PREPARED FOR:

WINDSOR PARK HOMEOWNERS ASSOCIATION

ST. LOUIS, MO

DATE OF INSPECTION: JANUARY 23, 2020

FULL RESERVE STUDY

Draft Report for Review

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CRITERIUM®
HARDY ENGINEERS

THIS RESERVE STUDY WAS:

Submitted by Criterium-Hardy Engineers on: February 29, 2019

Inspected and prepared by: Ross Hardy, RS[2]

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HARDY ENGINEERS

[1] PE (Professional Engineer) license is the engineering profession's highest standard of competence, a symbol of achievement and assurance of quality

[2] RS (Reserve Specialist) is the professional designation of the Community Associations Institute (CAI) awarded to qualified reserve specialists who, through years of specialized experience, can help ensure that community associations prepare their reserve budget as accurately as possible.

MEMBER OF community ASSOCIATIONS INSTITUTE

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CRITERIUM HARDY ENGINEERS

INTRODUCTION

The Windsor Park Homeowners Association authorized Criterium–Hardy Engineers to conduct a Full Reserve Study for the Windsor Park community located in St. Louis, Missouri. 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 homeowners.

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, and not annual budgetary expenditures, 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.

EXECUTIVE SUMMARY

Windsor Park is a residential community that consists of 72 single family homes and was constructed in 1987. Access to the community is granted at the intersection of Midfield Lane and Grinnell Terrace.

The association has responsibility for the roofs, gutters, siding, trim, and brick veneer surfaces of the buildings. Site improvements maintained by the association include entrance monuments, signage, private roads, driveways, retaining walls, concrete flatwork, and drainage systems including a detention basin.

The buildings, common areas and site improvements are generally in fair condition. Based on our evaluation, maintaining the current level of funding is **NOT** projected to maintain a positive balance through the term of this study.

Current: Currently the community is contributing $12,000 annually ($13.89/unit/month) to their Reserve Funds and are anticipated to have a Reserve Balance of $298,880 on 1/1/2021. The current funding rate is **NOT** projected to maintain a positive balance for the next 20-years.

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2021	$298,880	($35,937)	$274,943
2022	$274,943	($37,056)	$249,887
2023	$249,887	($87,601)	$174,286
2024	$174,286	($11,070)	$175,216
2025	$175,216	($26,152)	$161,064
2026	$161,064	($44,471)	$128,594
2027	$128,594	($45,839)	$94,754
2028	$94,754	($17,124)	$89,631
2029	$89,631	($253,354)	($151,723)
2030	($151,723)	($33,077)	($172,800)

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2031	($172,800)	($302,381)	($463,181)
2032	($463,181)	($54,764)	($505,945)
2033	($505,945)	($285,152)	($779,097)
2034	($779,097)	$0	($767,097)
2035	($767,097)	($300,431)	($1,055,529)
2036	($1,055,529)	($176,325)	($1,219,853)
2037	($1,219,853)	($317,463)	($1,525,316)
2038	($1,525,316)	($24,793)	($1,538,109)
2039	($1,538,109)	($269,444)	($1,795,553)
2040	($1,795,553)	($44,452)	($1,828,006)

Alternative 1: Starting in 2021, annual contributions to the Reserve Fund should be $43,200 per year ($50.00/unit/month). Annual contributions should increase $6,912 ($8/unit/month) *annually* going forward. These funding rates are projected to maintain a positive balance for the next 20-years.

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2021	$298,880	($35,469)	$306,611
2022	$306,611	($36,010)	$320,713
2023	$320,713	($85,863)	$291,874
2024	$291,874	($8,527)	$347,284
2025	$347,284	($22,688)	$395,443
2026	$395,443	($39,968)	$433,235
2027	$433,235	($40,180)	$477,727
2028	$477,727	($10,185)	$559,126
2029	$559,126	($247,290)	$410,332
2030	$410,332	($25,837)	$489,903

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2031	$489,903	($297,884)	$304,339
2032	$304,339	($49,232)	$374,340
2033	$374,340	($281,922)	$218,562
2034	$218,562	$5,274	$356,892
2035	$356,892	($297,485)	$199,375
2036	$199,375	($173,776)	$172,479
2037	$172,479	($317,331)	$8,940
2038	$8,940	($22,620)	$147,024
2039	$147,024	($268,766)	$45,874
2040	$45,874	($41,813)	$178,589

Alternative 2: Starting in 2021, annual contributions to the Reserve Fund should be $54,432 per year ($65/unit/month). Annual contributions should increase 7% *annually* going forward. These funding rates are projected to maintain a positive balance for the next 20-years.

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2021	$298,880	($35,300)	$318,012
2022	$318,012	($35,717)	$340,537
2023	$340,537	($85,486)	$317,370
2024	$317,370	($8,103)	$375,948
2025	$375,948	($22,251)	$425,047
2026	$425,047	($39,546)	$461,845
2027	$461,845	($39,795)	$503,737
2028	$503,737	($9,858)	$581,285
2029	$581,285	($247,032)	$427,778
2030	$427,778	($25,655)	$502,193

Year	Beginning Reserve Fund Balance	Capital Expenditures + Investments	Ending Balance
2031	$502,193	($297,778)	$311,491
2032	$311,491	($49,194)	$376,869
2033	$376,869	($281,938)	$217,522
2034	$217,522	$5,230	$353,925
2035	$353,925	($297,524)	$196,756
2036	$196,756	($173,765)	$173,171
2037	$173,171	($317,217)	$16,646
2038	$16,646	($22,336)	$166,251
2039	$166,251	($268,232)	$81,995
2040	$81,995	($40,936)	$237,913

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

- Replace roofs and gutters
- Replace vinyl siding
- Maintain concrete roads and asphalt driveways

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.

A more detailed analysis of the reserve fund has been provided in Appendix A

PURPOSE & SCOPE

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 Windsor Park 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.

Scope

This study has been performed according to the scope as generally defined by Windsor Park Homeowners Association, Criterium-Hardy Engineers, 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. Our application of this method also considers:

- Current and future local costs of replacement
- 1.5% annual rate of return on invested reserves
- 3.0% future inflation rate for estimating future replacement costs

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 (>$2K).

- **Site and Grounds:** The Association is responsible concrete roads, asphalt driveways, common area retaining walls, entrance monuments, street signs, concrete walkways, a detention basin, and the drainage systems.

- **Buildings:** The Association is responsible for maintenance and replacement of the roofing and gutters, exterior surfaces including siding, trim, and brick veneer.

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 2020 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 *Limitations*.

Sources of Information

Onsite inspections of the property occurred on the following date:

- January 23rd, 2020

The following people were interviewed during our study:

- Al Schlobohm, Community Manager

The following documents were made available to us and reviewed:

- St. Louis County Tax Records
- Association Financial Statements
- Governing Documents

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.

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.

DESCRIPTION

Windsor Park is a residential community that consists of 72 single family homes and was constructed in 1987. Access to the community is granted at the intersection of Midfield Lane and Grinnell Terrace.

The association has responsibility for the roofs, gutters, siding, trim, and brick veneer surfaces of the buildings. Site improvements maintained by the association include entrance monuments, signage, private roads, driveways, retaining walls, concrete flatwork, and drainage systems including a detention basin.

Site drainage is provided via landscaped swales and catch basins in the paved and landscaped areas. These systems direct water flow to a detention basin and municipal systems directed offsite.

OBSERVATIONS

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

Site & Grounds

Roads: The concrete roads throughout Windsor Park are privately maintained by the Association. The concrete roads were generally in fair condition. Previous sectional repairs were observed in limited areas of the roads. We noted areas of localized fatigue cracking, settling and surface spalling, which may require full depth sectional replacement. Sectional repairs to the concrete surfaces will include saw-cutting and removing sections of the paving, repairing the subgrade/base course, and installing a new 5-7" thick concrete slab. We have allocated funding for ongoing sectional replacement of approximately 5% of the concrete roads on a 5-year cycle, beginning in 2022.

We recommend that longitudinal and transverse cracks in the concrete and joints between concrete slabs should be filled, patched, and sealed on an approximately 5-year cycle. We have allocated funds for ongoing crack fill repairs beginning in 2022.

Driveways: Asphalt driveways to the homes are maintained by the Association and are generally in good condition. Over time, areas of fatigue cracking will require full depth sectional replacement of the asphalt to repair. This would include saw cutting and removing sections of paving, repairing base course/sub-grade as needed and installing new 2" to 4" thick asphalt paving. We have allocated funding for on-going sectional replacement needs of approximately 5% of the asphalt surfaces on a 5-year cycle beginning in 2025.

Typically, we recommend the application of an oil resistant sealant to asphalt paved surfaces on an approximately 5-year cycle. At this same time, all cracks should be properly filled, patched, and sealed. We have allocated funds for future crack sealing and seal coating on a 5-year cycle beginning in 2025.

Residential asphalt pavements generally have a lifespan of 20-25 years before resurfacing, assuming normal maintenance and traffic. Resurfacing would include repairing areas of fatigue cracking, upheaval and other subgrade repairs, milling of areas of the paving to maintain adequate drainage profiles and transitions to sidewalks/driveways, surface preparations and installing a new layer of asphalt paving approximately 1.5 to 2" thick over all areas of paving. Based upon the current condition of the asphalt surfaces, we recommend milling and overlay of the driveways and have allocated funds for resurfacing the paving on a 25-year cycle beginning in 2036.

Concrete Flatwork: The association is responsible for maintaining the concrete flatwork consisting of walkways at the front of each building as well as the concrete spillways in the detention basin. The walkways were observed to be in generally good condition. Cracking, settling, and surface spalling was observed in limited areas. The variable conditions of the walkways result in the need to plan for periodic sectional replacements of the concrete walkways over the next 20 years. We have allocated funds for periodic repairs and/or replacement of concrete surfaces as required and have assumed that approximately 8% of the surfaces will require maintenance every 5 years beginning in 2022. *It was reported that front stoops and patios are maintained by homeowners.*

Drainage: Storm water from the roofs is routed through gutters and downspouts at each building. Storm water on the site drains via surface flow or via landscaped swales toward catch basins and curb inlets in the paved and landscaped areas throughout the community, where it is routed toward the detention basin or offsite. The swales throughout the community tend to accumulate sediment that settles out during storm events and will need to be periodically removed and re-graded. In addition, over time, small landscape drainage systems will likely need to be installed in flat areas of the community to address concerns.

The stormwater detention basin located on the property will require periodic cleaning to remove sediment buildup, which was observed during the physical assessment. The swales and piping tend to accumulate sediment that settles out during storm events and will need to be periodically removed and/or re-graded. The detention basin also includes a concrete spillway which serves as the primary and emergency spillway, with the spillway discharging into municipal channels to carry the flows offsite.

Overall, the drainage systems generally appeared to be in fair condition. Soil erosion and standing water was noted in numerous locations. We observed a limited number of gutter downspouts discharging stormwater immediately adjacent to foundation walls and missing splash blocks. Gutter downspouts should generally be routed to discharge stormwater away from foundation walls. We recommend having a portion of the private drainage infrastructure inspected with a video borescope system, flushed, and repaired as necessary. We also recommend maintaining adequate soil stabilizing ground cover to reduce erosion concerns. We have allocated funds to repair the drainage systems on a 5-year cycle beginning in 2021. Repairs will likely include retrenching of swales to improve flow, adding or augmenting rip rap or vegetation to stabilize exposed or steep areas, repairing erosion concerns, extending gutter downspouts to underground systems, installing french drains or other types of minor drainage systems. In addition, over time, small landscape drainage systems will likely need to be installed in flat areas of the community to address concerns.

Retaining Walls: Several concrete block retaining walls are located at elevation changes throughout the Windsor Park community. Generally, the retaining walls were observed to be in good condition. Block retaining walls can have indeterminately long useful lives with the benefit of inspections and capital repairs every 10- to 15-years. We recommend the Association plan for a complete inspection and partial replacement or resetting of up to 20% of the retaining walls every 12 years beginning in 2027.

Entrance Monument: Access to the community is granted at the intersection of Midfield Lane and Grinnell Terrace. The main entrance monuments contain painted wood signage and brick veneer with cast concrete caps. The entrance signs appeared to be in fair condition. We noted areas of cracked and deteriorating brick veneer and mortar joints. We noted moderate soil erosion from stormwater surface flows behind the northern entrance monument. The northern entrance monument does not contain concrete caps. The entrance monuments also contain limited irrigation systems which we have assumed will be maintained as part of an annual maintenance budget. We have allocated funds to renovate the entrance monuments on a 25-year cycle beginning in 2024.

It was reported that maintenance of buried potable water supply piping and sanitary piping is the responsibility of individual homeowners.

Mailboxes throughout the community are maintained by the post office.

Building Exteriors

Roofs: The predominant pitched roof surfaces over the buildings are covered in asphaltic fiberglass architectural grade shingles. Roof surfacing is applied over roof sheathing, and generally conditions appear to be in good condition. It was reported that a significant number of roofs were replaced in 2014, with the remainder having been replaced since then. We are unaware of any concerns with current roof leaks.

This type of shingled roofing has an expected useful life of approximately 18-20 years. We strongly recommend that any re-roofing project closely follow procedures outlined by the National Roofing Contractors Association's Roofing and Waterproofing Manual. A re-roofing sequence should include removal of the existing roofing material, replacement of any inadequate roof sheathing, replacement of any damaged flashing, and replacement of drip edge components. We strongly recommend the installation of hail-resistant roofing materials. We have allocated funds for replacing the roofing in three phases beginning 2035. Roof replacement should be prioritized based upon the individual roof conditions at that time. Note that it is likely that minor repairs to the roofing, vent boots and flashing will be required in the interim. We have assumed these items would be funded from an annual maintenance budget.

Gutters: Gutters and downspouts were observed to be in generally fair to poor condition due to age. Typically, we would recommend gutter replacement at the time of roof replacement, as this component typically provides twenty years of relatively trouble-free service. However, based upon the condition of the gutters observed during our visit, we have allocated funding to replace the gutters on the homes in 2023. Until the time of replacement, we have assumed that funding for repairs of gutters and downspouts will be funded by an annual maintenance budget.

Brick: Brick generally requires less maintenance than other types of exteriors, however brick is not maintenance free. Ongoing localized repairs to the brick and tuckpointing of the mortar will be necessary. The brick veneer throughout the community was observed to be in fair condition. We observed a step cracking and deteriorating mortar joints on a limited number of buildings, particularly along windowsills and at front stoops. Repairs will likely require tuckpointing of the existing bricks and mortar joints. Tuckpointing is the process of raking and cutting out defective mortar to a depth of not less than ½ inch nor more than ¾ inch and replacing it with new mortar. We have allocated funding for tuckpointing repairs to the brick veneer on a 5-year cycle beginning in 2021. Repairs should include the brick entrance monuments as well as surfaces on the single family homes.

Siding: The vinyl siding components on the buildings is original and generally appeared to be in fair condition. Vinyl siding typically has an expected useful life of approximately 40 years and we anticipate the siding has 8-12 years of useful life remaining. We noted chalking and color fading as well as limited areas of cracking or broken siding. The Association should anticipate the need for periodic cleaning and minor repairs prior to replacement, which we have assumed would be funded from an annual maintenance budget. We have allocated funding to replace the vinyl siding in three phases, beginning in 2029.

Paint: The buildings are of wood frame construction. Exterior surfaces are primarily clad in brick veneer and vinyl siding, with sections of wood fiber trim. Vinyl shutters are installed flanking windows on the buildings and reported to be the responsibility of the homeowners. The exterior of the buildings generally appeared to be in fair condition. We noted minor flaking paint and minor deterioration developing in limited wood trim components. We also noted minor color fading in the building shutters on select units. Deterioration in the caulking/sealant was observed around a majority of the windows on the buildings. We have allocated funds to repair and paint the wood trim components and replace deteriorated caulking on a 7-year cycle beginning in 2021. The painting/repair cycles should include repairing/replacing damaged sections of trim, repairing deteriorated caulking and flashing, a thorough cleaning/power washing and proper surface preparations and the application of 2 coats of a high-quality exterior grade paint.

It should be noted that other building components have been designated as the responsibility of the individual unit owners to repair or replace at their cost and funding has not been allocated for the purposes of this study. Building components maintained by unit owners include:

- Decks
- Garage doors
- Chimney roof vents
- Building foundations
- Exterior light fixtures

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 1.5% 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 not 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:

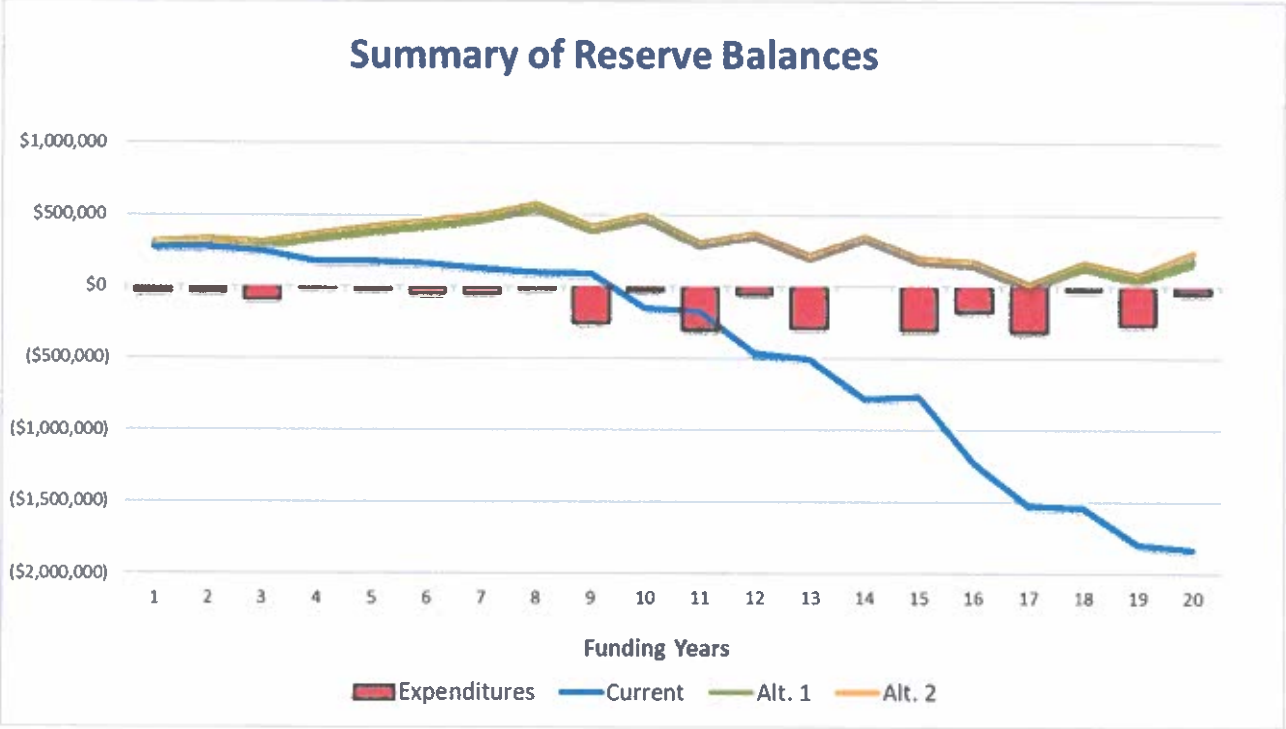
Current Reserve Funding Rate: **$12,000 per year; ($13.89/unit/month)**

Current Reserve Balance: **$298,880 (projected 1/1/21)**

Current: Currently the community is contributing $12,000 annually ($13.89/unit/month) to their Reserve Funds and are anticipated to have a Reserve Balance of $298,880 on 1/1/2021. The current funding rate is **NOT** projected to maintain a positive balance for the next 20-years.

Alternative 1: Starting in 2021, annual contributions to the Reserve Fund should be $43,200 per year ($50.00/unit/month). Annual contributions should increase $6,912 ($8/unit/month) *annually* going forward. These funding rates are projected to maintain a positive balance for the next 20-years.

Alternative 2: Starting in 2021, annual contributions to the Reserve Fund should be $54,432 per year ($65/unit/month). Annual contributions should increase 7% *annually* going forward. These funding rates are projected to maintain a positive balance for the next 20-years.



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 2020 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.

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.

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 Windsor Park Association. Criterium-Hardy Engineers 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-Hardy Engineers 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-Hardy Engineers team working on this reserve study are not members of, or otherwise associated with the Association. Criterium-Hardy 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-Hardy 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-Hardy 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,

Kyle D. Hardy, PE, RS
President
Criterium-Hardy Engineers

Ross A. Hardy, RS
Project Manager
Criterium-Hardy Engineers

	Quantity	Unit cost	Reserve Requirement (*)	Frequency (yrs**)	Remaining Life (yrs)	Notes
	288 SY	$90.00	$25,875.00	5	1	approximately 5% every 5 years
	5,750 SY	$1.25	$7,187.50	5	1	
	220 SY	$65.00	$14,328.60	5	4	approximately 5% every 5 years
	7,348 SY	$1.50	$11,022.00	5	4	
	7,348 SY	$12.00	$88,176.00	20	15	
	100 SY	$65.00	$6,500.00	5	1	walkways and storm basin spillways
ements	1 LS	$10,000.00	$10,000.00	5	0	areas of standing water and soil erosion
ls	1 Allow	$15,000.00	$15,000.00	12	5	
	1 LS	$12,500.00	$12,500.00	25	3	lighting, signage, tuckpoint repairs
	555 SQ	$285.00	$158,270.00	20	14	majority replaced in 2014; remaining replaced since 2014
	555 SQ	$285.00	$158,270.00	20	16	
	555 SQ	$285.00	$158,270.00	20	18	
	10,625 LF	$8.00	$85,000.00	40	2	
	1 LS	$15,000.00	$15,000.00	5	0	
	40,000 SF	$5.00	$200,000.00	40	8	
	40,000 SF	$5.00	$200,000.00	40	10	
	40,000 SF	$5.00	$200,000.00	40	12	
	1 LS	$15,000.00	$15,000.00	7	0	windows need caulking

Totals $1,380,399.10

Total Over Term $1,695,138.40

Total Over Term w/ Inflation $2,386,812.28

of non-annual maintenance

Year:	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13
	0	25,875	0	0	0	0	25,875	0	0	0	0	25,875	0
	0	7,188	0	0	0	0	7,188	0	0	0	0	7,188	0
	0	0	0	0	14,329	0	0	0	0	14,329	0	0	0
	0	0	0	0	11,022	0	0	0	0	11,022	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	6,500	0	0	0	0	6,500	0	0	0	0	6,500	0
	10,000	0	0	0	0	10,000	0	0	0	0	10,000	0	0
	0	0	0	0	0	15,000	0	0	0	0	0	0	0
	0	0	0	12,500	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	85,000	0	0	0	0	0	0	0	0	0	0
	15,000	0	0	0	0	15,000	0	0	0	0	15,000	0	0
	0	0	0	0	0	0	0	0	200,000	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	200,000	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	200,000
	15,000	0	0	0	0	0	0	15,000	0	0	0	0	0
	40,000	**39,563**	**85,000**	**12,500**	**25,351**	**40,000**	**39,563**	**15,000**	**200,000**	**25,351**	**225,000**	**39,563**	**200,000**
	40,000	**40,749**	**90,177**	**13,659**	**28,532**	**46,371**	**47,240**	**18,448**	**253,354**	**33,077**	**302,381**	**54,764**	**285,152**

Year:	2034	2035	2036	2037	2038	2039	2040
Year Number:	14	15	16	17	18	19	20
	0	0	0	25,875	0	0	0
	0	0	0	7,188	0	0	0
	0	14,329	0	0	0	0	14,329
	0	11,022	0	0	0	0	11,022
	0	0	88,176	0	0	0	0
	0	0	0	6,500	0	0	0
	0	0	10,000	0	0	0	0
	0	0	0	0	15,000	0	0
	0	0	0	0	0	0	0
	0	158,270	0	0	0	0	0
	0	0	0	158,270	0	0	0
	0	0	0	0	0	158,270	0
	0	0	0	0	0	0	0
	0	0	15,000	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	15,000	0	0	0	0	0
	0	**198,621**	**113,176**	**197,833**	**15,000**	**158,270**	**25,351**
	0	**300,431**	**176,325**	**317,463**	**24,793**	**269,444**	**44,452**

General Information:

1 Organization: **Windsor Park**

2 Address: **Weldon Springs, MO**

3	Number of Units	**72**
4	Age of Building (in years)	**34**
5a	Study Period (in years)	**20**
5b	Normal Fiscal Year starts:	**January 1, 2021**
5c	Partial Fiscal Year starts:	**January 1, 2021**
5d	Partial Year Length:	**12 months**
6	Site Inspection Date	**January 23, 2020**
7	Reserve Funds at start	**$298,880**
8	Rate of Return on invested Reserve Funds (%)	**1.5%**
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	**$1,000**	**$12,000**	**$13.89**	**$166.67**

	Years Out	Total Annual	Per Unit
Planned Special Assessment	0	$0	$0
Balance Computed	**($1,828,006)**		

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)	**$3,600**	**$43,200**	**$50.00**	**$600.00**
Monthly Amount, (Last Year)	**$14,544**	**$174,528**	**$202.00**	**$2,424.00**
Balance Required Final Year	$119,341			

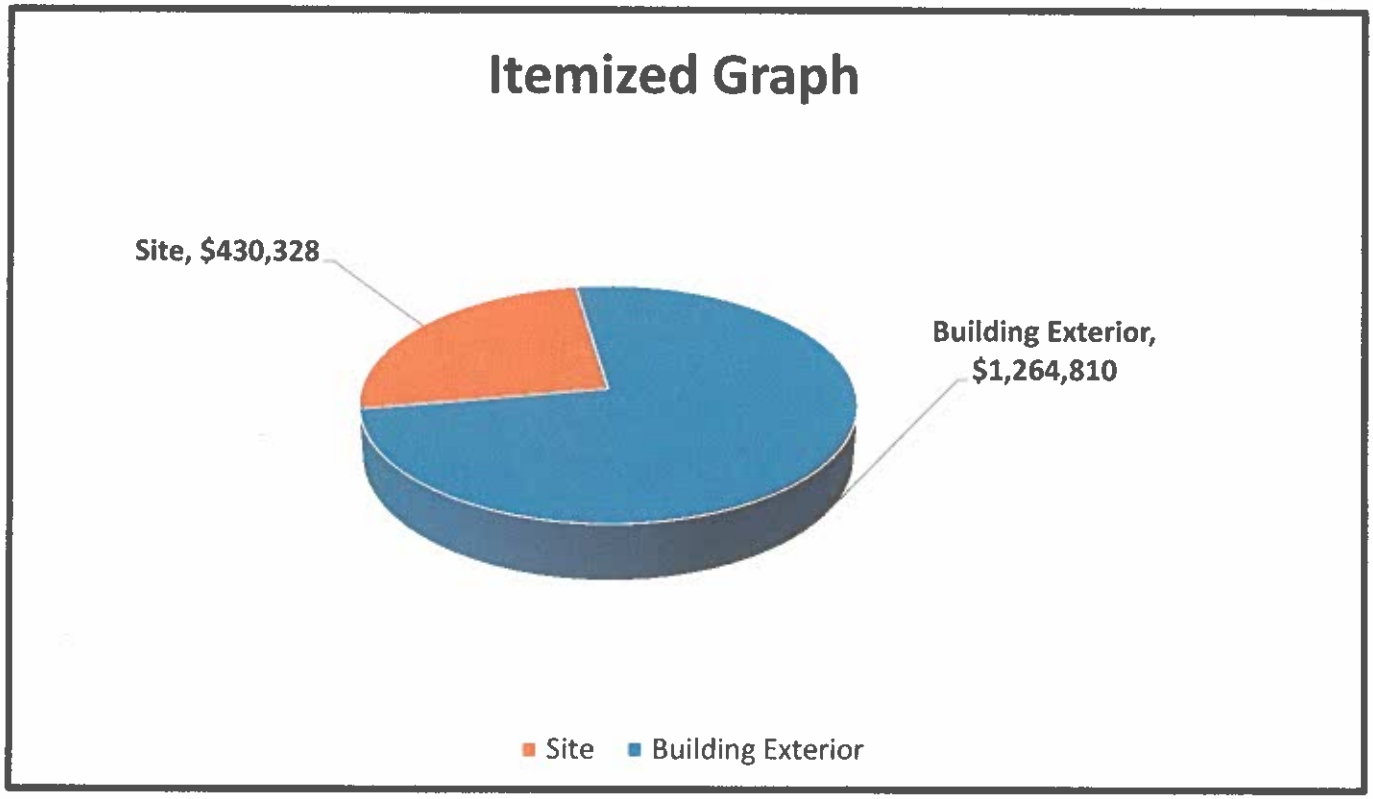
Special Assessments:	Years Out	Total/Year	Per Unit
First Assessment			$0
Second Assessment			$0
Balance Computed	**$178,589**		

Alternative 2 Escalating Funding at 7% per Year

	Total/Month	Total Annual	Per Unit/Month	Per Unit/Year
Monthly Amount, (First Year)	**$4,536**	**$54,432**	**$63.00**	**$756.00**
Monthly Amount, (Last Year)	**$16,405**	**$196,855**	**$227.84**	**$2,734.09**
Balance Required Final Year	$119,341			
Base Escalation %	**7.00%**			

Special Assessments:	Years Out	Total/Year	Per Unit
First Assessment			$0
Second Assessment			$0
Balance Computed	**$237,913**		

28
10
$0
$0
$0
$0
38



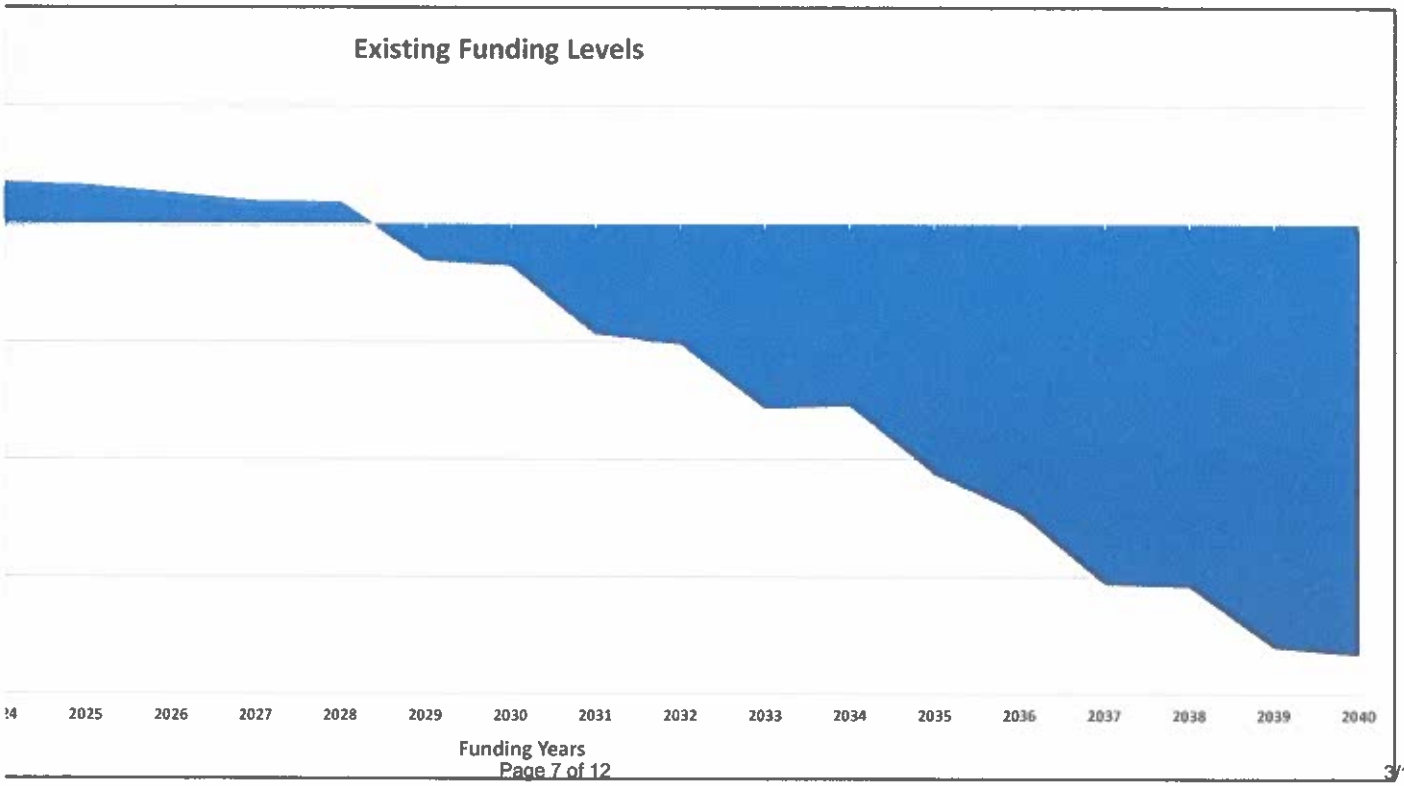
	Annual Fee Revenue	Annual Fee Revenue Per Owner	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
0	$12,000	$167	$0	$4,063	$40,000	$274,943
3	$12,000	$167	$0	$3,693	$40,749	$249,887
7	$12,000	$167	$0	$2,576	$90,177	$174,286
5	$12,000	$167	$0	$2,589	$13,659	$175,216
5	$12,000	$167	$0	$2,380	$28,532	$161,064
4	$12,000	$167	$0	$1,900	$46,371	$128,594
4	$12,000	$167	$0	$1,400	$47,240	$94,754
4	$12,000	$167	$0	$1,325	$18,448	$89,631
1	$12,000	$167	$0	$0	$253,354	($151,723)
3)	$12,000	$167	$0	$0	$33,077	($172,800)
0)	$12,000	$167	$0	$0	$302,381	($463,181)
1)	$12,000	$167	$0	$0	$54,764	($505,945)
5)	$12,000	$167	$0	$0	$285,152	($779,097)
7)	$12,000	$167	$0	$0	$0	($767,097)
7)	$12,000	$167	$0	$0	$300,431	($1,055,529)
9)	$12,000	$167	$0	$0	$176,325	($1,219,853)
3)	$12,000	$167	$0	$0	$317,463	($1,525,316)
5)	$12,000	$167	$0	$0	$24,793	($1,538,109)
9)	$12,000	$167	$0	$0	$269,444	($1,795,553)
3)	$12,000	$167	$0	$0	$44,452	($1,828,006)

2021: $298,880

SPECIAL ASSESSMENTS			
Totals			
Per Year	$0	Per Unit	$0

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2	3	4	5	6	7	8	9	10	11	12	13	14	15
249,887	174,286	175,216	161,064	128,594	94,754	89,631	(151,723)	(172,800)	(463,181)	(505,945)	(779,097)	(767,097)	(1,055,529)
40,749	90,177	13,659	28,532	46,371	47,240	18,448	253,354	33,077	302,381	54,764	285,152	-	300,431
15,693	14,576	14,589	14,380	13,900	13,400	13,325	12,000	12,000	12,000	12,000	12,000	12,000	12,000

2037	2038	2039	2040
17	18	19	20
1,525,316)	(1,538,109)	(1,795,553)	(1,828,006)
317,463	24,793	269,444	44,452
12,000	12,000	12,000	12,000



	Fee Revenue	Fee Revenue Per Owner	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
80	$43,200	$600	$0	$4,531	$40,000	$306,611
11	$50,112	$696	$0	$4,740	$40,749	$320,713
13	$57,024	$792	$0	$4,313	$90,177	$291,874
74	$63,936	$888	$0	$5,132	$13,659	$347,284
84	$70,848	$984	$0	$5,844	$28,532	$395,443
43	$77,760	$1,080	$0	$6,402	$46,371	$433,235
35	$84,672	$1,176	$0	$7,060	$47,240	$477,727
27	$91,584	$1,272	$0	$8,263	$18,448	$559,126
26	$98,496	$1,368	$0	$6,064	$253,354	$410,332
32	$105,408	$1,464	$0	$7,240	$33,077	$489,903
03	$112,320	$1,560	$0	$4,498	$302,381	$304,339
39	$119,232	$1,656	$0	$5,532	$54,764	$374,340
40	$126,144	$1,752	$0	$3,230	$285,152	$218,562
62	$133,056	$1,848	$0	$5,274	$0	$356,892
92	$139,968	$1,944	$0	$2,946	$300,431	$199,375
75	$146,880	$2,040	$0	$2,549	$176,325	$172,479
79	$153,792	$2,136	$0	$132	$317,463	$8,940
40	$160,704	$2,232	$0	$2,173	$24,793	$147,024
24	$167,616	$2,328	$0	$678	$269,444	$45,874
74	$174,528	$2,424	$0	$2,639	$44,452	$178,589

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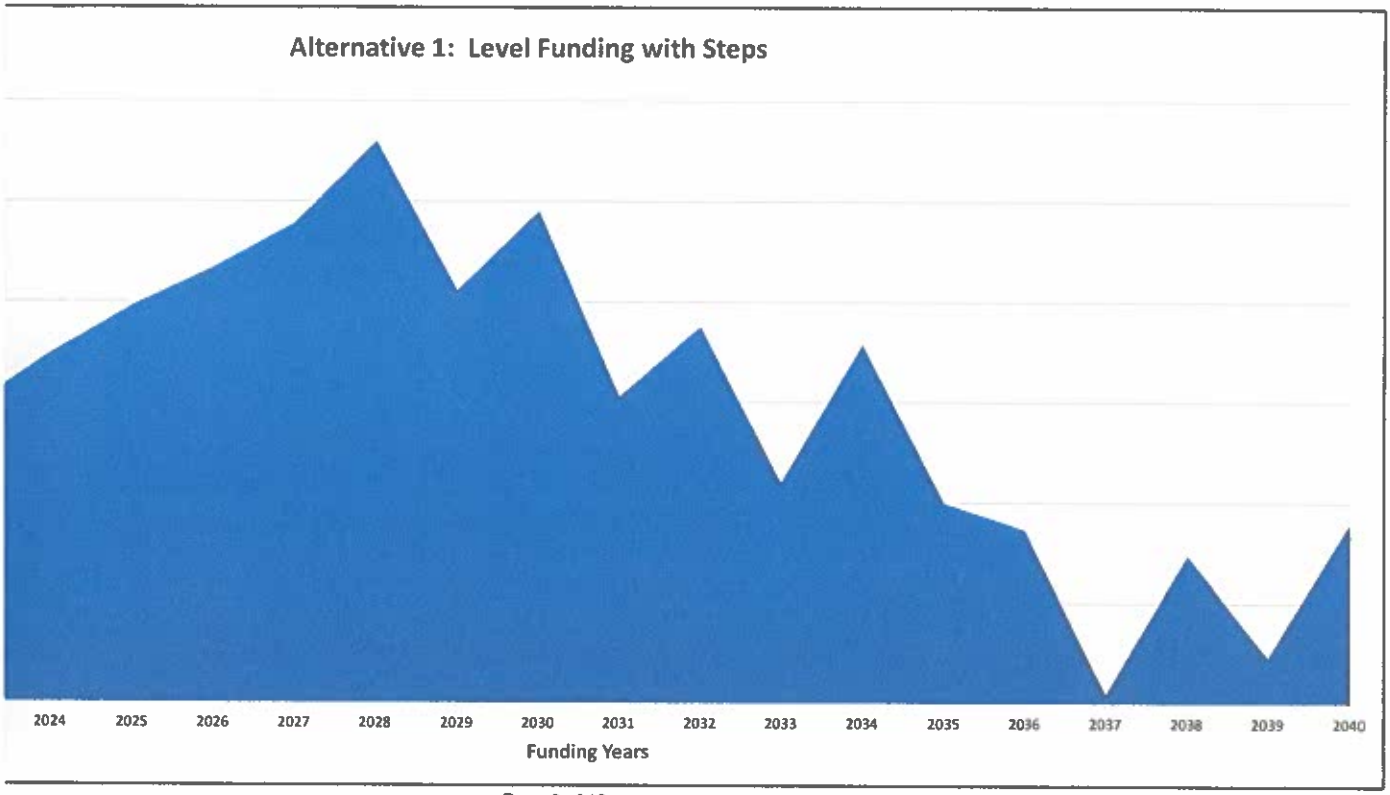
r month

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

SETTINGS (analyzed by unit/month)		
Starting amount ($):	50	
Increment by ($):	8	
Every	1	year
Frequency:	20	time

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	320,713	291,874	347,284	395,443	433,235	477,727	559,126	410,332	489,903	304,339	374,340	218,562	356,892	199,375
	40,749	90,177	13,659	28,532	46,371	47,240	18,448	253,354	33,077	302,381	54,764	285,152	-	300,431
	54,852	61,337	69,068	76,692	84,162	91,732	99,847	104,560	112,648	116,818	124,764	129,374	138,330	142,914

	2037	2038	2039	2040
	17	18	19	20
	8,940	147,024	45,874	178,589
	317,463	24,793	269,444	44,452
	153,924	162,877	168,294	177,167



g	Annual Fee Revenue	Fee Revenue Per Owner	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
880	$54,432	$756	$0	$4,700	$40,000	$318,012
012	$58,242	$809	$0	$5,033	$40,749	$340,537
537	$62,319	$866	$0	$4,690	$90,177	$317,370
370	$66,682	$926	$0	$5,556	$13,659	$375,948
948	$71,349	$991	$0	$6,281	$28,532	$425,047
047	$76,344	$1,060	$0	$6,825	$46,371	$461,845
345	$81,688	$1,135	$0	$7,444	$47,240	$503,737
737	$87,406	$1,214	$0	$8,590	$18,448	$581,285
285	$93,524	$1,299	$0	$6,322	$253,354	$427,778
778	$100,071	$1,390	$0	$7,422	$33,077	$502,193
193	$107,076	$1,487	$0	$4,603	$302,381	$311,491
491	$114,571	$1,591	$0	$5,569	$54,764	$376,869
369	$122,591	$1,703	$0	$3,215	$285,152	$217,522
522	$131,173	$1,822	$0	$5,230	$0	$353,925
925	$140,355	$1,949	$0	$2,908	$300,431	$196,756
756	$150,180	$2,086	$0	$2,559	$176,325	$173,171
171	$160,692	$2,232	$0	$246	$317,463	$16,646
646	$171,941	$2,388	$0	$2,457	$24,793	$166,251
251	$183,976	$2,555	$0	$1,212	$269,444	$81,995
995	$196,855	$2,734	$0	$3,516	$44,452	$237,913

t 7% per Year

an 2021: $298,880

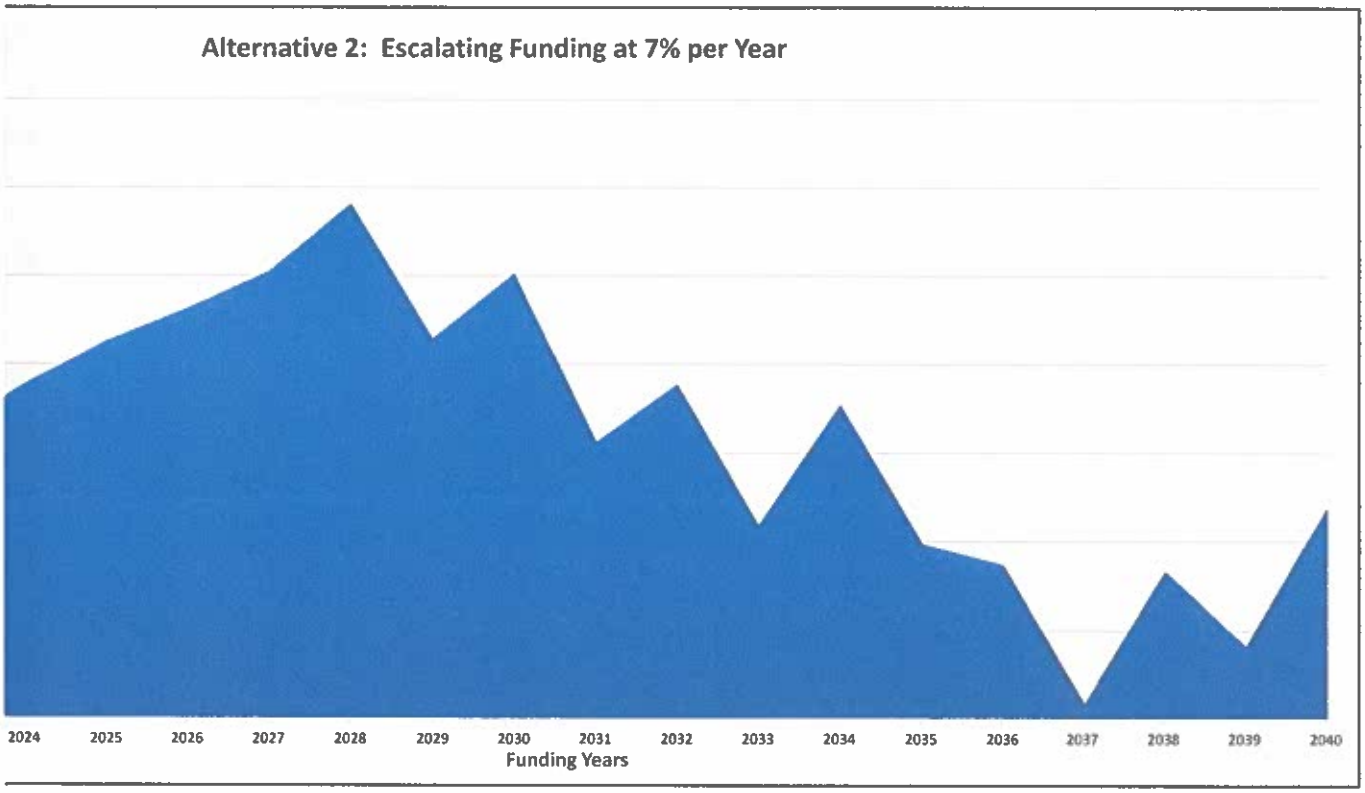
year	
month	

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

SETTINGS (analyzed by unit/month)		
Starting amount ($):	63	
Increment by (%):	7	
Step (%):		
Every	1	year
Frequency:	20	time

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	340,537	317,370	375,948	425,047	461,845	503,737	581,285	427,778	502,193	311,491	376,869	217,522	353,925	196,756
	40,749	90,177	13,659	28,532	46,371	47,240	18,448	253,354	33,077	302,381	54,764	285,152	-	300,431
	63,275	67,009	72,237	77,631	83,169	89,132	95,996	99,846	107,493	111,679	120,141	125,806	136,403	143,263

	2037	2038	2039	2040
	17	18	19	20
	16,646	166,251	81,995	237,913
	317,463	24,793	269,444	44,452
	160,938	174,398	185,188	200,371



Year	Year Number	Yearly Expenditures	Current	Alt. 1	Alt. 2
2021	1	($40,000)	$274,943	$306,611	$318,012
2022	2	($40,749)	$274,943	$320,713	$340,537
2023	3	($90,177)	$249,887	$291,874	$317,370
2024	4	($13,659)	$174,286	$347,284	$375,948
2025	5	($28,532)	$175,216	$395,443	$425,047
2026	6	($46,371)	$161,064	$433,235	$461,845
2027	7	($47,240)	$128,594	$477,727	$503,737
2028	8	($18,448)	$94,754	$559,126	$581,285
2029	9	($253,354)	$89,631	$410,332	$427,778
2030	10	($33,077)	($151,723)	$489,903	$502,193
2031	11	($302,381)	($172,800)	$304,339	$311,491
2032	12	($54,764)	($463,181)	$374,340	$376,869
2033	13	($285,152)	($505,945)	$218,562	$217,522
2034	14	$0	($779,097)	$356,892	$353,925
2035	15	($300,431)	($767,097)	$199,375	$196,756
2036	16	($176,325)	($1,219,853)	$172,479	$173,171
2037	17	($317,463)	($1,525,316)	$8,940	$16,646
2038	18	($24,793)	($1,538,109)	$147,024	$166,251
2039	19	($269,444)	($1,795,553)	$45,874	$81,995
2040	20	($44,452)	($1,828,006)	$178,589	$237,913