

DRAFT FOR BOARD REVIEW

FULL RESERVE STUDY

*PRESTON POINT
CARY, NC*

Prepared for:
**PRESTON POINT HOMEOWNERS ASSOCIATION
&
TALIS MANAGEMENT**

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1.0 INTRODUCTION

The Preston Point Homeowners Association authorized Criterium-Giles Engineers to conduct a Reserve Fund Study for the Preston Point community located in Cary, North Carolina. Studies of this nature are important to ensure a community has sufficient funds for long-term, periodic capital expenditure requirements. Anticipating large expenditures over an extended period of time through a structured analysis and scheduling process assists the Association in meeting financial requirements without increasing the service fees above permitted maximums, borrowing the funds, or levying special financial assessments to the home owners.

Typically, a community association has two broad cash requirements: the general operating reserves and the capital repair and replacement reserves. In this report, we will focus on those items falling under the capital repair and replacement reserve criteria. We have projected a capital repair and replacement reserve for twenty (20) years. The first ten years are the most reliable. Such a study should be updated every five years.

This report is structured to analyze components of the community for which the Association is responsible and to assess a useful expected life and useful remaining life to those components. The anticipated scheduled repair or replacement of the component and the anticipated expense for the activity are then analyzed in conjunction with the current capital reserves funding program for the community. Funding program recommendations are made with the objective of limiting substantial cash excesses while minimizing financial burdens that can result from significant cash inadequacies.

This report is intended to be used as a tool to determine reserve fund allocation requirements for the community, to manage future Association obligations, and to inform the community of future financial needs in general. The report that follows has been prepared from the perspective of what an owner of this property would benefit from knowing. Some items, beyond those of immediate concern, may be discussed. Therefore, the report should be read in its entirety in order to fully understand all of the information that has been obtained.

2.0 EXECUTIVE SUMMARY

Preston Point includes approximately 93 single family homes located between Bridle Creek Drive and Creek Park Drive in the Preston subdivision. The homes were generally constructed in the late 1980s.

The Association has responsibility for the entrance signage as well as the private alleys at the rear of the units. The main roads at the front of the homes are publicly maintained.

The common areas and grounds are generally in good to fair condition. Based on our evaluation, the current level of funding does maintain a positive balance through the term of this study. We have provided recommendations for annual reserve contribution schedules that provide sufficient funding to meet capital expenditure requirements in the next twenty years. A more detailed analysis of the reserve fund has been provided in Appendix A.

Some significant expenditures are expected over the term of the study. Some of the more notable examples are listed below:

- Repair/resurface asphalt alleys

There are, of course, other capital expenditures to be expected over the next twenty years. Those items that will require attention are discussed later in this report. For your convenience, we have prepared the following summary of the condition of the major systems of the property.

PROPERTY SUMMARY			
SYSTEM	CONDITION	ACTIVITY REQUIRED	ANTICIPATED YEAR OF ACTIVITY
SITE			
Private asphalt alleys	G/F	Repair/resurface	2017-2032
BUILDING EXTERIOR			
BUILDING INTERIOR			
MECHANICAL			
AMENITIES			

Table 2.1 Property Summary

3.0 PURPOSE & SCOPE

3.1 Purpose

The purpose of this study is to perform a reserve fund analysis and to determine a capital needs plan. It is intended to be used as a tool for the Preston Point Homeowners Association in determining the allocation requirements into the reserve fund in order to meet future anticipated capital expenditures for the community.

This report forecasts obligations for the community twenty years into the future. It should be noted that events might occur that could have an effect on the underlying component or system useful life assumptions used in this study. Likewise, inevitable market fluctuations can have an impact on component or system replacement and repair costs. Therefore, a study such as this should be updated from time to time, usually on a three to five-year cycle, in order to reflect the most accurate needs and obligations of the community.

3.2 Scope

This study has been performed according to the scope as generally defined by the Preston Point Homeowners Association, Talis Management, Criterium-Giles Engineers Inc., and the standards of the Community Associations Institute. The findings and recommendations are based on interviews with the community's management personnel; a review of available documents; and an investigation of the buildings and site.

The "Cash Flow Method" of calculating reserves has been utilized, whereby contributions to the reserve fund are designed to offset the variable annual expenditures. Funding alternates are recommended which are designed to achieve a "Baseline Funding" goal by maintaining a positive balance for the term of the study.

The guidelines used to determine which physical components within the community are to be included in the component inventory are based on the following general criteria:

1. The component must be a common element, or otherwise noted to be the responsibility of the Association to replace.
2. The component must have an estimated remaining useful life of twenty years or less. As the site ages, additional components may need to be added.
3. The funding for replacement should be from one source only, not funded from another area of the budget or through a maintenance contract.
4. The cost of replacement should be high enough to make it financially unsound to fund it from the operating budget.

Our reserve study analysis included evaluating the following association property:

- **Buildings:** N/A
- **Mechanical Systems:** N/A
- **Site and Grounds:** The HOA is responsible for the private alleys

and entrance signage.

The above list was obtained from the site inspection and discussions with the management firm prior to the inspection.

This study estimates the funding levels required for maintaining the long-term viability of the facility. Our approach involves:

1. Examining association managed equipment, building and site facilities.
2. Predicting their remaining service life and, approximating how frequently they will require repair or replacement.
3. Estimating repair or replacement costs (in 2016 dollars) for each capital item.
4. Using data developed in Steps 1, 2 and 3 to project Capital Reserve balances for Years 1 through 20.

The statements in this report are opinions about the present condition of the subject community. They are based on visual evidence available during a diligent investigation of all reasonably accessible areas falling under the responsibility of the Association. We did not remove any surface materials, perform any destructive testing, or move any furnishings. This study is not an exhaustive technical evaluation. Such an evaluation would entail a significantly larger scope than this effort. For additional limitations, see Section 8.0.

Onsite inspections of the property occurred on the following date:

- November 7, 2016

The following people were interviewed during our study:

- Stephanie Ware, Community Manager, Talis Management

The following documents were made available to us and reviewed:

- Wake County real estate records
- 2016 HOA budget and financials

We based our cost estimates on some or all of the following:

- R.S. Means
- Our data files on similar projects
- Local contractor estimates

For your reference, the following definitions may be helpful:

Excellent: Component or system is in "as new" condition, requiring no rehabilitation and should perform in accordance with expected performance.

3.3 Sources of Information

Good: Component or system is sound and performing its function, although it may show signs of normal wear and tear. Some minor rehabilitation work may be required.

Fair: Component or system falls into one or more of the following categories: a) Evidence of previous repairs not in compliance with commonly accepted practice, b) Workmanship not in compliance with commonly accepted standards, c) Component or system is obsolete, d) Component or system approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.

Poor: Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

Adequate: A component or system is of a capacity that is defined as enough for what is required, sufficient, suitable, and/or conforms to standard construction practices.

All ratings are determined by comparison to other buildings of similar age and construction type. Further, some details of workmanship and materials will be examined more closely in higher quality buildings where such details typically become more relevant.

All directions (left, right, rear, etc.), when used, are taken from the viewpoint of an observer standing in front of a building and facing it.

Repair/Replacement Reserves - Non-annual maintenance items that will require significant expenditure over the life of the buildings. Included are items that will reach the end of their estimated useful life during the course of this forecast, or, in the opinion of the investigator, will require attention during that time.

4.0 DESCRIPTION

Preston Point includes approximately 93 single family homes located between Bridle Creek Drive and Creek Park Drive in the Preston subdivision. The homes were generally constructed in the late 1980s.

The Association has responsibility for the entrance signage as well as the private alleys at the rear of the units. The main roads at the front of the homes are publicly maintained.

Site drainage is provided via sheet flow along the roadways which drains into the catch basins and storm pipe infrastructure or through shoulder drains and into the nearby creeks.

5.0 OBSERVATIONS

The following key observations were made about the current condition of the more significant and costly common elements of the property.

Site and Grounds

The asphalt streets throughout the neighborhood are publicly maintained, while the asphalt alleys behind the units are privately maintained by the Association. Overall, the pavement structure is in fair condition for the given age. Some of the alleys are sloped using an “inverted crown” which funnels the water toward the center of the drive, while the others are either superelevated to one side or have a normal crown. The alley along the southern boundary of the neighborhood appears to have had an overlay installed approximately 10 years ago, while a section from 112-118 Cumberland Green appears to have been installed in 2015.

Previous sealcoats have been installed, but we did not note any crack repairs. We have included funds to perform crack repairs and the next phase of sealcoat in 2018 and every 7 years thereafter.

We noted areas of alligator or “fatigue” cracking and some edge cracking along the shoulders. Some areas of tree root intrusion was noted at the alley along the southern border due to the trees in close proximity. These areas will need to have full-depth asphalt patching similar to what we noted in various areas. This type of repair includes sawcutting and removing the damaged/deteriorated asphalt, re-compacting the subgrade, and installing new asphalt surface materials. Root pruning may also be required. We have included funds to make full depth asphalt patching on a 5-year cycle beginning in 2017.

Assuming crack repairs and sealcoat applications occur in the interim, the pavement has an estimated useful life of approximately 20-25 years. We have allocated funds to mill and resurface the asphalt paving in 4 phases, beginning in 2022, and continuing in 2024 and 2026, with the final phase concluding in 2036. Resurfacing will include the milling and installation of a new 1-1/2” asphalt wearing surface over the entire width. Because several areas have had a previous overlay, we do not recommend overlaying again, as this could cause ponding at the shoulders along the driveways and lawns.

The following phases have been used for the funding projections:

- Phase 1: Alley between Cumberland Green and Ethans Glen
- Phase 2: Alley behind 120-138 Cumberland Green; between Cromwell and Crestpoint, and between Crestpoint and Bridle Creek Drive
- Phase 3: Alley south of Ethans Glen and Cumberland Green (southern boundary of community)
- Phase 4: Alley behind 112-118 Cumberland Green.

The entrance signage at the intersection of Bridle Creek Drive consists of masonry monument walls and piers with stone veneer and a painted composite plaque with lighting. We noted a few loose stones, but the signs looked to be in good condition. We have included funds to replace the signs and perform maintenance as needed to the walls every 15 years beginning in 2028.

6.0 RESERVE FUND ANALYSIS

Using software developed by Criterium Engineers and KPMG Peat Marwick, we have analyzed capital reserves draw-down for the projected capital expenditures to determine the amount needed. The following is a projected reserve fund analysis for non-annual items as discussed in the report. This projection takes into consideration a reasonable return on invested moneys and inflation. Please review this thoroughly and let us know of any changes that may be desired.

The intent of this reserve fund projection is to help the Association develop a reserve fund to provide for anticipated repair or replacements of various system components during the next twenty years.

The capital items listed are those that are typically the responsibility of the Association and are derived from a list provided the Association with several items added as a result of the inspection. However, association by-laws vary, and therefore, which components are the responsibilities of the owner and which are the responsibilities of the Association can vary. The Association should confirm that the items listed should be financed by the reserve fund.

This projection provides the following:

- An input sheet that defines all the criteria used for the financial alternatives, including the assumed inflation rate of 3% annually and rate of return on deposited reserve funds of 0.5% annually.
- A table that lists anticipated replacement and/or repair items complete with estimated remaining life expectancies, projected costs of replacement and/or repair, a frequency in years of when these items require replacement and/or repair, and a projection based on this frequency.
- A table and graph that represent end of year balances versus capital expenditures based on your current funding program and reserve balances, and alternatives to your current program. The provided graphs illustrate what effects the funding methods will have over the presented twenty-year period versus the anticipated capital expenditures.
- Note that based on our developed list of capital items and taking inflation into account; the current funding level is adequate.
- The Association should bear in mind that unanticipated expenditures can always arise and maintenance of a significant reserve fund balance can be viewed as a way to avoid special assessments.

We have included alternatives to your current reserve funding program and recommend that the board adopt an alternative that best reflects the objectives of the community. In summary they are as follows:

Current Reserve Funding Rate: \$10,295/year; (\$9.22/unit/month)
Current Reserve Balance: \$89,550 (projected 2017 balance)

- **Alternative 1:** In 2017, increase the current rate of contributions to capital reserves to \$12,000/year (\$129.03/unit/year) where it can remain for the duration of the term. This alternative is projected to maintain a positive balance through the end of the term.
- **Alternative 2:** In 2017, maintain the current rate of contributions to capital reserves at \$10,295/year. Then, increase the contribution rate by 5% every year for the next 8 years. This alternative is projected to maintain a positive balance through the end of the term.

Please note that the reserve fund study does not include typical annual maintenance items. Our assumption is that you already have an annual operating budget that provides for these typical, repetitive items. This includes miscellaneous repairs, lawn and grounds maintenance, routine minor painting, etc. We have focused on those significant, non-annual items where careful financial planning is important.

Finally, please note that the estimates we have developed are based on 2016 dollars. Our reserve fund study does adjust for an estimated annual inflation and a given return on investment assuming that the indicated fund balances are maintained.

7.0 CONCLUSION

The alternatives provided above will provide sufficient funding to meet estimated capital expenditures during the next twenty years. Further detail of the reserve fund analysis is provided in Appendix A.

8.0 LIMITATIONS

The observations described in this study are valid on the date of the investigation and have been made under the conditions noted in the report. We prepared this study for the exclusive use of the Preston Point Homeowners Association. Criterium-Giles Engineers Inc. does not intend any other individual or party to rely upon this study without our express written consent. If another individual or party relies on this study, they shall indemnify and hold Criterium-Giles Engineers Inc. harmless for any damages, losses, or expenses they may incur as a result of its use.

This study is limited to the visual observations made during our inspection. We did not remove surface materials, conduct any destructive or invasive testing, move furnishings or equipment, or undertake any digging or excavation. Accordingly, we cannot comment on the condition of systems that we could not see, such as buried structures and utilities, nor are we responsible for conditions that could not be seen or were not within the scope of our services at the time of the investigation. We did not undertake to completely assess the stability of the buildings or the underlying foundation soil since this effort would require excavation and destructive testing. Likewise, this is not a seismic assessment.

We did not investigate the following areas:

- Buried utilities or infrastructure
- Concealed structural members or systems
- Unit interiors

We do not render an opinion on uninvestigated portions of the community.

We did not perform any computations or other engineering analysis as part of this evaluation, nor did we conduct a comprehensive code compliance investigation. This study is not to be considered a warranty of condition, and no warranty is implied. The appendices are an integral part of this report and must be included in any review.

Members of the Criterium-Giles Engineers team working on this reserve study are not members of, or otherwise associated with the association. Criterium-Giles Engineers has disclosed any other involvement with the association that could result in conflicts of interest.

Information provided by the official representative of the association regarding financial, physical, quantity, or historical issues, will be deemed reliable by Criterium-Giles Engineers. The reserve balance presented in the Reserve Study is based upon information provided and was not audited. Information provided about reserve projects will be considered reliable. Any on-site inspection should not be considered a project audit or quality inspection. Criterium-Giles Engineers is not aware of any additional material issues which, if not disclosed, would cause a distortion of the association's situation.

In our Reserve Fund Analysis, we have provided estimated costs. These costs are based on our general knowledge of building systems and the contracting and construction industry. When appropriate, we have relied on standard sources, such as Means Building Construction Cost Data, to develop estimates. However, for items that we have developed costs (e.g.: structural repairs), no standard guide for developing such costs exists. Actual costs can vary significantly, based on the availability of qualified contractors to do the work, as well as many other variables. We cannot be responsible for the specific cost estimates provided.

We have performed no design work as part of this study, nor have we obtained competitive quotations or estimates from contractors as this also is beyond the scope of the project. The actual cost to remedy deficiencies and deferred maintenance items that we have identified may vary significantly from estimates and competitive quotations from contractors.

If you have any questions about this study or the reserve fund analysis, please feel free to contact us. Thank-you for the opportunity to be of assistance to you.

Respectfully submitted,

Christopher A. Flythe, PE, RS
Project Manager
Criterium-Giles Engineers Inc

Appendix A: RESERVE FUND PROJECTIONS

**Appendix B: RESERVE FUND PROJECTIONS -
ASPHALT ALLEYS ONLY**

Itemized Worksheet

Capital Item To Be Replaced	Quantity	Unit cost	Reserve Requirement (*)	Beginning Balance	Frequency (yrs**)	Remaining Life (yrs)	Information Source
Site							
Sealcoat and crack repair	8,650 SY	\$1.75	\$15,137.50	\$11,745.77	7	1	
Full depth asphalt patching	200 SY	\$40.00	\$8,000.00	\$7,242.09	5	0	
Mill and resurface asphalt-phase 1	850 SY	\$16.00	\$13,600.00	\$9,356.79	25	6	
Mill and resurface asphalt-phase 2	3,700 SY	\$14.00	\$51,800.00	\$31,886.94	25	8	
Mill and resurface asphalt-phase 3	3,500 SY	\$14.00	\$49,000.00	\$26,614.70	25	10	
Mill and resurface asphalt-phase 4	400 SY	\$20.00	\$8,000.00	\$1,738.10	25	19	
Entrance signage repairs	1 LS	\$4,000.00	\$4,000.00	\$965.61	15	11	
Building Exterior							
Building Interior							
Mechanical							
Amenities							
Other							
Totals			\$149,537.50	\$89,550.00			
Total Over Term			\$203,812.50				

* Costs are typically 10%±

** Reserve study is based on a 20 year projection of non-annual maintenance

Annual Expense By Year

	Year:	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Site																					
Sealcoat and crack repair		0	15,138	0	0	0	0	0	0	15,138	0	0	0	0	0	0	15,138	0	0	0	0
Full depth asphalt patching		8,000	0	0	0	0	8,000	0	0	0	0	8,000	0	0	0	0	8,000	0	0	0	0
Mill and resurface asphalt-phase 1		0	0	0	0	0	0	13,600	0	0	0	0	0	0	0	0	0	0	0	0	0
Mill and resurface asphalt-phase 2		0	0	0	0	0	0	0	0	51,800	0	0	0	0	0	0	0	0	0	0	0
Mill and resurface asphalt-phase 3		0	0	0	0	0	0	0	0	0	0	49,000	0	0	0	0	0	0	0	0	0
Mill and resurface asphalt-phase 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000
Entrance signage repairs		0	0	0	0	0	0	0	0	0	0	0	4,000	0	0	0	0	0	0	0	0
Building Exterior																					
Building Interior																					
Mechanical																					
Amenities																					
Other																					
Total Costs		8,000	15,138	0	0	0	8,000	13,600	0	66,938	0	57,000	4,000	0	0	0	23,138	0	0	0	8,000
Total Costs Adjusted For 3% Inflation		8,000	15,592	0	0	0	9,274	16,239	0	84,794	0	76,603	5,537	0	0	0	36,047	0	0	0	14,028

Reserve Study Worksheet

General Information:

- 1 Organization: **Preston Point**
 2 Address: **Cumberland Green Drive**
Cary, NC

3	Number of Units	93
4	Age of Building (in years)	28
5a	Study Period (in years)	20
5b	Normal Fiscal Year starts:	January 1, 2017
5c	Partial Fiscal Year starts:	January 1, 2017
5d	Partial Year Length:	12 months
6	Site Inspection Date	November 7, 2016
7	Reserve Funds at start	\$89,550
8	Rate of Return on invested Reserve Funds (%)	0.5%
9	Inflation Rate (%)	3.0%

10 Current Funding Levels

Existing Funding Levels				
	Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Reserve Fund Contribution.....	\$858	\$10,295	\$9.22	\$110.70
	Years Out	Total Annual	Per Unit	
Planned Special Assessment.....	0	\$0	\$0	
Balance Computed.....	\$35,238			

11 Alternative Reserve Fund Contribution

Alternative 1 Level Funding with Steps				
	Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year).....	\$1,000	\$12,000	\$10.75	\$129.03
Monthly Amount, (Last Year).....	\$1,000	\$12,000	\$10.75	\$129.03
Balance Required Final Year.....	\$13,306			
	Years Out	Total/Year	Per Unit	
Special Assessments:				
First Assessment.....	0	\$0	\$0	
Second Assessment.....	0	\$0	\$0	
Balance Computed.....	\$71,171			

Alternative 2 Escalating Funding at 5% per Year				
	Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year).....	\$858	\$10,295	\$9.22	\$110.70
Monthly Amount, (Last Year).....	\$1,268	\$15,210	\$13.63	\$163.55
Balance Required Final Year.....	\$13,306			
Base Escalation %.....	5.00%			
	Years Out	Total/Year	Per Unit	
Special Assessments:				
First Assessment.....	0	\$0	\$0	
Second Assessment.....	0	\$0	\$0	
Balance Computed.....	\$113,342			

Alternative 3 NOT USED				
	Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year).....	\$0	\$0	\$0.00	\$0.00
Monthly Amount, (Last Year).....	\$0	\$0	\$0.00	\$0.00
Balance Required Final Year.....	\$13,306			
Base Escalation %.....	0.00%			
	Years Out	Total/Year	Per Unit	
Special Assessments:				
First Assessment.....	0	\$0	\$0	
Second Assessment.....	0	\$0	\$0	
Balance Computed.....	(\$174,102)			

Existing Funding Levels

Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
2017	1	\$89,550	\$10,295	\$0	\$459	\$8,000	\$92,304
2018	2	\$92,304	\$10,295	\$0	\$435	\$15,592	\$87,443
2019	3	\$87,443	\$10,295	\$0	\$489	\$0	\$98,226
2020	4	\$98,226	\$10,295	\$0	\$543	\$0	\$109,064
2021	5	\$109,064	\$10,295	\$0	\$597	\$0	\$119,956
2022	6	\$119,956	\$10,295	\$0	\$605	\$9,274	\$121,582
2023	7	\$121,582	\$10,295	\$0	\$578	\$16,239	\$116,216
2024	8	\$116,216	\$10,295	\$0	\$633	\$0	\$127,143
2025	9	\$127,143	\$10,295	\$0	\$263	\$84,794	\$52,907
2026	10	\$52,907	\$10,295	\$0	\$316	\$0	\$63,518
2027	11	\$63,518	\$10,295	\$0	\$0	\$76,603	(\$2,790)
2028	12	(\$2,790)	\$10,295	\$0	\$10	\$5,537	\$1,978
2029	13	\$1,978	\$10,295	\$0	\$61	\$0	\$12,334
2030	14	\$12,334	\$10,295	\$0	\$113	\$0	\$22,743
2031	15	\$22,743	\$10,295	\$0	\$165	\$0	\$33,203
2032	16	\$33,203	\$10,295	\$0	\$37	\$36,047	\$7,488
2033	17	\$7,488	\$10,295	\$0	\$89	\$0	\$17,872
2034	18	\$17,872	\$10,295	\$0	\$141	\$0	\$28,307
2035	19	\$28,307	\$10,295	\$0	\$193	\$0	\$38,796
2036	20	\$38,796	\$10,295	\$0	\$175	\$14,028	\$35,238

Existing Funding Levels

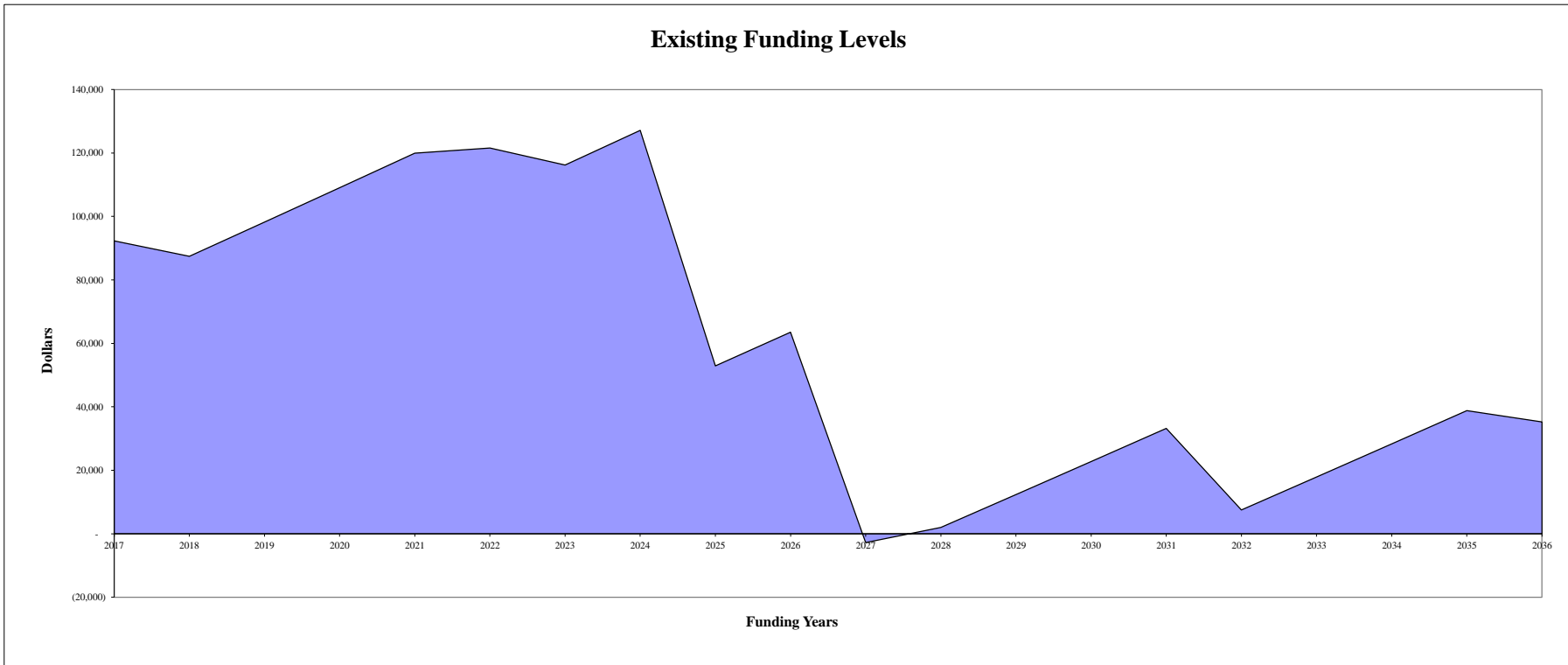
Beginning Balance as of start of year beginning Jan 2017: \$89,550

CONTRIBUTIONS	
AMOUNT	
\$10,295.04	per year
\$110.70	per unit per year
\$857.92	per month
\$9.22	per unit per month

SPECIAL ASSESSMENTS			
Totals			
Per Year	\$0	Per Unit	\$0

Projected Annual Funding and Expenditures:

Year:	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	92,304	87,443	98,226	109,064	119,956	121,582	116,216	127,143	52,907	63,518	(2,790)	1,978	12,334	22,743	33,203
Capital Expenditures:	8,000	15,592	-	-	-	9,274	16,239	-	84,794	-	76,603	5,537	-	-	-
Total Revenue (all sources)	10,754	10,730	10,784	10,838	10,892	10,900	10,873	10,928	10,558	10,611	10,295	10,305	10,356	10,408	10,460
Year:	2032	2033	2034	2035	2036										
Year Number:	16	17	18	19	20										
End of Year Reserve Fund Balance	7,488	17,872	28,307	38,796	35,238										
Capital Expenditures:	36,047	-	-	-	14,028										
Total Revenue (all sources)	10,332	10,384	10,436	10,488	10,470										



Alternative 1: Level Funding with Steps



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments 1	Special Assessments 2	Investment Earnings	Capital Expenditures	Ending Balance
2017	1	\$89,550	\$12,000	\$0	\$0	\$468	\$8,000	\$94,018
2018	2	\$94,018	\$12,000	\$0	\$0	\$452	\$15,592	\$90,878
2019	3	\$90,878	\$12,000	\$0	\$0	\$514	\$0	\$103,393
2020	4	\$103,393	\$12,000	\$0	\$0	\$577	\$0	\$115,970
2021	5	\$115,970	\$12,000	\$0	\$0	\$640	\$0	\$128,609
2022	6	\$128,609	\$12,000	\$0	\$0	\$657	\$9,274	\$131,992
2023	7	\$131,992	\$12,000	\$0	\$0	\$639	\$16,239	\$128,392
2024	8	\$128,392	\$12,000	\$0	\$0	\$702	\$0	\$141,094
2025	9	\$141,094	\$12,000	\$0	\$0	\$341	\$84,794	\$68,641
2026	10	\$68,641	\$12,000	\$0	\$0	\$403	\$0	\$81,044
2027	11	\$81,044	\$12,000	\$0	\$0	\$82	\$76,603	\$16,523
2028	12	\$16,523	\$12,000	\$0	\$0	\$115	\$5,537	\$23,101
2029	13	\$23,101	\$12,000	\$0	\$0	\$176	\$0	\$35,276
2030	14	\$35,276	\$12,000	\$0	\$0	\$236	\$0	\$47,513
2031	15	\$47,513	\$12,000	\$0	\$0	\$298	\$0	\$59,810
2032	16	\$59,810	\$12,000	\$0	\$0	\$179	\$36,047	\$35,942
2033	17	\$35,942	\$12,000	\$0	\$0	\$240	\$0	\$48,181
2034	18	\$48,181	\$12,000	\$0	\$0	\$301	\$0	\$60,482
2035	19	\$60,482	\$12,000	\$0	\$0	\$362	\$0	\$72,845
2036	20	\$72,845	\$12,000	\$0	\$0	\$354	\$14,028	\$71,171

Alternative 1: Level Funding with Steps

Beginning Balance as of start of year beginning Jan 2017: \$89,550

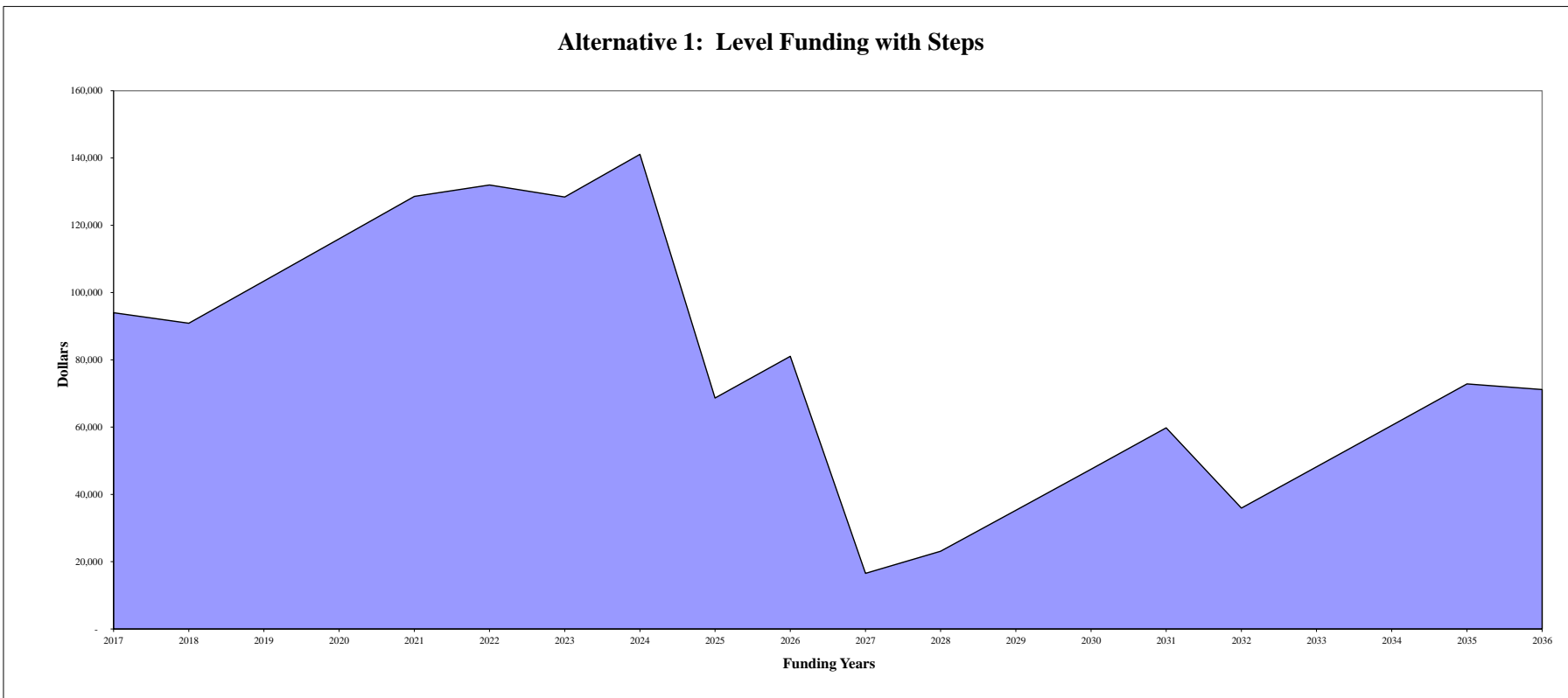
CONTRIBUTIONS	
FIRST YR	LAST YR
\$12,000.00	\$12,000.00 per year
\$129.03	\$129.03 per unit per year
\$1,000.00	\$1,000.00 per month
\$10.75	\$10.75 per unit per month

SPECIAL ASSESSMENTS			
First Second	Per Year Per Year	Totals	
		\$0 \$0	Per Unit Per Unit
		\$0	\$0
		\$0	\$0

SETTINGS (analyzed by year)			
Starting amount (\$):	1000		
Increment by (\$):	0		
Every	1	year	
Frequency:	1	time	

Projected Annual Funding and Expenditures:

Year:	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	94,018	90,878	103,393	115,970	128,609	131,992	128,392	141,094	68,641	81,044	16,523	23,101	35,276	47,513	59,810
Capital Expenditures:	8,000	15,592	-	-	-	9,274	16,239	-	84,794	-	76,603	5,537	-	-	-
Total Revenue (all sources)	12,468	12,452	12,514	12,577	12,640	12,657	12,639	12,702	12,341	12,403	12,082	12,115	12,176	12,236	12,298
Year:	2032	2033	2034	2035	2036										
Year Number:	16	17	18	19	20										
End of Year Reserve Fund Balance	35,942	48,181	60,482	72,845	71,171										
Capital Expenditures:	36,047	-	-	-	14,028										
Total Revenue (all sources)	12,179	12,240	12,301	12,362	12,354										



Alternative 2: Escalating Funding at 5% per Year



Year	Year Number	Beginning Reserve Fund Balance	Fee Revenue	Special Assessments 1	Special Assessments 2	Investment Earnings	Capital Expenditures	Ending Balance
2017	1	\$89,550	\$10,295	\$0	\$0	\$459	\$8,000	\$92,304
2018	2	\$92,304	\$10,810	\$0	\$0	\$438	\$15,592	\$87,960
2019	3	\$87,960	\$11,350	\$0	\$0	\$497	\$0	\$99,807
2020	4	\$99,807	\$11,918	\$0	\$0	\$559	\$0	\$112,283
2021	5	\$112,283	\$12,514	\$0	\$0	\$624	\$0	\$125,421
2022	6	\$125,421	\$13,139	\$0	\$0	\$646	\$9,274	\$129,933
2023	7	\$129,933	\$13,796	\$0	\$0	\$637	\$16,239	\$128,127
2024	8	\$128,127	\$14,486	\$0	\$0	\$713	\$0	\$143,326
2025	9	\$143,326	\$15,210	\$0	\$0	\$369	\$84,794	\$74,111
2026	10	\$74,111	\$15,210	\$0	\$0	\$447	\$0	\$89,768
2027	11	\$89,768	\$15,210	\$0	\$0	\$142	\$76,603	\$28,517
2028	12	\$28,517	\$15,210	\$0	\$0	\$191	\$5,537	\$38,382
2029	13	\$38,382	\$15,210	\$0	\$0	\$268	\$0	\$53,860
2030	14	\$53,860	\$15,210	\$0	\$0	\$345	\$0	\$69,416
2031	15	\$69,416	\$15,210	\$0	\$0	\$423	\$0	\$85,050
2032	16	\$85,050	\$15,210	\$0	\$0	\$321	\$36,047	\$64,534
2033	17	\$64,534	\$15,210	\$0	\$0	\$399	\$0	\$80,143
2034	18	\$80,143	\$15,210	\$0	\$0	\$477	\$0	\$95,830
2035	19	\$95,830	\$15,210	\$0	\$0	\$555	\$0	\$111,596
2036	20	\$111,596	\$15,210	\$0	\$0	\$564	\$14,028	\$113,342

Alternative 2: Escalating Funding at 5% per Year

Beginning Balance as of start of year beginning Jan 2017: \$89,550

CONTRIBUTIONS	
FIRST YR	LAST YR
\$10,295.04	\$15,210.46
\$110.70	\$163.55
\$857.92	\$1,267.54
\$9.22	\$13.63

per year
per unit per year
per month
per unit per month

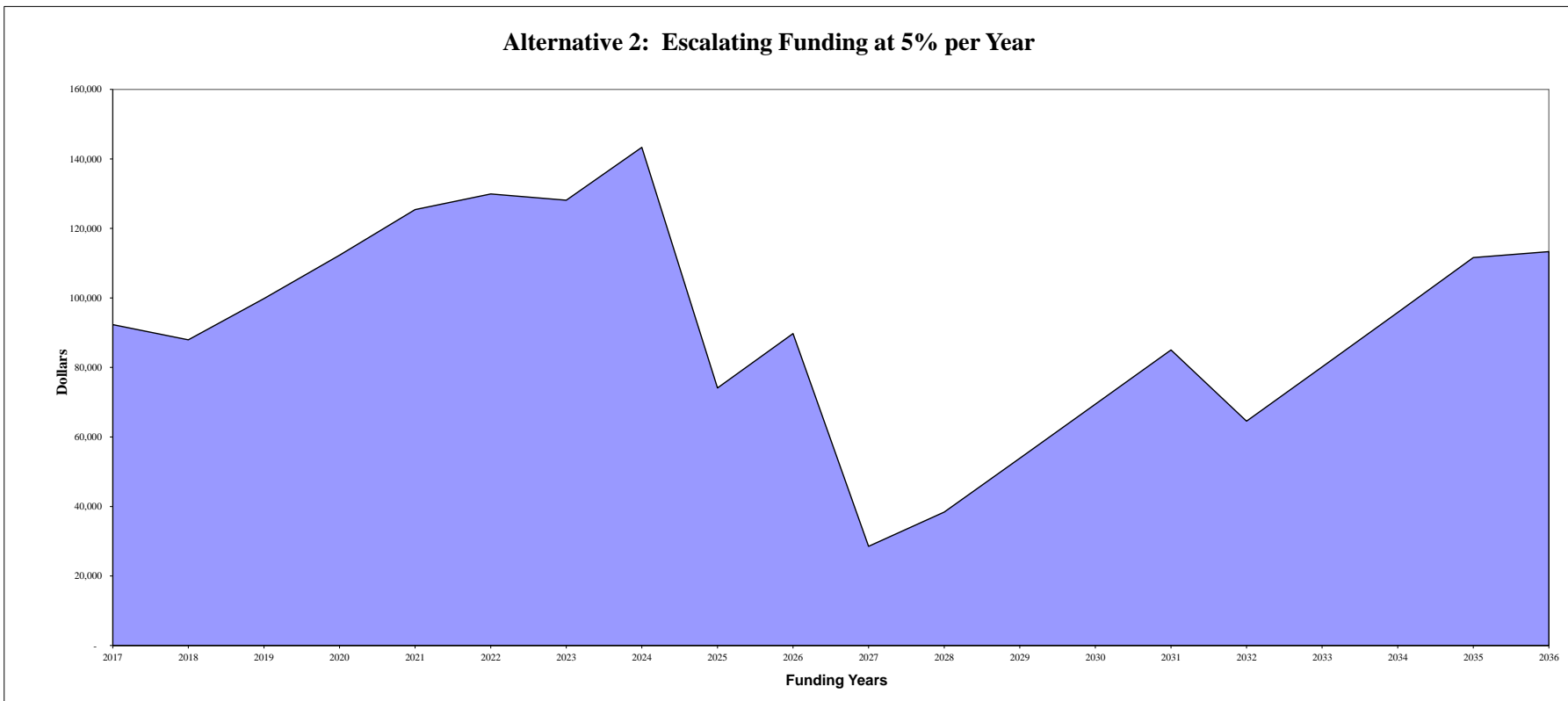
SPECIAL ASSESSMENTS			
		Totals	
First	Second	Per Year	Per Unit
		\$0	\$0
		\$0	\$0

SETTINGS (analyzed by year)	
Starting amount (\$):	857.92
Increment by (%):	5
Step (%):	
Every	1 year
Frequency:	8 time

Projected Annual Funding and Expenditures:

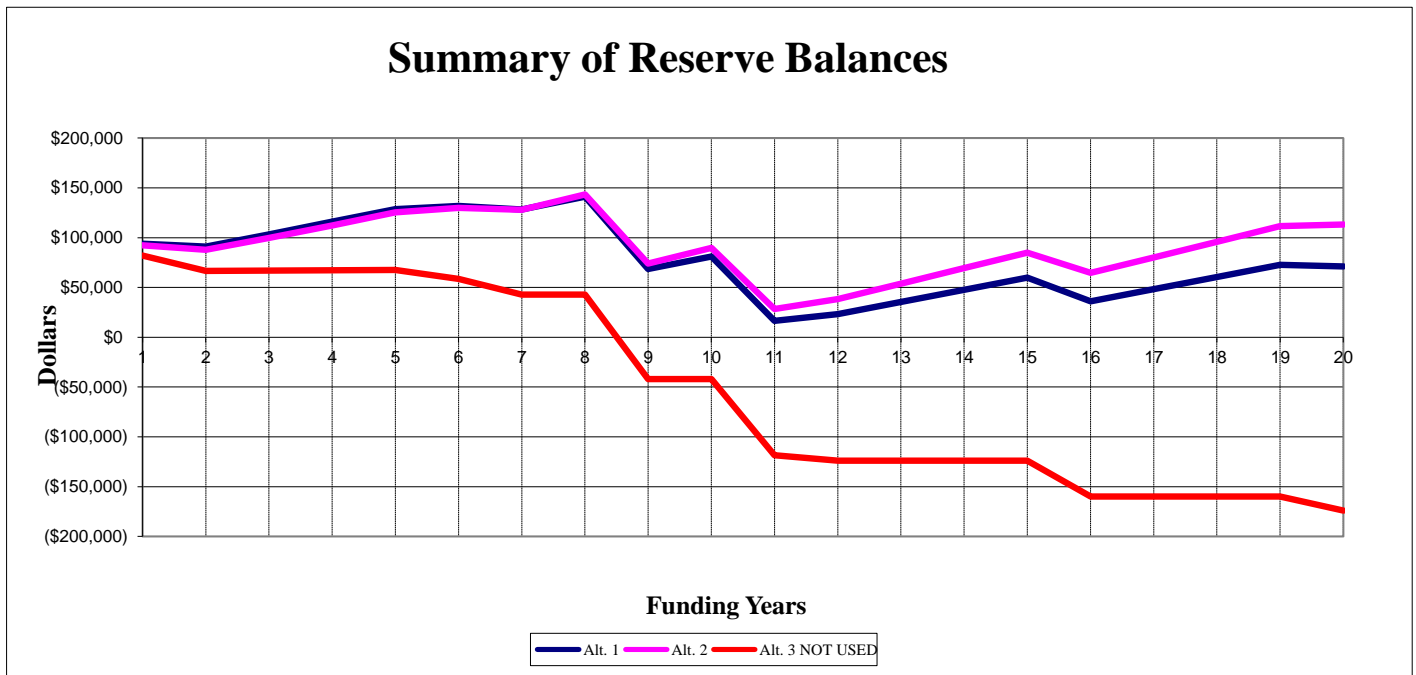
Year:	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	92,304	87,960	99,807	112,283	125,421	129,933	128,127	143,326	74,111	89,768	28,517	38,382	53,860	69,416	85,050
Capital Expenditures:	8,000	15,592	-	-	-	9,274	16,239	-	84,794	-	76,603	5,537	-	-	-
Total Revenue (all sources)	10,754	11,247	11,847	12,476	13,138	13,786	14,434	15,199	15,579	15,657	15,352	15,401	15,478	15,556	15,634

Year:	2032	2033	2034	2035	2036
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	64,534	80,143	95,830	111,596	113,342
Capital Expenditures:	36,047	-	-	-	14,028
Total Revenue (all sources)	15,532	15,609	15,687	15,766	15,774



Summary of Reserve Balances

<u>Year</u>	<u>Year Number</u>	<u>Yearly Expenditures</u>	<u>Alt. 1</u>	<u>Alt. 2</u>	<u>Alt. 3 NOT USED</u>
2017	1	\$8,000	\$94,018	\$92,304	\$81,958
2018	2	\$15,592	\$90,878	\$87,960	\$66,698
2019	3	\$0	\$103,393	\$99,807	\$67,031
2020	4	\$0	\$115,970	\$112,283	\$67,367
2021	5	\$0	\$128,609	\$125,421	\$67,703
2022	6	\$9,274	\$131,992	\$129,933	\$58,721
2023	7	\$16,239	\$128,392	\$128,127	\$42,695
2024	8	\$0	\$141,094	\$143,326	\$42,908
2025	9	\$84,794	\$68,641	\$74,111	(\$41,886)
2026	10	\$0	\$81,044	\$89,768	(\$41,886)
2027	11	\$76,603	\$16,523	\$28,517	(\$118,489)
2028	12	\$5,537	\$23,101	\$38,382	(\$124,026)
2029	13	\$0	\$35,276	\$53,860	(\$124,026)
2030	14	\$0	\$47,513	\$69,416	(\$124,026)
2031	15	\$0	\$59,810	\$85,050	(\$124,026)
2032	16	\$36,047	\$35,942	\$64,534	(\$160,074)
2033	17	\$0	\$48,181	\$80,143	(\$160,074)
2034	18	\$0	\$60,482	\$95,830	(\$160,074)
2035	19	\$0	\$72,845	\$111,596	(\$160,074)
2036	20	\$14,028	\$71,171	\$113,342	(\$174,102)



Appendix C: PROJECT PHOTOGRAPHS

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Typical alley

Photo Number
1



Description:
Typical alley

Photo Number
2

Location:
Preston Point
Cary, NC

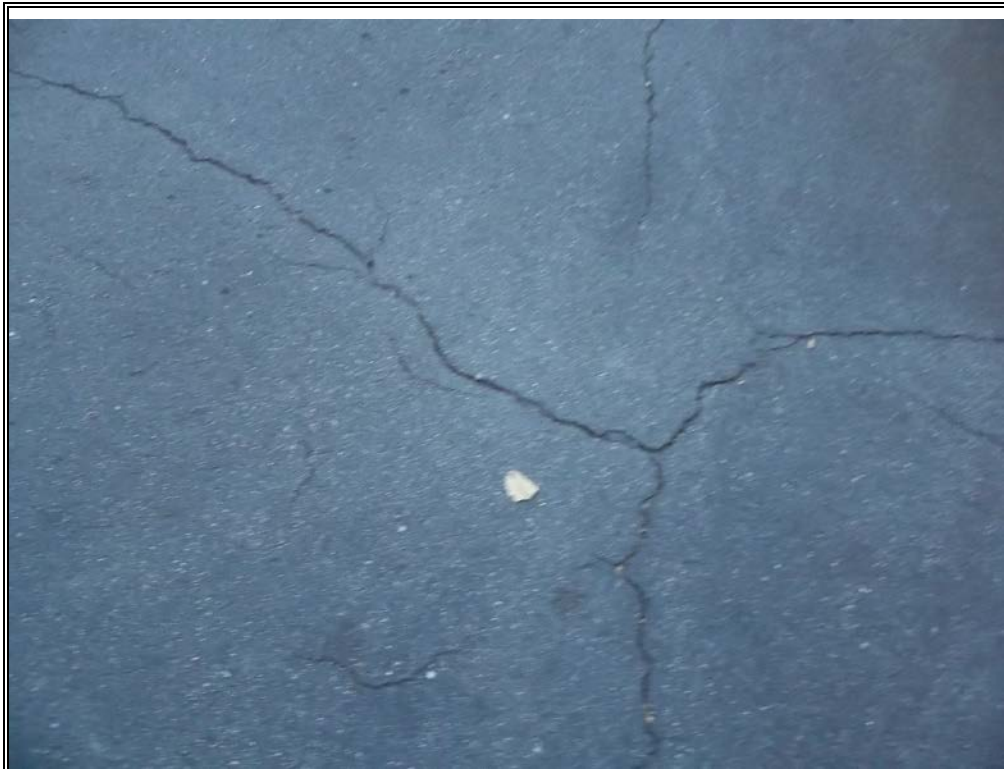
Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Linear cracking

Photo Number
3



Description:
Linear cracking

Photo Number
4

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Fatigue cracking

Photo Number
5



Description:
Previous asphalt
patching

Photo Number
6

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:

Alligator cracking

Photo Number

7



Description:

Cracking from root invasion adjacent to large trees

Photo Number

8

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Tree root causing
upheaval of
pavement

Photo Number
9



Description:
Typical alley

Photo Number
10

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:

Previous overlay is crumbling and flaking off on the left side

Photo Number

11



Description:

Inverted crown of alley directed to drop inlet

Photo Number

12

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Alligator cracking

Photo Number
13



Description:
Alley recently
resurfaced

Photo Number
14

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Area of overlay
that is peeling off
(too thin)

Photo Number
15



Description:
Typical entrance
monument

Photo Number
16

Location:
Preston Point
Cary, NC

Photo Taken by:
Christopher A. Flythe, PE

Date:
November 7, 2016



Description:
Loose stone

Photo Number
17



Description:
Entrance signage
with lighting

Photo Number
18