimate the proposed parking areas will consist of 2,900 additional square feet of concrete. These applications of concrete have useful lives of up to 65 years although isolated deterioration of limited areas of concrete is common. Inclement weather, inadequate subsurface preparation and improper concrete mixtures or finishing techniques can result in premature deterioration such as settlement, chips, cracks and spalls. Variable conditions like these result in the need to plan for periodic partial replacements of the concrete flatwork throughout the next 30 years.

We estimate that up to sixty percent (60%) of the concrete flatwork will require replacement during the next 30 years. We recommend 3300 Park Avenue budget an allowance of \$12,700 plus inflation to partially replace the flatwork every four years beginning by 2013. Line Item 4.122 of **Exhibit B Reserve Expenditures** notes our estimate of future costs, anticipated times of replacements and the proposed concrete parking areas. 3300 Park Avenue should coordinate the concrete flatwork partial replacements to maximize the given amount of concrete in a single event. This will permit the use of a single contractor and likely achieve the most economical unit price for the work.

**Fences and Handrails, Metal** - Approximately 240 linear feet of metal picket fences and 280 linear feet of metal handrails line the unit front entrances. The fences and handrails are in

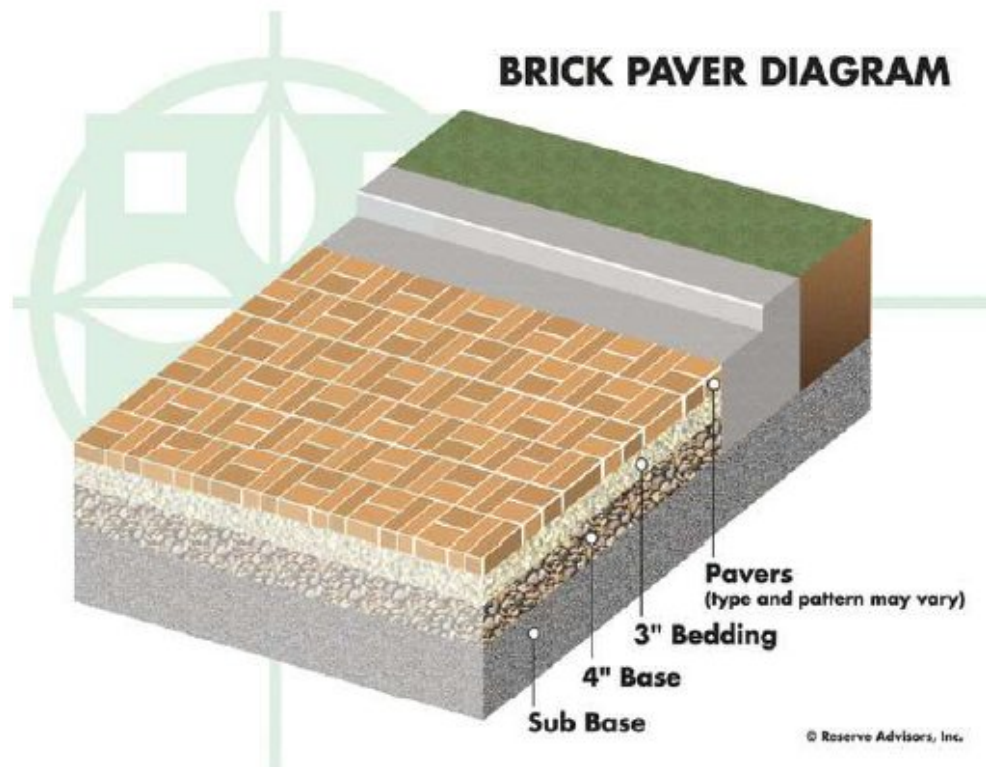


fair overall condition and original. Metal fences and handrails of this type have a long useful life of up to 35 years but are not maintenance free. Periodic maintenance should include periodic applications of protective paint finish to the metal surfaces and partial replacement of deteriorated sections as needed funded through the operating budget. Metal components at grade and key structural connections are especially prone to failure if not thoroughly maintained. Secure and rust free fasteners and connections will prevent premature deterioration. We anticipate replacement of the fences and handrails by 2017. We depict this information on Line Item 4.246 of **Exhibit B Reserve Expenditures**.

**Light Poles and Fixtures** - The Association uses two metal light fixtures atop two poles to illuminate the property. The poles and fixtures are in fair overall condition and are original. Exterior light poles and fixtures have useful lives of up to 25 years. The Board apprises us that 3300 Park Avenue will replace the light poles and fixtures in 2011 by means of a special assessment or loan. The Association should anticipate the need for a subsequent replacement of the poles and fixtures by 2034. We note this information on Line Item 4.560 of **Exhibit B Reserve Expenditures**.

**Mailbox Stations and Shelter** - A total of two metal mailbox stations and one wood frame shelter contain 26 individual mailboxes. The mailbox stations and shelter are in good overall condition at an age of three years and have a useful life of up to 25 years. 3300 Park Avenue should budget for replacement of the mailbox stations and shelter by 2030. We depict this information on Line Item 4.600 of **Exhibit B Reserve Expenditures**. The Association should verify the new mailboxes meet the specifications of the United States Postal Service.

**Pavers, Brick** - The front entrance walkways, patios, parking areas and pool deck utilize approximately 21,000 square feet of brick pavers. The brick pavers are in fair to poor overall condition and are original. We observe areas of settled, heaved, loose and previously replaced brick pavers along with areas of rutting, organic growth and standing water at the brick pavers. Pages 12 through 14 of **Exhibit A Photographs** depict these conditions. The Board informs us that 3300 Park Avenue will conduct resetting of all brick pavers in 2011 by means of a special assessment or loan. This near term project excludes partial brick paver replacements. Manufacturers construct brick pavers as a traffic and pedestrian surface for installation without mortar. Paving brick comprises special types of clays that are baked at higher temperatures and for a longer time than other brick types. Thus, brick pavers have greater strength and durability than common brick. The following diagram depicts the components of a brick paver system.



Brick pavers have a long functional useful life. However, over time, the negative effects of inclement weather, erosion, snow removal equipment and pedestrian and vehicle traffic will create isolated areas of deterioration. We advise the Association budget for complete resetting of the brick pavers every 15- to 20-years. We include expenditures for brick paver resetting, including partial replacement of up to twenty percent (20%), in a phased manner beginning by 2017, concluding by 2029, and every 18 years thereafter. We depict this information on Line Item 4.620 of **Exhibit B Reserve Expenditures**. We suggest the Association conduct interim resetting and replacement of minor areas of pavers as normal maintenance, funded from the operating budget.

**Signage** - The Association maintains one metal community sign at the entrance of the community. This sign is in good to fair condition and is original. The functional useful life of metal signs is from 20- to 30-years. The community sign contributes to the overall aesthetic appearance 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 times for the replacement of the sign is discretionary. We recommend the Association plan to replace the entry sign by 2014 and again by 2038. We note this information on Line Item 4.810 of **Exhibit B Reserve Expenditures**.

### **Pool Elements**

**Fence, Metal** - Approximately 150 linear feet of metal picket fence line the pool area. The fence is in fair overall condition and original. Metal fences of this type, located near pool areas, have a useful life of 25- to 35-years but are not maintenance free. Periodic maintenance should include periodic applications of protective paint finish to the metal surfaces and partial

replacement of deteriorated sections as needed funded through the operating budget. Metal components at grade and key structural connections are especially prone to failure if not thoroughly maintained. Secure and rust free fasteners and connections will prevent premature deterioration. We recommend the Association anticipate replacement of the pool fence by 2017 and again by 2040 concurrent with any necessary replacement of the brick paver pool deck. We include this information on Line Item 6.400 of **Exhibit B Reserve Expenditures**. We advise the Association fund periodic replacements of the wire mesh at the metal pool fence through the operating budget.

**Furniture** - Associated furniture and fixtures around the pool include chairs, lounges and tables. We were not able to inspect the pool furniture at the time of our inspection. However, the Board reports that the condition of these items is good overall at an age of three years. Pool furniture has a useful life of up to 12 years with the benefit of ongoing maintenance. We recommend the Association budget an allowance for replacement of the pool furniture by 2020 and every 12 years thereafter. The times and costs of these replacements may vary. However, we judge the amounts shown on Line Item 6.500 of **Exhibit B Reserve Expenditures** sufficient to budget appropriate reserves.

**Mechanical Equipment** - The pool mechanical equipment comprises the following:

- Automatic chlorinators
- Controls
- Interconnected pipe, fittings and valves
- Heater
- Water filters
- Water circulation pumps

We were not able to inspect the pool mechanical equipment at the time of our inspection. However, the Board reports that the age and condition of the pool mechanical equipment varies greatly. Furthermore, the Board apprises us that the Association plans to replace the pool heater in 2011 by means of a special assessment or loan. Pool mechanical equipment has a useful life of 12- to 15-years. Based on the varied ages and conditions of the pool mechanical equipment, we recommend the Association anticipate phased replacement of up to fifty percent (50%) beginning by 2019 and every seven years thereafter. We consider interim replacement of motors and minor repairs as normal maintenance. We note this information on Line Item 6.600 of **Exhibit B Reserve Expenditures**.

**Plaster Finish** - The pool wall and floor surfaces have a plaster finish of 650 square feet based on the horizontal surface area. We were unable to inspect the pool at the time of our inspection due to the cover. However, the Board informs us that the plaster finish is in good to fair condition at an unknown age. This type of pool finish deteriorates with time and requires periodic maintenance and replacement. Removal also provides the opportunity to inspect the pool structure and to allow for partial repairs of the underlying concrete surfaces as needed. We anticipate the need for only minor repairs to the pool structure with consideration of the age and present observed visual condition. We recommend the Association anticipate the need to replace the plaster finish and conduct related repairs every 8- to 12-years to maintain the integrity of the pool structure. We recommend the Association budget for replacement of the plaster finish and partial replacements of the scuppers, tiles, sealants, coping and partial concrete structure repairs by 2016 and every 12 years thereafter, except when structure replacement occurs. We include this information on Line Item 6.800 of **Exhibit B Reserve Expenditures**.

**Pool House, Rest Rooms** - The Association maintains two common area rest rooms located in the pool house. We were unable to inspect the rest rooms at the time of our inspection. However, we assume the components of the rest rooms include paint finishes, light fixtures, plumbing fixtures and toilet partitions. The components are reported in fair to poor overall condition by the Board and are original. The Board also apprises us that the Association plans to renovate the rest rooms in 2011 by means of a special assessment or loan. Periodic renovations of the pool house rest rooms are an astute practice to maintain a positive overall appearance of the Association. The useful life of rest room components varies up to 25 years. For funding purposes, we recommend the Association budget for subsequent renovation of the rest rooms by 2034. We include an allowance of \$2,600 plus inflation per rest room on Line Item 6.811 of **Exhibit B Reserve Expenditures** for these renovations. The Association should verify the rest room renovations comply with the Americans with Disability Act (ADA).

**Structure and Deck** - As previously stated, we were unable to inspect the pool due to the cover. However, the Board informs us that the pool structure is in good to fair condition and is original. The concrete floor and walls have a plaster finish. This finish makes it difficult to thoroughly inspect the concrete structure during a noninvasive visual inspection. An invasive inspection of the structure is beyond the scope of this Reserve Study. Therefore, we base our recommendations for its eventual replacement on historical information provided by the Board, its age, our experience of observing many other pool structures and an anticipated total useful life of up to 60 years. A brick paver deck of 1,650 square feet surrounds the pool. Along with periodic resetting, the Association has replaced minor portions of the deck. Its condition is fair overall.

The need to replace a pool structure depends on the condition of the concrete structure, the condition of the embedded or concealed water circulation piping, possible long term uneven settlement of the structure, and the increasing cost of repair and maintenance. Deterioration of any one of these component systems could result in complete replacement of the pool. For example, deferral of a deteriorated piping system could result in settlement and cracks in the pool structure. This mode of failure is more common as the system ages and deterioration of the piping system goes undetected. For reserve budgeting purposes, we recommend 3300 Park Avenue fully fund for the possible need to replace the pool and deck by 2040. The time and cost of this replacement may vary. However, we judge the amount shown on Line Item 6.900 of **Exhibit B Reserve Expenditures** sufficient to budget appropriate reserves.

**Reserve Study Update** - An ongoing review by the Board and an Update of this Reserve Study in two- to three- years 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.

The Association can expense the fee for an Update with site visit from the reserve account. This fee is included in the Reserve Funding Plan. We base this budgetary amount on updating the same property components and quantities of this Reserve Study report. 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.



### Explanation of the Exhibits

**Exhibit A *Photographs*** documents the conditions of various property components as of the date of our visual inspection, March 24, 2011. The previous section, Condition Assessment, contains several references to these photographs.

**Exhibit B *Reserve Expenditures and Reserve Funding Plan*** covers a 30-year period. Information about the Reserve Components and Expenditures for the most relevant next 20 years (2011 through 2031) is found on a convenient 11- by 17-inch foldout spreadsheet. The remaining ten years (2032 through 2041) follow in a concise 8½- by 11-inch table. Data for each Reserve Component is presented on a single row with columns of information as follows:

- Line Items are included for reference purposes
- Total Quantities are the total anticipated quantity for replacement during the next 30 years (*this is not necessarily the “total” quantity maintained by the Association as this quantity may represent more than one Useful Life cycle or a partial replacement*)
- Per Phase Quantities are the anticipated quantity for each replacement event
- Units clarify the unit of measure used to quantify the elements
- Reserve Component Inventory identifies each Reserve Component
- The Estimated First Year of Replacement is included to help the Association understand the priority of future Reserve Expenditures
- Results of the Life Analysis show both the total Useful Life and Remaining Useful Life for each Reserve Component
- Unit Cost is the cost per unit we used to calculate the per phase cost
- The 2011 Cost of Replacement Per Phase is the per phase cost in today’s dollars
- The Total Future Costs of Replacement is the total cost for all phases of replacement during the next 30 years and *includes* the effects of inflation at a 2.5% annual percentage rate
- The remaining columns in Reserve Expenditures 11- by 17-inch foldout spreadsheet present the estimated future inflated costs for each for the next 20 years

- The remaining ten years of future Reserve Expenditures from years 2032 to 2041 follow in a concise 8½- by 11-inch table

**Exhibit B Reserve Funding Plan** includes the Cash Flow Analysis and recommended Reserve Contributions for the next 30 years based on the Reserve Expenditures and a 2.0% annual percentage rate earned on the average annual fund balances. The specific information found on the last 11- by 17-inch foldout spreadsheet includes:

- Reserves at Beginning of Year
- Recommended Reserve Contribution (positive cash flow)
- Estimated Interest Earned
- Anticipated Expenditures (negative cash flow)
- Anticipated Reserves at Year End
- Predicted Reserves (based on current funding levels)

**Exhibit C Reserve Funding Graphs** contains two graphs and a pie chart based on the numerical data found in the Reserve Funding Plan. The graphs illustrate our recommendations and observations pertaining to reserve balances, recommended annual Reserve Contributions and Reserve Expenditures during the next 30 years.

The second Reserve Funding Graph titled Reserve Balances compares the recommended year-end amounts of reserves with the potential shortage of reserves if the Association were to continue contributing to reserves at its current budgeted amount for the next 30 years. The potential shortages are based on matching the estimated future Reserve Expenditures against existing reserves and current annual amounts of Reserve Contributions. This second graph answers the hypothetical question of when a shortfall in reserves could occur if there were no change in the annual budget of Reserve Contributions.

The pie chart Estimated Future Reserve Expenditures illustrates the relative importance of the Reserve Expenditures and relative funding during the next 30 years. 3300 Park Avenue can regard reserve needs for these expenditures as requiring a similar allocation of existing reserves and future Reserve Contributions.

**Exhibit D** describes Assumptions of the Reserve Study of how we collect and analyze data. The statement of Professional Service Conditions identifies the general manner of professional services provided, as stated in the original authorized Confirmation of Services for this Reserve Study.

**Exhibit E *Credentials*** contains the Qualifications of the Firm, Responsible Advisor and Review Coordinator. Theodore J. Salgado and John P. Poehlmann are the Principals of Reserve Advisors, Inc., Matthew P. Ksionzyk conducted the visual inspection of 3300 Park Avenue Condominium Association, Inc. and Megan C. Konecny served as Review Coordinator for this Reserve Study.

## CONCLUSION

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Precision 20/20 Full Reserve Study* of 3300 Park Avenue Condominium Association, Inc. (3300 Park Avenue) located in Bridgeport, Connecticut and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, March 24, 2011. This Reserve Study is a budget planning tool that identifies the current status of the reserve fund and a stable and equitable Reserve Funding Plan to offset the anticipated future major common area expenditures.

We identified the anticipated Reserve Expenditures for Reserve Components during the next 30 years as either near term or long term. *Near term* expenditures relate to capital needs from now through 2016, the next five years beyond this current fiscal year. These *near term* expenditures comprise \$217,325, or about nine percent (8.7%), of the next 30 years of **Exhibit B Reserve Expenditures**. Expenditures during the next five years are more important when compared with the future needs of 3300 Park Avenue and tend to govern the amounts of recommended Reserve Contributions. The current Reserve Expenditures relate primarily to replacement of the gutters, downspouts, remaining original asphalt shingle roofs and brick masonry facade repairs.

The Association budgeted \$16,200 for Reserve Contributions in 2011. We recommend that the Association adopt a reserve budget of \$32,100 in 2012, \$48,000 in 2013, and \$63,900 in 2014. Afterwards, the Association should budget level Reserve Contributions of \$63,900 through 2017, followed by gradual annual increases in reserve funding, that in part consider the effects of inflation through 2041, the limit of this study's Cash Flow Analysis. The

recommended year 2012 Reserve Contribution of \$32,100 is \$15,900 more than the prior budgeted amount and represents about a fifteen percent (14.5%) adjustment in the 2011 total Operating Budget of \$110,021. This initial adjustment of \$15,900 is equivalent to an average monthly increase of \$50.96 per unit owner. These contributions will maintain a Reserve Fund for the major expenditures as identified in **Exhibit B**. We recognize that the initial recommended Reserve Contributions are significant and may require approval of the homeowners. **Exhibit B Reserve Funding Plan** enumerates the details regarding recommended annual Reserve Contributions and projected year end reserve balances.

Based on the investigation and analysis as detailed in the accompanying narrative, we recommend the following Reserve Contributions to fund the expected expenditures of the subject Reserve Components during the next 30 years.

### Recommended Reserve Contributions

Year	\$	Year	\$	Year	\$
2012	32,100	2022	72,300	2032	92,500
2013	48,000	2023	74,100	2033	94,800
2014	63,900	2024	76,000	2034	97,200
2015	63,900	2025	77,900	2035	99,600
2016	63,900	2026	79,800	2036	102,100
2017	63,900	2027	81,800	2037	104,700
2018	65,500	2028	83,800	2038	107,300
2019	67,100	2029	85,900	2039	110,000
2020	68,800	2030	88,000	2040	112,800
2021	70,500	2031	90,200	2041	115,600

The Reserve Funding Plan recommends 2041 year end accumulated reserves of approximately \$54,000. We judge this amount of accumulated reserves in 2041 desirable or necessary, in consideration of the age, size and complexity of the property.

An ongoing review by the Board and an Update of this Reserve Study in two- to three-years are necessary to ensure a continued equitable funding plan since a Reserve Study is a snapshot in time. Many variables change after the Reserve Study is conducted that may result in significant overfunding or underfunding. Examples include deferred or accelerated capital projects based on Board discretion, changes in the interest rates on reserve investments; and changes in the *local* construction inflation rate.

This report, although preliminary in nature, is a valid opinion. 3300 Park Avenue should consider this report as complete and final if it does not request a final report.

## SUPPLEMENTARY INFORMATION FOR FINANCIAL STATEMENTS

The *Audit and Accounting Guide for Common Interest Realty Associations* presents recommendations on Supplementary Information on Future Major Repairs and Replacements in end of fiscal year Audits of Financial Statements for community associations<sup>9</sup>. Accountants use discretion and judgment on how to present the Supplementary Information on Future Major Repairs and Replacements. However, the Supplementary Information on Future Major Repairs and Replacements often references and includes excerpts from our Reserve Studies. The following table excerpts significant unaudited information from the Reserve Expenditures about Reserve Component categories and estimated current and future replacement costs based on inflation at an annual rate of 2.5%.

**Unaudited Supplemental Information on Future Major Repairs and Replacements**

<i>Reserve Component Categories</i>	<i>Total Current Replacement Costs</i>	<i>Total Future or Inflated Replacement Costs</i>	<i>% of Total Future Replacements</i>	<i>Component of Projected 2011 YE Fund Balance</i>
Exterior Building Elements	\$906,870	\$1,337,543	53.4%	\$19,213
Property Site Elements	\$560,773	\$875,352	34.9%	\$12,574
Pool Elements	\$156,750	\$289,113	11.5%	\$4,153
Reserve Study Update	\$2,800	\$2,800	0.1%	\$40
<b>Totals</b>	<b>\$1,627,193</b>	<b>\$2,504,808</b>	<b>100%</b>	<b>\$35,979</b>

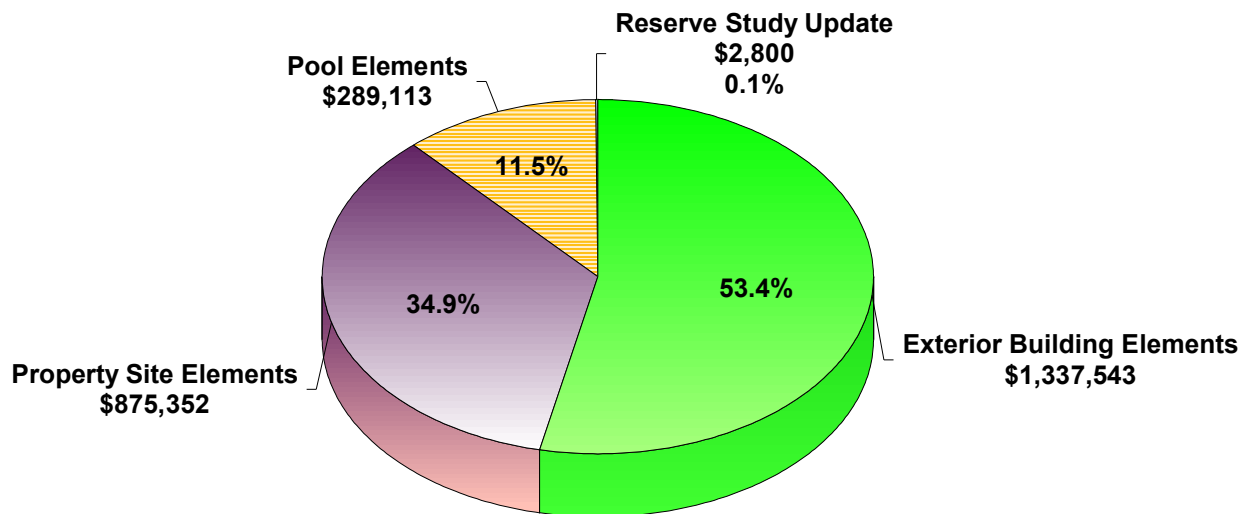
The information included in the table above may be included as part of the Supplementary Information on Future Major Repairs and Replacements. *However, Reserve Advisors, Inc. does not certify that the information in the table will fully satisfy the recommendations of the AICPA guideline.*

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<sup>9</sup> American Institute of Certified Public Accountants (AICPA) *Audit and Accounting Guide - Common Interest Realty Associations*; American Institute of Certified Public Accountants, Inc.; 2003

The most important category of Reserve Components noted in **Exhibit B Reserve Expenditures** is the Exterior Building Elements. The following chart illustrates the relative importance of the Reserve Expenditures and relative funding during the next 30 years.

### Future Expenditures Relative Cost Illustration 3300 Park Avenue Condominium Association, Inc.





## DEFINITIONS<sup>1</sup>

**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.

**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 in the cost of replacement where applicable.

**Funding Goal** - The stated purpose of this Reserve Study to determine the adequate, not excessive, future annual, reasonable *Reserve Contributions* to fund future *Reserve Expenditures*.

**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 3300 Park Avenue 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.

**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) 3300 Park Avenue 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 **Exhibit B 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.

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<sup>1</sup> Definitions are derived from the standards set forth by the Community Associations Institute (CAI) representing America's 286,000 condominium and homeowners associations and cooperatives, and the Association of Professional Reserve Analysts, setting the standards of care for reserve study practitioners.

**EXHIBIT A**  
**PHOTOGRAPHS**



Typical front elevation of building



Rust, pitting and paint deterioration evident at metal balcony assembly

*(note Homeowners are responsible for periodic paint finish applications and repairs)*



Metal bridge assembly



Rust and deterioration visible at metal chimney cap



Asphalt shingle roof overview



Shingle lift evident at roof



Roof exhibits shingle lift and sheathing deflection



Typical EPDM roof at garage



EDPM roof deterioration



Severe cracks at brick masonry



Step cracks at brick masonry



Efflorescence at brick masonry



Rust and pitting visible at metal lintel



Typical brick masonry trash bins  
*(note Homeowners are responsible for metal doors)*



Chipped and blistered paint finish  
at wood fascia board



Chipped and blistered paint finish at wood soffit and fascia



Loose, warped and bowed wood siding



Loose and warped wood siding





Cracked, rotted and bowed wood siding



Wood rot evident at wood siding



Asphalt pavement overview



Alligator and surface cracks at asphalt pavement



Alligator and surface cracks at asphalt pavement



Surface and lateral cracks at asphalt pavement



Lateral crack at asphalt pavement



Spalled concrete curb  
*(note brick paver settlement)*



Cracked concrete curb



Cracks at concrete driveway



Spalls at concrete driveway



Spalls and deterioration at concrete steps



Concrete patio



Paint deterioration at metal handrail

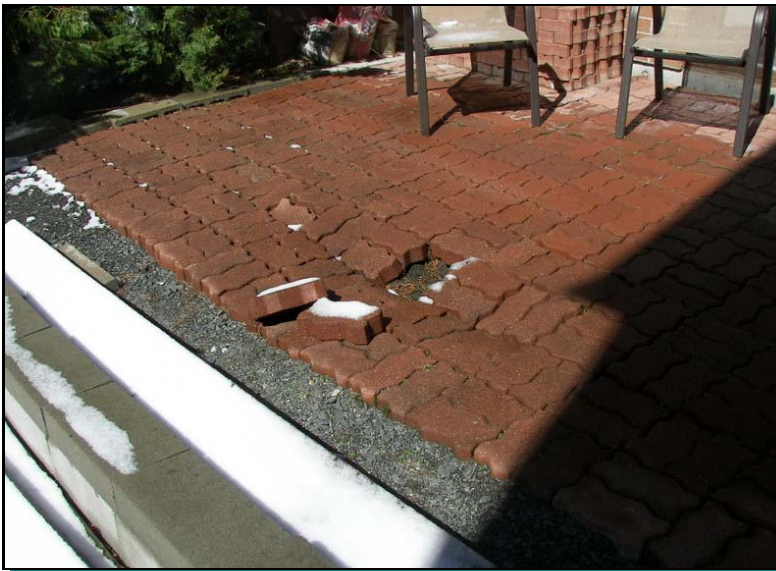
*(note Association funds periodic paint finish applications and repairs through operating budget)*



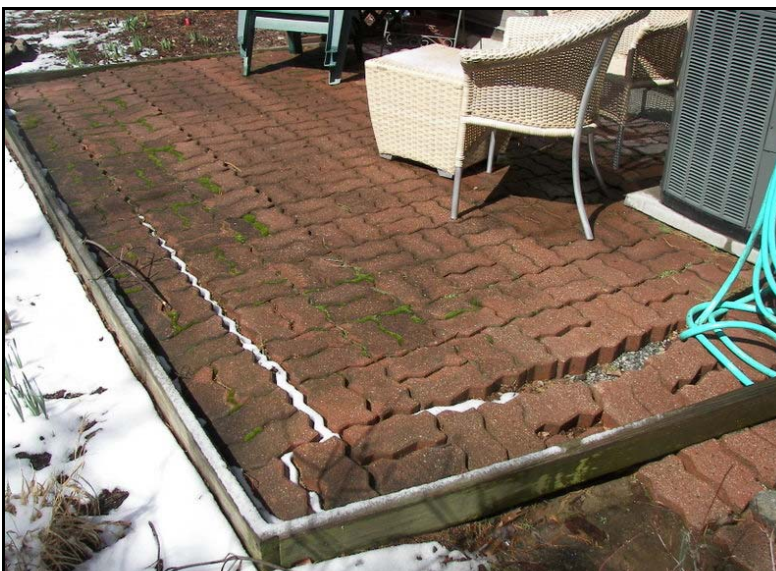
Mailbox station shelter



Example of settled and heaved brick pavers



Settled and loose brick pavers at patio



Considerable settlement and organic growth visible at brick paver patio



Standing water and settled brick pavers at parking area



Brick paver patio exhibits substantial organic growth



Rutting evident at brick paver parking area



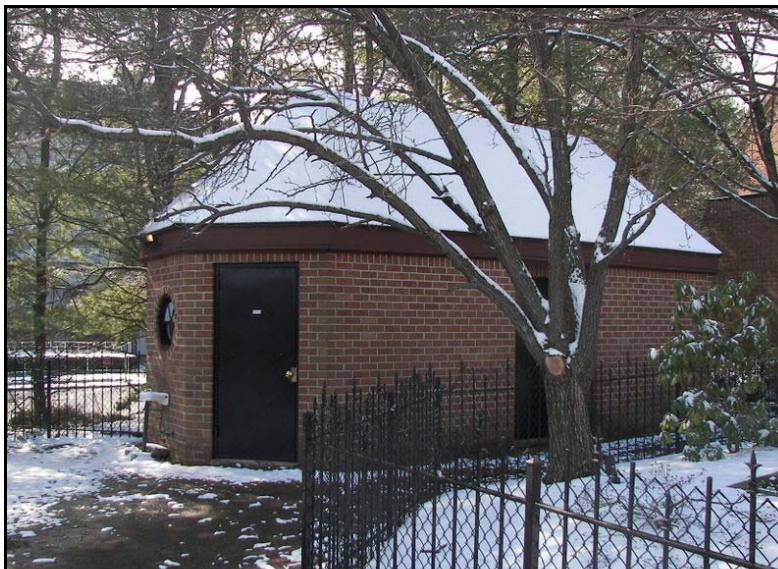
Example of previous partial brick paver replacement

*(note typical catch basin)*



Pool overview

*(note fund replacement of pool cover through operating budget)*



Pool house



**EXHIBIT B**

**RESERVE EXPENDITURES  
and  
RESERVE FUNDING PLAN**



**RESERVE EXPENDITURES**

for  
3300 Park Avenue  
Condominium Association, Inc.  
Bridgeport, Connecticut

Line Item	Reserve Component Inventory	21 2032	22 2033	23 2034	24 2035	25 2036	26 2037	27 2038	28 2039	29 2040	30 2041
<b>Exterior Building Elements</b>											
1.081	Balconies and Bridges, Metal, Replacement (incl. bridges)										
1.140	Chimney Caps, Metal, Phased						6,689	6,856			
1.240	Gutters and Downspouts, Remaining Original, Phased										
1.241	Gutters and Downspouts, Subsequent, Phased	16,628									20,766
1.260	Light Fixtures							19,166			
1.280	Roofs, Asphalt Shingles, Remaining Original, Phased										
1.281	Roofs, Asphalt Shingles, Subsequent, Phased (incl. pool house)	70,207									87,678
1.380	Roofs, EPDM, Phased							37,195			
1.540	Sealants, Windows and Doors, Phased (incl. pool house)					14,090					15,942
1.820	Walls, Masonry, Inspections and Partial Repointing (incl. trash bins and pool house)					69,523					
1.944	Walls, Wood Siding, Paint Finishes and Partial Replacements					50,724					57,389
1.945	Walls, Wood Siding, Replacement, Phased (incl. soffit and fascia)										
<b>Property Site Elements</b>											
4.020	Asphalt Pavement, Crack Repair, Patch and Seal Coat (incl. proposed parking area)				10,071				11,116		
4.045	Asphalt Pavement, Total Replacement (incl. proposed parking area)										
4.100	Catch Basins, Inspections and Capital Repairs										
4.110	Concrete Curbs, Partial Replacements										
4.122	Concrete Flatwork, Partial Replacements (incl. proposed parking areas)		21,864				24,134				26,639
4.246	Fences and Handrails, Metal										
4.560	Light Poles and Fixtures			7,058							
4.600	Mailbox Stations and Shelter										
4.620	Pavers, Brick, Resetting and Partial Replacements, Phased (incl. pool deck)				107,619						124,805
4.810	Signage							7,207			
<b>Pool Elements</b>											
6.400	Fence, Metal									12,278	
6.500	Furniture	5,879									
6.600	Mechanical Equipment, Phased		10,329							12,278	
6.800	Plaster Finish Replacement and Tile Repairs										
6.811	Pool House, Rest Rooms, Renovations			9,176							
6.900	Structure and Deck, Total Replacement									192,874	
<b>Reserve Study Update with Site Visit</b>											
<b>Anticipated Expenditures, By Year</b>		92,714	32,193	16,234	117,690	134,337	30,823	14,063	67,477	217,430	333,219

## RESERVE FUNDING PLAN

### CASH FLOW ANALYSIS

3300 Park Avenue

Condominium Association, Inc.

Bridgeport, Connecticut

Individual Reserve Budgets & Cash Flows for the Next 30 Years

	FY2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
<b>Reserves at Beginning of Year (Note 1)</b>	22,000	35,979	24,039	10,489	71,214	120,267	96,239	39,436	106,380	139,118	140,829	120,805	126,750	45,517	13,710	74,539
<b>Total Recommended Reserve Contributions (Note 2)</b>	<b>13,500</b>	<b>32,100</b>	<b>48,000</b>	<b>63,900</b>	<b>63,900</b>	<b>63,900</b>	<b>63,900</b>	<b>65,500</b>	<b>67,100</b>	<b>68,800</b>	<b>70,500</b>	<b>72,300</b>	<b>74,100</b>	<b>76,000</b>	<b>77,900</b>	<b>79,800</b>
Plus <b>Estimated Interest Earned, During Year (Note 3)</b>	479	594	342	809	1,896	2,144	1,343	1,444	2,431	2,772	2,590	2,451	1,706	586	874	1,152
Less <b>Anticipated Expenditures, By Year</b>	0	(44,634)	(61,892)	(3,984)	(16,743)	(90,072)	(122,046)	0	(36,793)	(69,861)	(93,114)	(68,806)	(157,039)	(108,393)	(17,945)	(113,633)
<b>Anticipated Reserves at Year End</b>	<u>\$35,979</u>	<u>24,039</u>	<u>10,489</u>	<u>71,214</u>	<u>120,267</u>	<u>96,239</u>	<u>39,436</u>	<u>106,380</u>	<u>139,118</u>	<u>140,829</u>	<u>120,805</u>	<u>126,750</u>	<u>45,517</u>	<u>13,710</u>	<u>74,539</u>	<u>41,858</u>
			<b>(NOTE 4)</b>										<b>(NOTE 4)</b>			
Predicted Reserves based on 2011 funding level of: \$16,200	35,979	8,000	(38,000)	(26,000)	(27,000)	(102,000)	(211,000)									

(continued)

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

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
<b>Reserves at Beginning of Year</b>	41,858	116,965	113,499	59,447	138,213	37,145	37,672	101,659	185,468	170,906	141,765	219,216	317,770	367,074	268,739
<b>Total Recommended Reserve Contributions</b>	<b>81,800</b>	<b>83,800</b>	<b>85,900</b>	<b>88,000</b>	<b>90,200</b>	<b>92,500</b>	<b>94,800</b>	<b>97,200</b>	<b>99,600</b>	<b>102,100</b>	<b>104,700</b>	<b>107,300</b>	<b>110,000</b>	<b>112,800</b>	<b>115,600</b>
Plus <b>Estimated Interest Earned, During Year</b>	1,573	2,282	1,712	1,957	1,736	741	1,380	2,843	3,528	3,096	3,574	5,317	6,781	6,295	3,199
Less <b>Anticipated Expenditures, By Year</b>	(8,266)	(89,548)	(141,664)	(11,191)	(193,004)	(92,714)	(32,193)	(16,234)	(117,690)	(134,337)	(30,823)	(14,063)	(67,477)	(217,430)	(333,219)
<b>Anticipated Reserves at Year End</b>	<u>116,965</u>	<u>113,499</u>	<u>59,447</u>	<u>138,213</u>	<u>37,145</u>	<u>37,672</u>	<u>101,659</u>	<u>185,468</u>	<u>170,906</u>	<u>141,765</u>	<u>219,216</u>	<u>317,770</u>	<u>367,074</u>	<u>268,739</u>	<u>54,319</u>
															<b>(NOTE 4)</b>
															<b>(NOTE 5)</b>

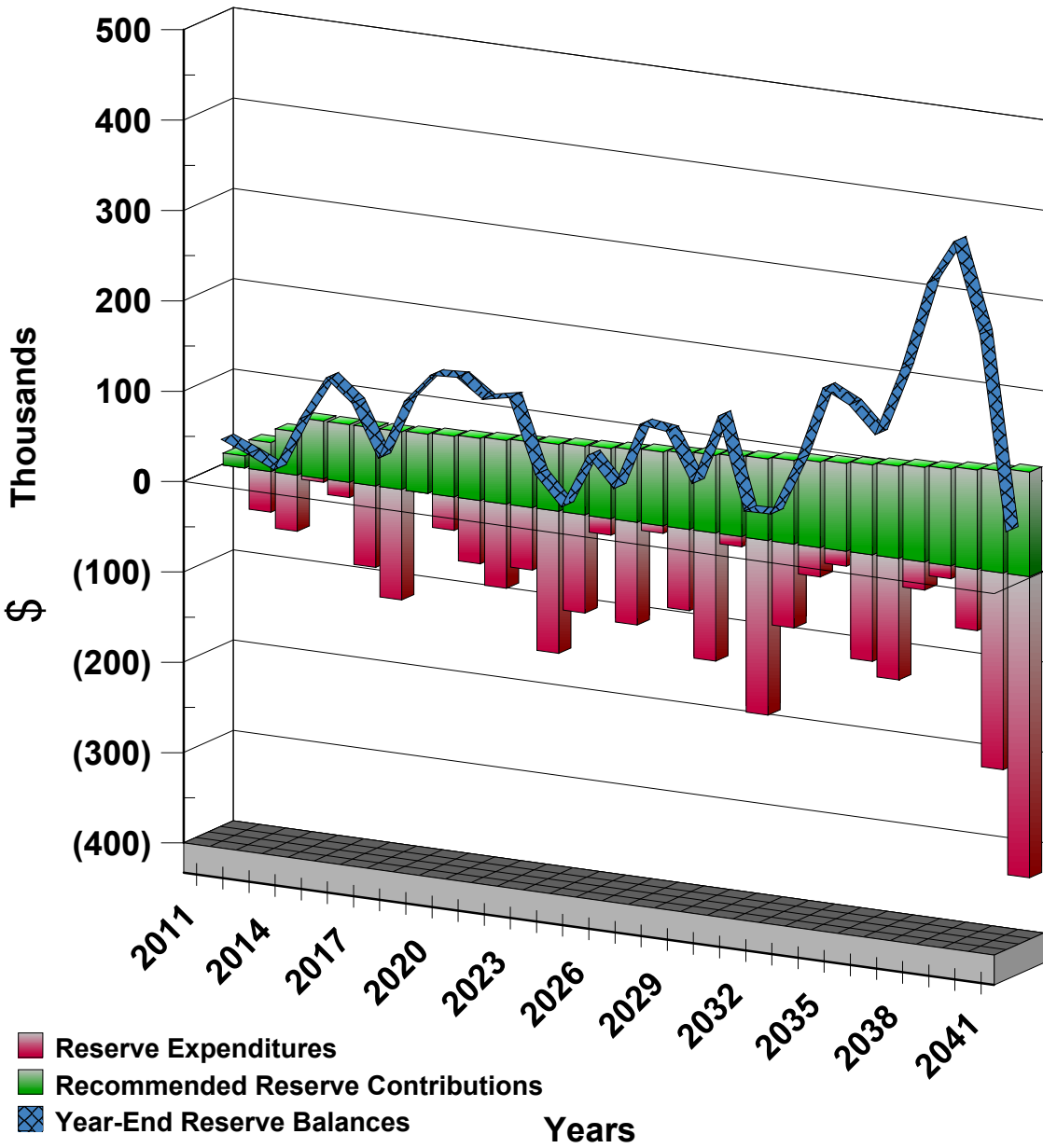
**Explanatory Notes:**

- 1) Year 2011 starting reserves are as of February 28, 2011; FY 2011 starts January 1 and ends December 31.
- 2) Reserve Contributions for 2011 are the remaining budgeted ten months; 2012 is the first year of recommended contributions.
- 3) 2.0% is the estimated annual rate of return on invested reserves; 2011 is a partial year of interest earned.
- 4) Threshold Funding Years (reserve balances at critical points).
- 5) Accumulated year 2041 ending reserves consider the age, size, overall condition and complexity of the property.

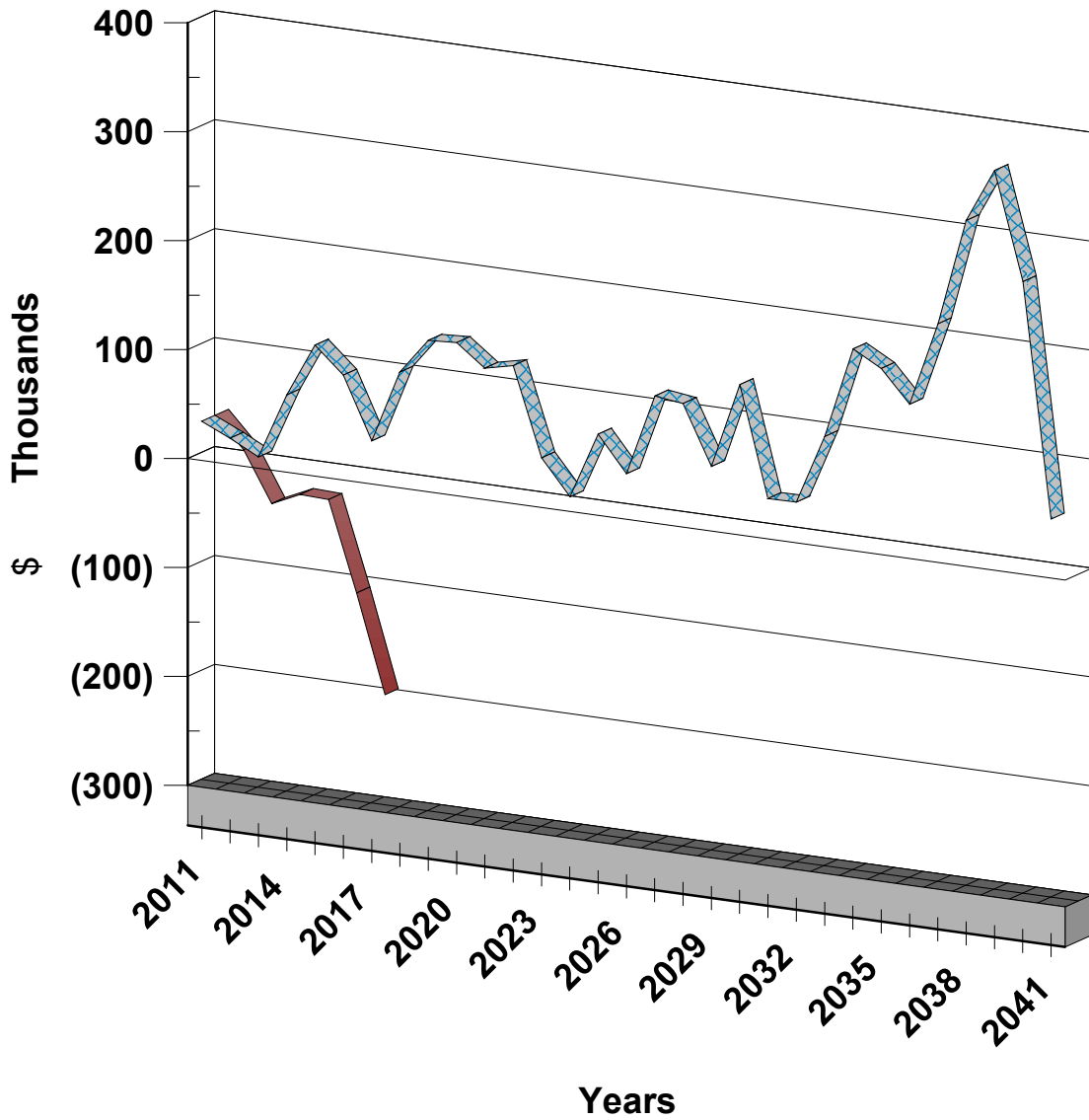
**EXHIBIT C**  
**RESERVE FUNDING GRAPHS**

# Recommended Reserve Funding Plan

## 3300 Park Avenue Condominium Association, Inc.

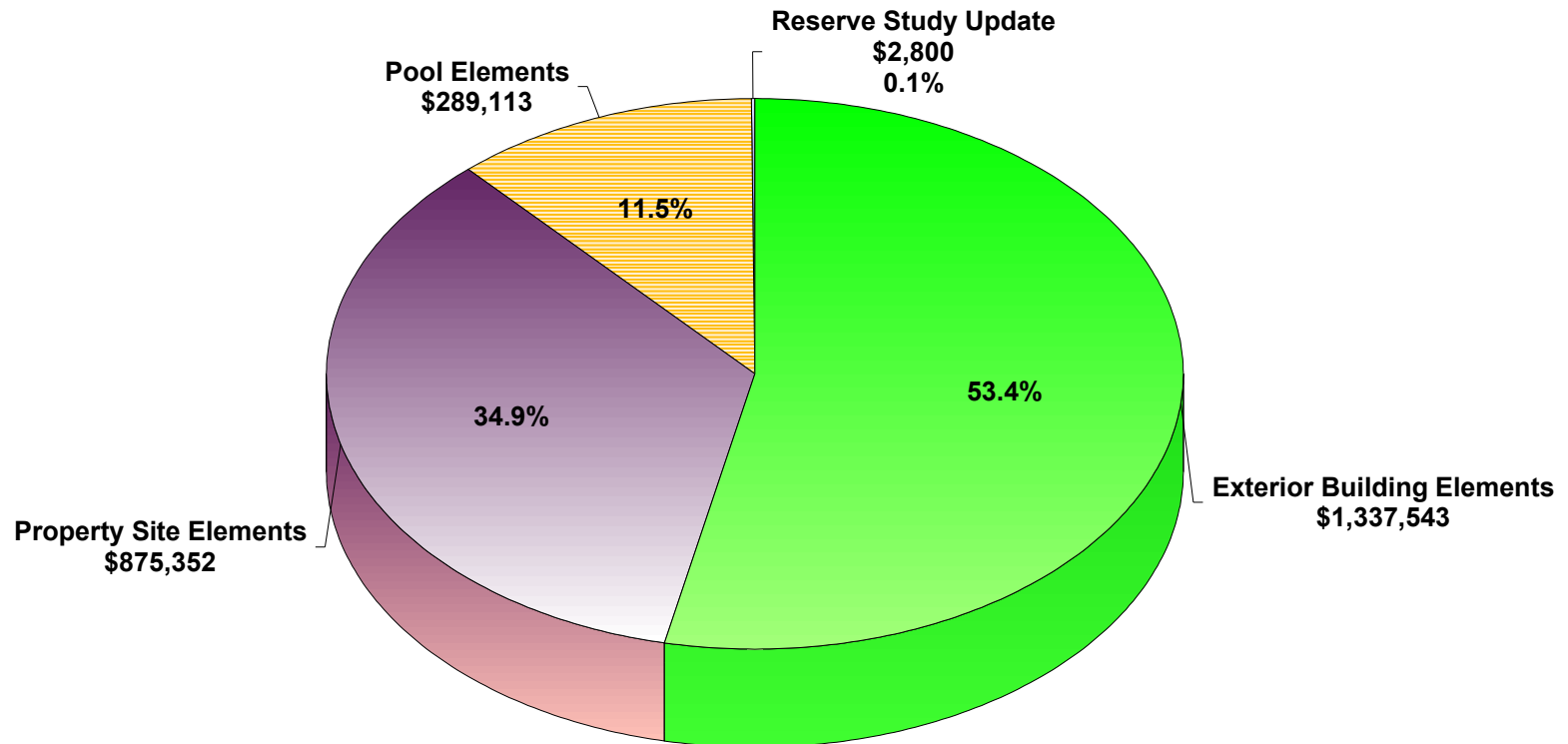


## Reserve Balances 3300 Park Avenue Condominium Association, Inc.



- Year-End Reserve Balances Using Recommended Funding
- Potential Year-End Reserve Balances Using Historical Funding

## Future Expenditures Relative Cost Illustration 3300 Park Avenue Condominium Association, Inc.





**EXHIBIT D**  
**ASSUMPTIONS**  
**and**  
**PROFESSIONAL SERVICE CONDITIONS**

## Reserve Advisors, Inc.

### ASSUMPTIONS

To the best of our knowledge, all data set forth in this report are true and accurate. Although gathered from reliable sources, we make no guarantee nor assume liability for the accuracy of any data, opinions, or estimates identified as furnished by others that we used in formulating this analysis.

We did not make any soil analysis or geological study with this report; nor were any water, oil, gas, coal, or other subsurface mineral and use rights or conditions investigated.

Substances such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials could, if present, adversely affect the validity of this study. Unless otherwise stated in this report, the existence of hazardous substance, that may or may not be present on or in the property, was not considered. Our opinions are predicated on the assumption that there are no hazardous materials on or in the property. We assume no responsibility for any such conditions. We are not qualified to detect such substances, quantify the impact, or develop the remedial cost.

We have made a visual inspection of the property and noted visible physical defects, if any, in our report. Our inspection and analysis was made by employees generally familiar with real estate and building construction; however, we did not do any invasive testing. Accordingly, we do not opine on, nor are we responsible for, the structural integrity of the property including its conformity to specific governmental code requirements, such as fire, building and safety, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

Our opinions of the remaining useful lives of the common and limited common elements do not represent a guarantee or warranty of performance of the products, materials and workmanship.

### PROFESSIONAL SERVICE CONDITIONS

**Our Services** - Reserve Advisors, Inc. will perform its service as an independent contractor in accordance with our professional practice standards. Our compensation is not contingent upon our conclusions.

Our inspection and analysis of the subject property is limited to visual observations and is noninvasive. We will inspect sloped roofs from the ground. We will inspect flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. Reserve Advisors does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, structural, latent or hidden defects which may or may not be present on or within the property. Our opinions of estimated costs and remaining useful lives are not a guarantee of the actual costs of replacement, a warranty of the common elements, or guarantee of remaining useful lives.

We assume, without independent verification, the accuracy of all data provided to us. You agree to indemnify and hold us harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorneys' fees, to which we may become subject in connection with this engagement, because of any false, misleading or incomplete information which we have relied upon as supplied by you or others under your direction, or which may result from any improper use or reliance on the report by you or third parties under your control or direction. Your obligation for indemnification and reimbursement shall extend to any controlling person of Reserve Advisors, Inc., including any director, officer, employee, affiliate, or agent. Liability of Reserve Advisors, Inc. 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** - Reserve Advisors, Inc. will complete this Study in accordance with the Proposal. In the event our service includes a Preliminary Report, we will consider any additional information made available to us in the interest of promptly issuing a Final Report to your satisfaction. However, the Preliminary Report represents a valid opinion of our findings and recommendations and is deemed complete and final if no Final Report or changes are requested within six months of our inspection. We retain the right to withhold the Preliminary or Final Reports if payment for services is not rendered in a timely manner. All files, work papers or documents developed by us during the course of the engagement remains our property.

**Your Obligations** - You agree to provide us access to the subject property during our on site visual inspection and tour. You will provide to us to the best of your ability and if reasonably available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete our Study. You agree to abide by the payment schedule for our services in accordance with the Reserve Study Proposal.

**Use of Our Report and Your Name** - Use of our Report is limited to only the stated purpose stated herein. Any use or reliance for any other purpose, by you or third parties, is invalid. The Report in whole or part *is not and can not be used as a design specification, design engineering services or an appraisal*. You may show our report in its entirety to those third parties who need to review the information contained herein. The Association and other third parties viewing this report should not reference our name or our report, in whole or in part, in any document prepared and/or distributed to third parties without our written consent. *This report* contains intellectual property developed by Reserve Advisors, Inc. specific to this engagement and *can not be reproduced or distributed to those who conduct reserve studies without the written consent of Reserve Advisors, Inc.*

We reserve the right to include your Association's name in our client list, but we will maintain the confidentiality of all conversations, documents provided to us, and the contents of our reports, subject to legal or administrative process or proceedings. These conditions can only be modified by written documents executed by both parties.

**EXHIBIT E**  
**CREDENTIALS**

## **FIRM'S QUALIFICATIONS**

### **HISTORY AND DEPTH OF SERVICE TO AMERICA**

**Founded in 1991**, Reserve Advisors, Inc. is the leading provider of reserve studies and independent property consulting services, serving community associations, clubs, non-profit organizations, apartment building owners, religious institutions and educational facilities, office and commercial building owners, and other entities in over 40 states and Canada.

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 engineering and financial master plan known as a reserve study.

Reserve Advisors has the **largest staff of engineers**, architects, and other specialists dedicated to reserve study services. Our principals are founders of Community Associations Institute's (CAI) Reserve Committee. Also, one of our principals serves as President of the Association of Professional Reserve Analysts (APRA). Our vast experience with a variety of building types and ages, on-site examination and a historical analysis are keys to our determining accurate remaining useful life estimates of building components.

**No Conflict of Interest** - As specialists, our **independent engineering 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 Peer Review, exclusive to Reserve Advisors, Inc., and by utilizing the experience of other staff gained from serving hundreds of other clients. A peer review is an internal quality assurance review of an assignment including the inspection, costing, lifing and technical report phases of the assignment. Each peer review requires the attendance of at least five staff including a Principal of the Firm, a Review Coordinator and other participatory peers. 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, Inc. has conducted reserve studies for thousands of different communities and building types. Our clients include institutional governmental entities, master associations, clubs, schools and religious organizations. We've inspected tens of thousands of buildings, from as small as a 3,500 square-foot day care center to the 100-story John Hancock Center 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, heat pumps, elevators, and life safety 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, granite, stucco, EIFS, wood products, stained glass and aluminum siding, and window wall systems.

**Reserve Advisors, Inc.**

**THEODORE J. SALGADO, P.E., PRA**  
**Principal**

**CURRENT CLIENT SERVICES**

Theodore J. Salgado, a Professional Engineer, is co-founder of Reserve Advisors, Inc. He is responsible for the production, management, review, and quality assurance of all reserve studies, defect identification transition studies, engineering and financial planning services for a nationwide portfolio.



**PRIOR RELEVANT EXPERIENCE**

Before founding Reserve Advisors, Inc. in 1991, Mr. Salgado, a professional engineer, served clients for over 15 years through American Appraisal Associates, the world's largest full service valuation firm. He was also directly responsible for reserve study services, the supervision of appraisals of apartment complexes, churches, hotels, casinos, resorts, office towers, and architecturally ornate public buildings. Mr. Salgado conducted a hospital facilities analysis of St. Joseph Mercy Hospital in Detroit, Michigan and toured the McLaren Regional Medical Center in Flint, Michigan pertaining to real estate tax valuation.

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

Mr. Salgado has authored articles on the topic of reserve fund planning. 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 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 - 1982, President, Wisconsin Section - 1988

Association of Construction Inspectors - Senior Designated Member

Certified Construction Inspector, Association of Construction Inspectors

Professional Engineer (**PE**), Registered in 1982

Community Associations Institute - Member, multiple chapters throughout USA

Association of Professional Reserve Analysts - Board President, and Professional Reserve Analyst (**PRA**).

Mr. Salgado serves as President of the Association of Professional Reserve Analysts. APRA's mission is to develop and maintain national standards, terminology, and Certification Program for reserve study providers.

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

**CURRENT CLIENT SERVICES**

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 Peer Reviews of Reserve Study reports.

Mr. Poehlmann directs corporate marketing, including advertising, press releases, conference exhibiting, and direct mail promotions. 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.

Mr. Poehlmann also serves on the national Board of Trustees of Community Associations Institute. Community Associations Institute (CAI) is a national, nonprofit 501(c)(6) trade association created in 1973 to provide education and resources to America's nearly 250,000 residential condominium, cooperative and homeowner associations and related professionals and service providers. The Institute is dedicated to fostering vibrant, responsive, competent community associations that promote harmony, community, and responsible leadership.

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 Planning for Replacement of Property Doesn't Have to Be Like a Trip to the Dentist, Reserve Studies for the First Time Buyer, Sound Association Planning Parallels Business Concepts, and Reserve Studies Minimize Liability. He has worked with a variety of publications, including the Chicago Tribune, The Milwaukee Journal/Sentinel, Common Ground, Common Interest, and Condo Management. He also co-authored "Reserves", an educational videotape produced by Reserve Advisors on the subject of Reserve Studies and the benefits of maintaining appropriate reserves. The videotape is available through Reserve Advisors or CAI's website, [www.caionline.org](http://www.caionline.org). It is also available in all libraries in the State of Virginia.



**INDUSTRY SERVICE AWARDS**

CAI National Rising Star Award, 2002 - To an individual whose leadership abilities and professional contributions have earmarked them for even greater accomplishments in the future.

CAI Michigan Chapter Award, 2003 - "Given to the individual who contributed their time, expertise, and resources toward improving the quality of services offered by the chapter. Mr. Poehlmann was unanimously selected as the winner of the 2002 CAI Michigan Chapter Award."

**EDUCATION**

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

**PROFESSIONAL AFFILIATIONS**

*Community Associations Institute (CAI)*: Serving national Board of Trustees; Reserve Professionals Committee, founding member; Reserve Specialist (RS) designation; Member of multiple chapters  
*Association of Condominium, Townhouse, & Homeowners Associations (ACTHA)*, member  
*United Condominium Owners of Michigan (UCOM)*, member

## **RESOURCES WE USE IN OUR ANALYSIS**

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

**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 <http://www.ashrae.org>. Reserve Advisors, Inc. actively participates in its local chapter and holds individual memberships.

**Community Associations Institute**, 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 <http://www.msbinfo.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 <http://www.rsmeans.com>

**Reserve Advisors, Inc.** library of numerous periodicals relating to engineering disciplines, 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.

## Reserve Advisors, Inc.

### QUALIFICATIONS JAYME R. RADOMSKI, P. E., PRA, RS Director of Quality Assurance

#### CURRENT CLIENT SERVICES

Jayme R. Radomski, an Architectural Engineer, is the Director of Quality Assurance for *Reserve Advisors, Inc.* Ms. Radomski is responsible for the management, review and quality assurance of all reserve studies. In this role, she assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Ms. Radomski has been involved with hundreds of Reserve Study assignments. The following is a partial list of clients served by Jayme Radomski demonstrating her breadth of experiential knowledge of community associations in construction and related buildings systems.

**Sun City Community Association of Huntley, Inc.** This planned unit development is located in Huntley, Illinois. The development features common elements shared by 5,481 homeowners. Common elements include a 114,000-square foot community center, a 19,000-square foot clubhouse, an aquatic center, a woodshop, a tennis center, ponds and other amenities. The buildings comprise complex asphalt shingle and flat roof assemblies, complex mechanical systems, furnishings, fixtures and kitchen equipment. The development comprises single family homes and eight townhome style neighborhoods.

**Carroll House Condominium** This unique architectural development located in historic Baltimore, Maryland comprises 23 residential units in four unique buildings. The buildings were constructed in the mid-1800s. The development comprises two mid-rise buildings and two single-story carriage homes.

**Ballston Park Condominium** This 137 unit, nine story, high rise building is located in Arlington, Virginia. This development features flat roof assemblies, brick masonry walls, balconies, mechanical systems, interior finishes, a parking garage and an elevated terrace.

**Church of the Resurrection** Located in New Albany, Ohio, this recently expanded church includes a church, and a social hall and classrooms. These two unique buildings comprise asphalt shingle and metal roof assemblies, brick masonry walls, complex mechanical systems, audio visual and sound equipment, and a kitchen.

**Brookfield Academy** This five building campus is located in Brookfield, Wisconsin. This independent school consists of students from levels K4 to 12. The campus includes various buildings and an athletic complex.

**Turnberry Village Condominium Association** A townhome style condominium development of 90 units in 13 buildings located in Ann Arbor, Michigan. The buildings feature complex roof designs, masonry veneer, and wood and aluminum siding.

#### PRIOR RELEVANT EXPERIENCE

Before joining *Reserve Advisors, Inc.*, Ms. Radomski was a Designer for Ahern Fire Protection in Menomonee Falls, WI. She was responsible for designing and drafting of fire protection systems in accordance with all applicable codes while selecting the most efficient fabrication, installation and stocklisting techniques, and performing hydraulic calculations to ensure proper flow and pressure of sprinkler systems.

#### EDUCATION

Milwaukee School of Engineering - M.S. Environmental Engineering, B.S. Architectural Engineering  
University of Wisconsin-Madison - B.S. Consumer Science

#### PROFESSIONAL AFFILIATIONS

Professional Engineering License (P.E.) - Wisconsin 2008  
Reserve Specialist (RS) - Community Associations Institute  
Professional Reserve Analyst (PRA) - Association of Professional Reserve Analysts  
American Society of Civil Engineers (ASCE)



## Reserve Advisors, Inc.

### QUALIFICATIONS Megan C. Konecny, RS, PRA Quality Assurance Review Coordinator

#### CURRENT CLIENT SERVICES

Megan C. Konecny, an environmental/civil engineer, is an Advisor for *Reserve Advisors, Inc.* Ms. Konecny is responsible for the inspection and analysis of the condition of clients' property, 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 apartments, townhomes, high rise condominium towers and planned unit developments. Ms. Konecny is fully versed in *Reserve Studies and Property Insurance Advisory Studies*. Ms. Konecny frequently serves as the *Quality Assurance Review Coordinator for Multi-story, Recreational and Townhome communities*.

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

**Archbishop Spalding High School** - A private high school located southwest of Annapolis, Maryland with an enrollment of 1,050 students. The property includes athletic facilities, an auditorium, gymnasium, library, cafeteria with kitchen, chapel, and approximately 50 classrooms.

**Shady Canyon Golf Club** - A private golf club located in Irvine, California. The 43,000 square foot clubhouse provides expansive views of the golf course designed by Tom Fazio and the Orange County hills beyond. Amenities also include the Santa Barbara colonial style fitness building and the junior Olympic swimming pool.

**East Meadows** - Community of 74 units in 17 single family style buildings and 12 three-story multiple unit buildings located in a wooded area west of Detroit, Michigan. Professional services included loan scenario development to assist the Association evaluate the most prudent method of financing its exterior restoration.

**Park Lane Condominium Associations** - A gated community located in Chicago suburb that includes 136 units in one intricate three-story building and 17 townhome style units in four buildings. The development includes under-building garage parking, an outdoor pool, tennis courts, and a unique sub level recreation center that features a roof top pergola.

**Hedman Lofts** - Fourteen luxury condominiums in a vintage four-story building. Built in the early 1900's in Chicago, Illinois this community provides garage parking and rooftop decks that offer spectacular views of the surrounding area.

**Fountain Woods** - An apartment style development of 160 condominium residences in two four-story buildings. Located in a suburb of Minneapolis, this all-inclusive condo community includes parking garages, fitness centers, indoor and outdoor pools, saunas, lounges and tennis courts.

**Jonathan's Landing Golf Club** - Located just north of West Palm Beach, Jonathan's Landing is a premier member owned, private club. Exclusive amenities include 54 holes of championship golf, two club houses and ten Har-Tur tennis courts.

#### PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Inc., Ms. Konecny attended Marquette University in Milwaukee, Wisconsin where she specialized in Environmental Engineering. There, she participated the design of a Chicago subdivision that included preliminary grading of the site, design of the storm sewer system and stormwater management with Cowhey Gundmunson Ledger, Limited. Ms. Konecny also worked with Everitt Knitting where she provided inspection services and resolved production problems.

#### EDUCATION

Marquette University - B.S. Civil with emphasis in Environmental Engineering

#### PROFESSIONAL AFFILIATIONS / DESIGNATIONS

*Reserve Specialist (RS)* - Community Associations Institute

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

**QUALIFICATIONS**  
**Matthew P. Ksionzyk, RS**  
**Responsible Advisor**

**CURRENT CLIENT SERVICES**

Matthew P. Ksionzyk, a Civil Engineer, is an Advisor for *Reserve Advisors, Inc.* Mr. Ksionzyk is responsible for the inspection and analysis of the condition of clients' property, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast services for condominiums, townhomes, homeowner associations and religious and educational facilities. Mr. Ksionzyk is fully versed in Reserve, Transition and Insurance Advisory Studies for Recreational, Townhome, Mid-Rise, High-Rise and Institutional properties.

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

**Winterhaven at Country Club Estates** This gated master association was constructed from 1997 to 2005, consists of 617 large single family homes and is located within Cochise County in southeast Arizona. This gated community comprises two clubhouses and two pools with over 10 miles of asphalt streets.

**Cypress Landing** This secluded master association that is located on the "Inner Banks" of North Carolina and consists of three homeowner associations. In addition, this community owns a golf course and marina operated by two separate associations. The development comprises a large clubhouse, a fitness center, two pools, four clay tennis courts, secured recreational vehicle and boat storage areas, six ponds and three earthen dams.

**Guard Hill** A townhome association located in the heart of Westchester County, New York that consists of 212 units in 45 buildings. The townhome buildings comprise sloped asphalt shingle roofs, wood balconies and wood siding. This community includes private roads, three ponds, tennis and basketball courts, and a pool.

**Harbor Club** This mid-rise condominium consists of 94 units within a four-story building and is located on the western bank of the Hudson River in Rockland County, New York. The façade of the building includes EIFS walls and vinyl siding. The common area interiors of the building include complex mechanical systems, paint finishes, carpeting and a parking garage.

**The Village of Kiln Creek** Located in southeast Virginia, this large-scale master association is responsible for the common elements shared by 31 subsidiary associations that contain 2,918 residences. The community was built from 1988 to 2001 and consists of a clubhouse, pools, recreation facilities, maintenance facilities and equipment, an administrative office, asphalt walking paths, an irrigation system and lakes.

**Lake Chelan United Methodist Church** This religious facility is located in central Washington State. The church contains a sanctuary, offices, classrooms, social rooms, a kitchen and rest rooms. A separate parsonage is also part of the church proper. The church was built in 1891 and additions were completed in the 1950's.

**The Condominiums at Center Court** This unique 13-story high-rise building is located within New Haven, Connecticut and contains 93 units. The building includes a masonry façade, flat roofs, mechanical systems and common interior finishes. The building originally served as headquarters for the Southern New England Telephone Company. Construction of the first ten-stories was conducted from 1916 to 1918 and stories 11 through 13 were added in the mid-1920's. A three-story, ground level addition was erected in the early 1980's.

**PRIOR RELEVANT EXPERIENCE**

Before joining Reserve Advisors, Inc., Mr. Ksionzyk attended Clarkson University, in Postdam, New York, where he specialized in Infrastructure Engineering. After college, he was commissioned as an officer in the U.S. Army and served on active duty for four years, including a 13-month deployment in support of Operation Iraqi Freedom. While in the Army, Mr. Ksionzyk designed small unit, logistical transportation and ammunition systems for combat Soldiers.

**EDUCATION** - Clarkson University - B.S. Civil Engineering

**PROFESSIONAL AFFILIATIONS / DESIGNATIONS**

**Engineer In Training (E.I.T.) Registration** - New York 2002  
**Reserve Specialist (RS)** - Community Associations Institute