## **RESERVE STUDY | ANNUAL REPORT**



# CANTERWOOD DIVISION 12 STEP SYSTEM ASSOCIATION LEVEL I RESERVE STUDY | FULL WITH SITE VISIT

Gig Harbor, WA 98332 Report #308124322 FINANCIAL YEAR 01.2014—12.2014



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05.15.14



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## REPORT SUMMARY

#### Guide to the Report

The Board of Directors is responsible for maintaining common areas of the physical property. They also have a duty to exercise careful planning for the funding of future major repairs and replacement of the Association 's common elements or components. This report is intended to assist the Board in making necessary decisions regarding the development of their current and future reserve fund and contributions. This report is intended to be used for budgeting and planning purposes, and provides guidelines and estimates for anticipated repair or replacement events.

This reserve study has been completed by a designated Reserve Specialist® and adheres to the Community Association Institute 's (CAI) standards regarding service levels and disclosures. The American Institute of Certified Public Accountants (AICPA) guidelines for Common Interest Realty Associations are also considered in the preparation of this report. Recommendations and accompanying assumptions included herein are based on information provided to the Reserve Study Group and assembled for the Association 's use.

The report has been designed for ease of use and is divided into the following sections:

#### Report Summary

Provides an overview of the Association 's current physical condition and financial situation, outlining significant findings and conclusions. This section of the report should be used as a quick reference in helping the reader to understand the parameters and results of the study.

#### Methodology

Details the framework, methods, and materials used in developing the reserve study and the associated funding plan. This section provides a comprehensive understanding of the methodology and the process taken to develop the report.

#### Financial Analysis

Examines report findings and results with projections for individual reserve component expenses and recommended funding.

#### Physical Analysis

Individually reviews each of the reserve components, highlighting recommended preventative maintenance requirements and areas of concern. Includes a maintenance plan which provides an organized, systematic and cost-effective approach to maintaining the value and maximizing the service life of the Association 's capital assets.

## **PROJECT OVERVIEW**

## **Association Name**

Canterwood Division 12 STEP System Association

### Location

Gig Harbor, WA 98332

### **Year Constructed**

2005

## **Project Description**

STEP System

## **Type of Study**

Level I—FULL Reserve Study

## **Funding Strategy Recommended**

**Full Funding** 

### **Number of Units**

71

## **Date Prepared**

05.15.14

## **Next Study**

May 2015





### **Project Summary**

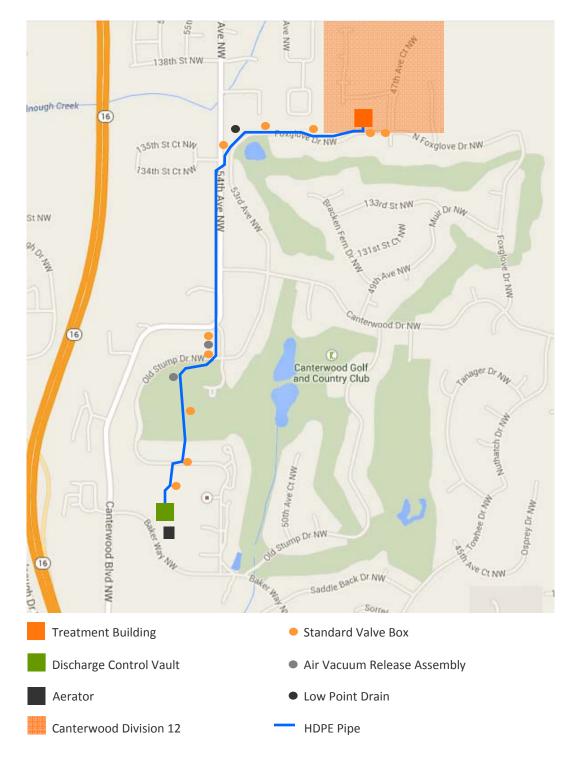
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Report Period (Fiscal Year)	2014 (January 1, 2014—December 31, 2014)
Inflation Rate <sup>1</sup>	3.00%
Interest Rate	1.00%
Projected Starting Reserve Fund Balance <sup>2</sup>	\$0
Fully Funded Balance (Ideal Amount)	\$41,749
Percent Funded	0%
Special Assessment	N/A

<sup>&</sup>lt;sup>1</sup> Inflation rate is based upon the average annual increase of the Consumer Price Index (CPI) over the last 30-years, as published by the US Bureau of Labor Statistics (www.labor.gov).

<sup>&</sup>lt;sup>2</sup> Information in relation to the association's finances were supplied by the association's representative and is not audited.



## **ASSOCIATION MAP**

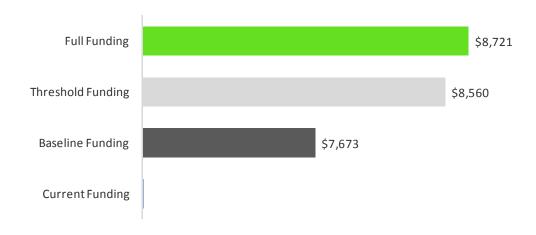




## FINANCIAL OVERVIEW

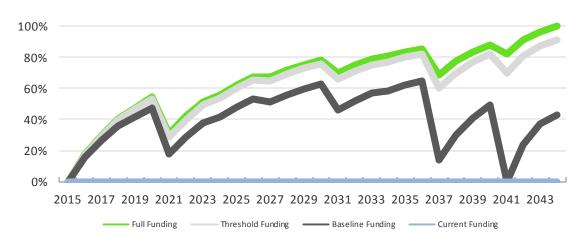
## **Reserve Funding Options**

The graph below shows the comparison between the current level of reserve contributions as measured against Baseline, Threshold¹ and Full Funding contribution amounts.



### Percent Funded

The graph below highlights the movement of the association's reserve fund status (measured as Percent Funded) in relation to the reserve contribution rate chosen (Full, Threshold¹ or Baseline).



<sup>&</sup>lt;sup>1</sup> The Threshold funding plan outlined in this report sets a goal of reaching and maintaining a 60% funded level.



## **FIVE YEAR INVESTMENT SUMMARY**

Full Funding	2015	2016	2017	2018	2019
Fully Funded Balance	\$41,749	\$49,683	\$57,524	\$66,338	\$74,138
Percentage Funded (%)	0%	18%	30%	40%	48%
Beginning Balance	\$0	\$8,765	\$17,362	\$26,834	\$35,225
Reserve Contribution	\$8,721	\$8,983	\$9,252	\$9,530	\$9,816
Special Assessment	\$0	\$0	\$0	\$0	\$0
Interest Earned	\$44	\$130	\$220	\$309	\$401
Reserve Expenditures	\$0	\$515	\$0	\$1,448	\$0
ENDING BALANCE	\$8,765	\$17,362	\$26,834	\$35,225	\$45,442
Threshold Funding	2015	2016	2017	2018	2019
Fully Funded Balance	\$41,749	\$49,683	\$57,524	\$66,338	\$74,138
Percentage Funded (%)	0%	17%	30%	40%	47%
Beginning Balance	\$0	\$8,603	\$17,032	\$26,329	\$34,538
Reserve Contribution	\$8,560	\$8,817	\$9,081	\$9,354	\$9,634
Special Assessment	\$0	\$0	\$0	\$0	\$0
Interest Earned	\$43	\$128	\$216	\$303	\$394
Reserve Expenditures	\$0	\$515	\$0	\$1,448	\$0
ENDING BALANCE	\$8,603	\$17,032	\$26,329	\$34,538	\$44,566
Baseline Funding	2015	2016	2017	2018	2019
Fully Funded Balance	\$41,749	\$49,683	\$57,524	\$66,338	\$74,138
Percentage Funded (%)	0%	16%	26%	35%	41%
Beginning Balance	\$0	\$7,711	\$15,214	\$23,547	\$30,754
Reserve Contribution	\$7,673	\$7,903	\$8,140	\$8,385	\$8,636
Special Assessment	\$0	\$0	\$0	\$0	\$0
Interest Earned	\$38	\$114	\$193	\$270	\$351
Reserve Expenditures	\$0	\$515	\$0	\$1,448	\$0
ENDING BALANCE	\$7,711	\$15,214	\$23,547	\$30,754	\$39,741
Current Funding	2015	2016	2017	2018	2019
Fully Funded Balance	\$41,749	\$49,683	\$57,524	\$66,338	\$74,138
Percentage Funded (%)	0%	0%	0%	. 0%	0%
Beginning Balance	\$0	\$0	-\$515	-\$515	-\$1,963
Reserve Contribution	\$0	\$0	\$0	\$0	\$0
Special Assessment	\$0	\$0	\$0	\$0	\$0
Interest Earned	\$0	\$0	\$0	\$0	\$0
Reserve Expenditures	\$0	\$515	\$0	\$1,448	\$0
ENDING BALANCE	\$0	-\$515	-\$515	-\$1,963	-\$1,963



## METHODOLOGY

An important aspect of living in a common area development such as a cooperative, condominium, or homeowner association is the community 's ownership and commitment to maintain its common areas. Association members have a vested interest in maintaining and preserving their investment. To meet these obligations, the Association should prudently prepare for the future and contribute funds into a reserve account. Periodic contributions, verses 'special assessments', provide the freedom to gradually accumulate for anticipated expenditures while limiting the need to raise large sums of money through alternative means.

When implementing a policy to fund major repair or replacement, the Board must educate owners about the benefits of accumulating reserve funds in advance through periodic contributions. Benefits of a systematic accumulation of funds include the following:

- having assurance that funds for major repairs and replacements will be available when
- development of an equitable method of charging current rather than future owners with the cost of the current use of assets:
- preservation of the market value of individual units; and
- compliance with the governing documents, statutes, mortgages, and the like.

A reserve study recommends the preferable mode of funding through smaller monthly contributions rather than risking large, unanticipated special assessments. The purpose of a reserve study is to avoid these situations by providing an Association with access to information and materials that will assist them in making informed decisions about their reserve fund and contributions.

A reserve study is the sum of two parts: the physical and financial analysis. The physical analysis is a result of the on-site collection and review of data specific to the property 's reserve components, common areas, and limited common areas. Through an onsite inspection and the use of source materials, the Reserve Specialist quantifies and establishes the reserve component inventory and assesses the physical condition of the Association's reserve components. Data from the physical analysis is used to define the scope and timing of future anticipated expenses.

The financial analysis evaluates the condition of the Association 's reserve fund in relation to its income and anticipated expenses. It appraises the adequacy of the reserve fund, and associated member contributions, against the current and future expenditures of the Association. To adequately forecast these expenditures over the 30-year projection period, current costs, projected inflation, and interest rates must be established. Recommendations are then provided to establish a reserve fund that addresses anticipated expenses, without having to resort to special assessments.



Due to the long-term nature of a reserve study, certain assumptions must be made. Every effort has been made to ensure that the recommendations are based upon reliable and experienced sources in the building industry. However, there can be no guarantee that events will occur at the predicted specific intervals, or that they will occur at all. Any reserve study must be viewed in the light of circumstances existing at the actual time of the study.

#### PHYSICAL ANALYSIS

As part of this reserve study a comprehensive list of reserve components (major common and limited common elements) has been compiled. Estimates for the useful life, remaining life, plus current repair and replacement costs for each of these reserve components have been calculated. This list is not intended to be exhaustive. However, an inaccurate or incomplete list of components can have an adverse impact upon the Association 's long-term funding plan.

#### Site Inspection

A site inspection is conducted to assess the general condition of the property and its common areas. The on-site inspection is visual in nature, and no destructive or invasive testing is conducted. Observations are recorded using a representative sampling of the Association 's common areas and reserve components. The component inventory and associated field measurements are also substantiated as part of the inspection.

#### Reserve Components

Determination of what constitutes a reserve component is dependent on a number of factors. A four-part test is generally used to distinguish a reserve item from an operational or maintenance expense. A component is included as a reserve item only if it satisfies ALL criteria outlined below:

- It is part of the Association's common and limited common area responsibilities.
- It has a predictable useful service life.
- Its useful life fits within the projection period. This means that components with a life of 30 years or more may not be included as part of the report if it is determined that they will last beyond the projection period.
- Its cost for repair or replacement is too high to include as part of the operating budget.

The components of common property that an Association includes in its reserve funding plan are also dependent on the type of project, the construction properties and the Association's applicable governing documents and state statutes.

### Component Useful Life

The useful life of a reserve component relates to the number of years it is expected to last, given reasonable care and maintenance. The prediction of reserve and building component life can be no more than an informed estimate based upon information made available at the time of the



report 's development. Consideration is given to vendor recommendations, material warranty information provided at the time of the report's development, along with other published sources. The data and service life estimates in this report are based on information gathered from various groups and industry sources as outlined below:

- Historical data and feedback from the Association;
- Management groups and maintenance managers;
- Manufacturer recommendations and industry standards;
- Published sources of service life data;
- Manufacturers and suppliers data.

### Component Remaining Useful Life

The remaining life of a reserve component refers to the number of years left before an item's expected repair or replacement. A component 's remaining life is contingent upon the following factors:

- Age/years in service;
- Physical condition;
- Frequency and quality of inspections and maintenance;
- General use;
- Environment, impact of weather and building location;
- Installation methods that meets or exceed industry standards;
- Design and quality of materials used.

In addition to deterioration or anticipated failure of a component, the longevity may be impacted by obsolescence. The accuracy of the estimate is contingent upon reliable information made available at the time of the report 's development. It is important to note that even with the highest degree of diligence and experience, outcomes will vary, and no guarantee can be given as to the timing or service life of the reserve components. All service life assessments in this report are based on the assumption that installation is carried out in accordance with manufacturer's recommendations and installation instructions, together with industry standards of workmanship. Consideration is given to visible design and signs of improper installation of components, that will have an impact upon the anticipated service life of the component.

#### FINANCIAL ANALYSIS

An Association, like any business entity, must prepare financially for the replacement and repair of its assets. Reserve study funding analysis is an important part of the annual budget process. Reserve funding should be reviewed at least once annually to help determine the annual assessment to be charged to members. The following elements are used in the financial analysis.



## Recommended Funding Rate

We advocate a program of regular reserve fund contributions and promote a gradual means of reserving for future repair and replacement expenses. Recommended contributions are set at a level where they require only minor annual increases. The rate is designed to distribute the anticipated cost of common property ownership equitably between all members over the entire projection period.

#### Fully Funded Balance

The Fully Funded balance is equal to the total depreciable cost of all the Association 's reserve components. It is determined by dividing each reserve component's cost by its useful life, and multiplying that by the number of years the component has been in service (effectively its age ). The recommendations in this report are based upon a Full Funding plan, which sets the goal of achieving one hundred percent fully funded reserves by the end of the 30-year projection period. We advocate full funding as we feel that this approach provides a solid platform to address future needs, thus dramatically reducing the need for special assessment.

#### Percent Funded

An Association 's reserve fund status is assessed by comparing the ratio of actual or projected funds available verses how much they 's hould have saved'. The result is presented as a percentage and is commonly known as "percent funded". In other words, percent funded is calculated by dividing the Association 's current reserve fund balance by the fully funded balance. This equation is an industry measure of how well prepared an Association is to meet its current and future repair and replacement obligations. Percent funded highlights the strength of the association 's reserve account in relation to the anticipated costs of repair and replacement.

### Reserve Component Cost

Current cost estimates for reserve components are derived from a variety of sources but typically are based on the latest local vendor pricing acquired from regional contractors and suppliers. When needed, additional information and cost data is sourced from national construction estimators. All cost estimates formulated from national estimators are based upon the latest specific geographical information for the area. Future cost estimates are determined by applying the assumed annual inflation rate to the current cost of each component.

#### Inflation Rate

The effect of inflation on the cost of reserve components is a key factor in the financial projections. Historically, the cost of construction materials and labor rise at a higher rate than that experienced by the general economy. RSG has chosen to use an inflationary multiplier that is somewhat higher than the current general consumer index for inflation. The rate used is based upon the historical average of inflation over the last 30 years. This rate reflects a realistic appreciation of future costs for reserve components and assists the Association in adequately budgeting for increasing cost.



#### Interest Rate

The interest rate used in this report is formulated on a conservative rate of return. Unless otherwise advised by the Association, an assumed net interest rate of 1.00% is used. RSG offers no guarantee or opinion in relation to investment decisions made by the Association or the rate of return achieved.

#### Current Reserve Fund Balance

The analysis, recommendations, and financial projections made within this report are heavily reliant on information provided by the Association and its representatives. The starting reserve fund balance (current or projected) and member contribution totals are supplied by these sources. This information has not been audited nor have the financial projections or recommendations.



## FINANCIAL ANALYSIS

This section of the report is intended to provide the association with the awareness to adequately plan for the ongoing major maintenance, repair and replacement of their common property components. The recommendations included within this report represent one scenario, and are not intended to represent the only means of achieving the association 's goals. We recommend that the Board of Directors use the following information as a guide in planning for their future objectives.

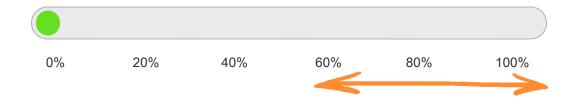
#### PERCENT FUNDED

The Percent Funded equation is the industry measure of how well prepared an association is to meet its current and future repair and replacement obligations. Percent funded highlights the strength of the association's reserve account in relation to its anticipated costs of repair and replacement. The higher the funded level, the less exposed an association is to market conditions, unanticipated expenses or events, and fluctuations in the general economy. An Association at or below a funding level of 30% has an increased risk of requiring special assessments to meet their ongoing obligations, as compared to Associations with higher funding levels.

A level of funding at and above 60% is categorized as good or well funded. We recommend that associations look to achieve and maintain funding levels at and above 60%, with a preference to being 100% funded.

#### **CURRENT PERCENT FUNDED STATUS**

The Association is currently 0% funded. Highlighted below, the current funding level is shown in relation to the recommended level of 60-100%.



#### **FUNDING GOALS**

There is a range of funding alternatives available to the association. In our opinion the strategy chosen should not only meet the immediate needs and risk tolerance of current members, but also the longer term needs of the association.



The association needs to establish a reserve contribution rate which, at a minimum, meets their anticipated financial needs without having to resort to special assessment or deferred maintenance. In addition, the funding goal needs to be prudent enough to meet the expectations of current members while not unfairly burdening future owners.

The minimum funding goal needed to meet planned expenditure is Baseline Funding. Baseline Funding maintains the reserve account at or above zero dollars, but leaves the association with no contingency to address unanticipated outcomes. Threshold funding is a strategy designed to provide for this contingency by keeping cash reserves above a specific dollar amount or percent funded level.

The reserve fund plan highlighted in this report is based upon the Full Funding program of reserve contributions. The Full Funding plan highlights an ideal level of contributions which will enable an association to be 100% funded by the end of the projection period. As stated previously, we recommend that the association implement a program that moves them toward and maintains a funding level of 60-100%.

Funding Alternatives	Annual Contribution	Monthly Contribution	Per Unit Per Month
Full Funding	\$8,721	\$727	\$10.24
Threshold Funding <sup>1</sup>	\$8,560	\$713	\$10.05
Baseline Funding	\$7,673	\$639	\$9.01
Current Funding	\$0	\$0	\$0.00

<sup>&</sup>lt;sup>1</sup> The Threshold funding plan outlined in this report sets a goal of reaching and maintaining a 60% funded level.

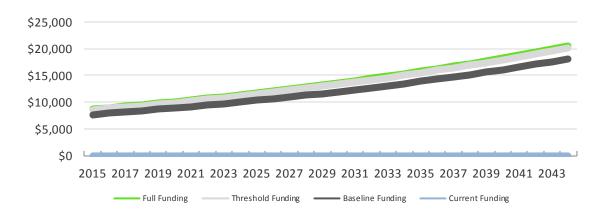
FULL FUNDING	Establishes a goal of achieving one hundred percent fully funded reserves by the end of the projection period.
THRESHOLD FUNDING	Sets out to keep the cash reserves above a specified dollar or percent funded amount for the duration of the projection period.
BASELINE FUNDING	Establishes a goal of maintaining a reserve account balance above zero dollars throughout the study period.
STATUTORY FUNDING	Sets aside a minimum amount of reserves as required by local statutes.



## RESERVE FUND ACCOUNT

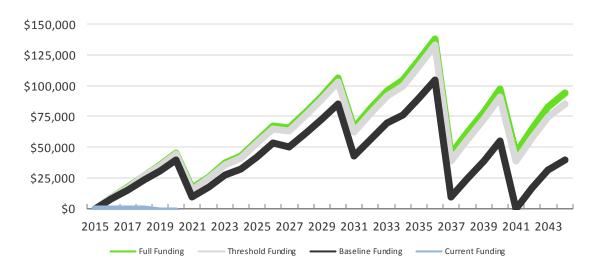
### **Projected Reserve Contributions**

Typically recommended contributions are set at a level where they will likely require minor annual increases in line with inflation.



## Projected Reserve Account Balance

The growth of the Association's reserve account is largely dependent upon the level of reserve funds contributed (see figure above) and the funding objective chosen (Full, Threshold and Baseline).



Projected amounts based upon a starting balance of \$0 and annual contribution increases of 3.00%.

## **RESERVE COMPONENT LIST**

Component	Useful Service Life	Remaining Useful Life	Quantity	Unit of Measure	Unit Cost	Current Cost	Current Fully Funded Balance
HDPE Pipe - On-Site [10% Repair] <sup>1</sup>	10	5	375	LF	\$13.00	\$4,875	\$2,438
HDPE Pipe - Off-Site [10% Repair]	10	5	745	LF	\$21.75	\$16,204	\$8,102
HDPE Pipe - Site Restoration, Residences <sup>2</sup>	10	5	345	LF	\$5.00	\$1,725	\$863
HDPE Pipe - Trench Excavation & Backfill <sup>3</sup>	10	5	745	LF	\$15.00	\$11,175	\$5,588
Residential Lots - Check Valves	30	21	71	Each	\$150.00	\$10,650	\$3,195
Treatment Building - [8'x8'] Replace	20	11	1	Lump Sum	\$10,000.00	\$10,000	\$4,500
Treatment Building - Pump	12	3	1	Each	\$1,000.00	\$1,000	\$750
Treatment Building - Heater	10	3	1	Each	\$325.00	\$325	\$228
Treatment Building - Exhaust Fan	15	6	1	Each	\$245.00	\$245	\$147
Treatment Building - Controller	15	6	1	Each	\$650.00	\$650	\$390
Treatment Building - Sump Grate	10	1	1	Each	\$500.00	\$500	\$450
Water Flow Meter	10	8	1	Lump Sum	\$4,250.00	\$4,250	\$850
Discharge Control Vault	30	21	1	Each	\$3,000.00	\$3,000	\$900
Septic Aerator	30	21	1	Each	\$2,500.00	\$2,500	\$750
Air Vacuum Release Assembly	30	21	2	Each	\$4,500.00	\$9,000	\$2,700
Low Point Drain	30	21	1	Each	\$3,000.00	\$3,000	\$900
Standard Valve Box	30	21	10	Each	\$3,000.00	\$30,000	\$9,000
					TOTALS	\$109,099	\$41,749

<sup>&</sup>lt;sup>†</sup> Homeowner responsible for the operation and maintenance of the STEP system components located on their lot to the outlet valve located near the property line. This includes, but is not limited to, septic tanks, pumps, piping, valving and associated electrical equipment.

<sup>&</sup>lt;sup>1</sup> Quantities are for ongoing repair to existing pipe line, as complete replacement not anticipated within projection period. Life estimates for HDPE [High-density polyethlene] pipes are in excess of 50 years and beyond the scope of the reserve

<sup>&</sup>lt;sup>2</sup> Allowance to address repair work to transmission pipe located beneath paved roads and private drives.

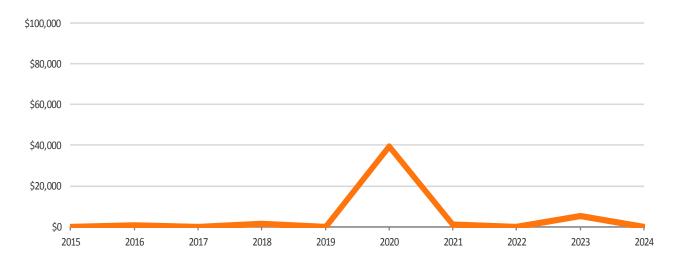
<sup>&</sup>lt;sup>3</sup> Allowance to address repair work to pipe buried on the shoulder of roads and through open spaces, located off-site.



## PROJECTED RESERVE EXPENSES (Years 1 - 10)

Component	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
HDPE Pipe - On-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$5,651	\$0	\$0	\$0	\$0
HDPE Pipe - Off-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$18,785	\$0	\$0	\$0	\$0
HDPE Pipe - Site Restoration, Residences	\$0	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0	\$0	\$0
HDPE Pipe - Trench Excavation & Backfill	\$0	\$0	\$0	\$0	\$0	\$12,955	\$0	\$0	\$0	\$0
Residential Lots - Check Valves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - [8'x8'] Replace	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Pump	\$0	\$0	\$0	\$1,093	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Heater	\$0	\$0	\$0	\$355	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Exhaust Fan	\$0	\$0	\$0	\$0	\$0	\$0	\$293	\$0	\$0	\$0
Treatment Building - Controller	\$0	\$0	\$0	\$0	\$0	\$0	\$776	\$0	\$0	\$0
Treatment Building - Sump Grate	\$0	\$515	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Flow Meter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,384	\$0
Discharge Control Vault	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Septic Aerator	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Point Drain	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Standard Valve Box	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Annual Expenditure	\$0	\$515	\$0	\$1,448	\$0	\$39,391	\$1,069	\$0	\$5,384	\$0

YEARS 1 THROUGH 10

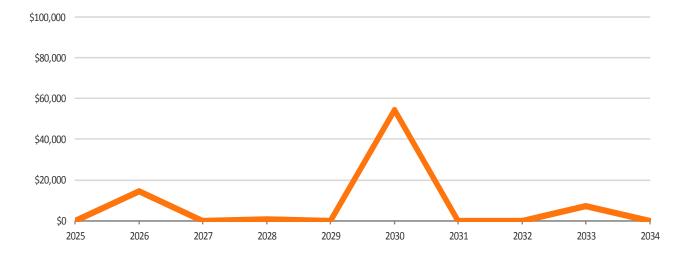




## PROJECTED RESERVE EXPENSES (Years 11 - 20)

Component	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
HDPE Pipe - On-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$7,595	\$0	\$0	\$0	\$0
HDPE Pipe - Off-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$25,245	\$0	\$0	\$0	\$0
HDPE Pipe - Site Restoration, Residences	\$0	\$0	\$0	\$0	\$0	\$2,687	\$0	\$0	\$0	\$0
HDPE Pipe - Trench Excavation & Backfill	\$0	\$0	\$0	\$0	\$0	\$17,410	\$0	\$0	\$0	\$0
Residential Lots - Check Valves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - [8'x8'] Replace	\$0	\$13,842	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Pump	\$0	\$0	\$0	\$0	\$0	\$1,558	\$0	\$0	\$0	\$0
Treatment Building - Heater	\$0	\$0	\$0	\$477	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Exhaust Fan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Controller	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Sump Grate	\$0	\$692	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Flow Meter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,235	\$0
Discharge Control Vault	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Septic Aerator	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Point Drain	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Standard Valve Box	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Annual Expenditure	\$0	\$14,534	\$0	\$477	\$0	\$54,496	\$0	\$0	\$7,235	\$0

YEARS 11 THROUGH 20

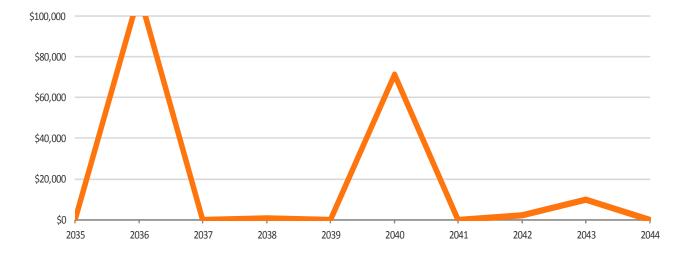




## PROJECTED RESERVE EXPENSES (Years 21 - 30)

Component	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
HDPE Pipe - On-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$10,207	\$0	\$0	\$0	\$0
HDPE Pipe - Off-Site [10% Repair]	\$0	\$0	\$0	\$0	\$0	\$33,927	\$0	\$0	\$0	\$0
HDPE Pipe - Site Restoration, Residences	\$0	\$0	\$0	\$0	\$0	\$3,612	\$0	\$0	\$0	\$0
HDPE Pipe - Trench Excavation & Backfill	\$0	\$0	\$0	\$0	\$0	\$23,398	\$0	\$0	\$0	\$0
Residential Lots - Check Valves	\$0	\$19,812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - [8'x8'] Replace	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Pump	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,221	\$0	\$0
Treatment Building - Heater	\$0	\$0	\$0	\$641	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Exhaust Fan	\$0	\$456	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Controller	\$0	\$1,209	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Treatment Building - Sump Grate	\$0	\$930	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Flow Meter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,724	\$0
Discharge Control Vault	\$0	\$5,581	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Septic Aerator	\$0	\$4,651	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Air Vacuum Release Assembly	\$0	\$16,743	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Point Drain	\$0	\$5,581	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Standard Valve Box	\$0	\$55,809	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Annual Expenditure	\$0	\$110,771	\$0	\$641	\$0	\$71,144	\$0	\$2,221	\$9,724	\$0

YEARS 21 THROUGH 30

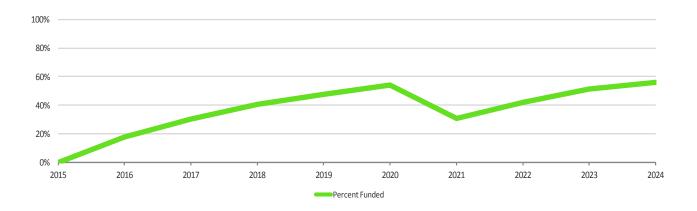


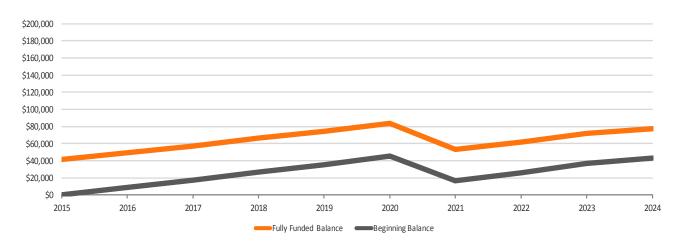


## **RESERVE FUNDING PLAN (Years 1 - 10)**

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fully Funded Balance	\$41,749	\$49,683	\$57,524	\$66,338	\$74,138	\$83,882	\$53,572	\$62,056	\$72,135	\$77,217
Percentage Funded (%)	0%	18%	30%	40%	48%	54%	31%	42%	51%	56%
Beginning Balance	\$0	\$8,765	\$17,362	\$26,834	\$35,225	\$45,442	\$16,469	\$26,025	\$37,065	\$43,127
Reserve Contribution	\$8,721	\$8,983	\$9,252	\$9,530	\$9,816	\$10,110	\$10,413	\$10,726	\$11,048	\$11,379
Avg Unit Contribution (mth) <sup>1</sup>	\$10.24	\$10.54	\$10.86	\$11.19	\$11.52	\$11.87	\$12.22	\$12.59	\$12.97	\$13.36
Contribution Increase (%)		3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Special Assessment										
Interest Earned	\$44	\$130	\$220	\$309	\$401	\$308	\$211	\$314	\$399	\$488
Reserve Expenditures	\$0	\$515	\$0	\$1,448	\$0	\$39,391	\$1,069	\$0	\$5,384	\$0
ENDING BALANCE	\$8,765	\$17,362	\$26,834	\$35,225	\$45,442	\$16,469	\$26,025	\$37,065	\$43,127	\$54,994

YEARS 1 THROUGH 10





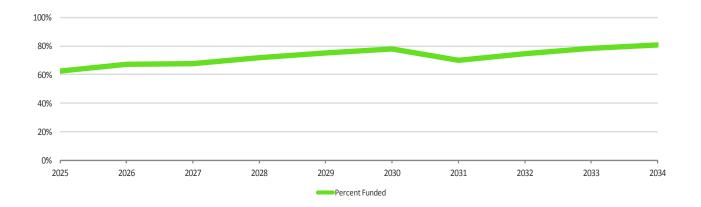
<sup>&</sup>lt;sup>1</sup> The per unit calculation is an average and does not take into consideration percentage ownership.

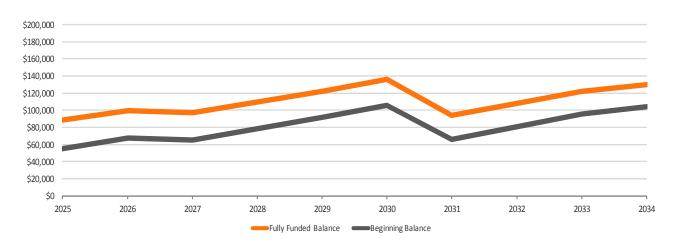


## **RESERVE FUNDING PLAN (Years 11 - 20)**

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Fully Funded Balance	\$88,251	\$99,878	\$97,152	\$109,593	\$122,201	\$135,973	\$94,331	\$107,882	\$122,162	\$129,749
Percentage Funded (%)	62%	67%	67%	72%	75%	78%	70%	75%	79%	81%
Beginning Balance	\$54,994	\$67,323	\$65,522	\$78,673	\$91,851	\$106,027	\$65,974	\$80,698	\$95,992	\$104,602
Reserve Contribution	\$11,720	\$12,072	\$12,434	\$12,807	\$13,191	\$13,587	\$13,995	\$14,414	\$14,847	\$15,292
Avg Unit Contribution (mth) <sup>1</sup>	\$13.76	\$14.17	\$14.59	\$15.03	\$15.48	\$15.95	\$16.43	\$16.92	\$17.43	\$17.95
Contribution Increase (%)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Special Assessment										
Interest Earned	\$609	\$661	\$717	\$848	\$984	\$856	\$730	\$879	\$998	\$1,122
Reserve Expenditures	\$0	\$14,534	\$0	\$477	\$0	\$54,496	\$0	\$0	\$7,235	\$0
ENDING BALANCE	\$67,323	\$65,522	\$78,673	\$91,851	\$106,027	\$65,974	\$80,698	\$95,992	\$104,602	\$121,016

YEARS 11 THROUGH 20





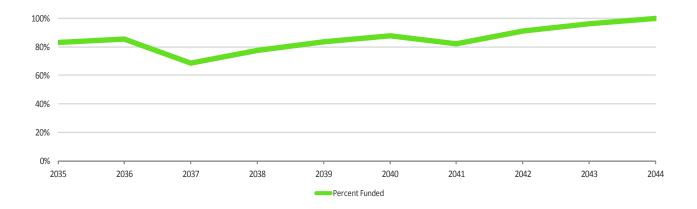
<sup>&</sup>lt;sup>1</sup> The per unit calculation is an average and does not take into consideration percentage ownership.

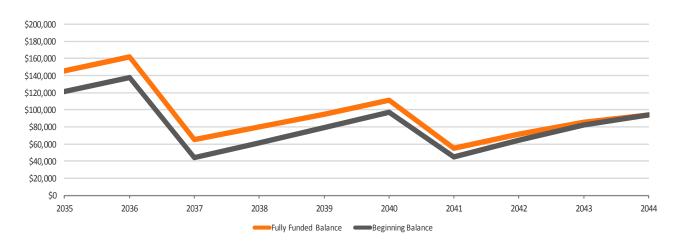


## **RESERVE FUNDING PLAN (Years 21 - 30)**

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
Fully Funded Balance	\$145,357	\$161,785	\$64,973	\$79,724	\$94,642	\$111,063	\$55,105	\$71,167	\$85,856	\$93,702
Percentage Funded (%)	83%	85%	68%	77%	83%	88%	82%	91%	96%	100%
Beginning Balance	\$121,016	\$138,056	\$44,417	\$61,655	\$78,924	\$97,530	\$45,357	\$64,712	\$82,596	\$93,702
Reserve Contribution	\$15,751	\$16,224	\$16,710	\$17,212	\$17,728	\$18,260	\$18,808	\$19,372	\$19,953	\$20,552
Avg Unit Contribution (mth)1	\$18.49	\$19.04	\$19.61	\$20.20	\$20.81	\$21.43	\$22.07	\$22.74	\$23.42	\$24.12
Contribution Increase (%)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Special Assessment										
Interest Earned	\$1,289	\$908	\$528	\$699	\$878	\$711	\$548	\$733	\$877	\$1,040
Reserve Expenditures	\$0	\$110,771	\$0	\$641	\$0	\$71,144	\$0	\$2,221	\$9,724	\$0
ENDING BALANCE	\$138,056	\$44,417	\$61,655	\$78,924	\$97,530	\$45,357	\$64,712	\$82,596	\$93,702	\$115,293

YEARS 21 THROUGH 30





<sup>&</sup>lt;sup>1</sup> The per unit calculation is an average and does not take into consideration percentage ownership.



## THIRTY YEAR RESERVE FUND SUMMARY

Year	Fully Funded Balance	Percentage Funded	Beginning Balance	Reserve Contribution	Special Assessment	Interest Earned	Reserve Expenditures	Ending Balance
2015	\$41,749	0%	\$0	\$8,721	\$0	\$44	\$0	\$8,765
2016	\$49,683	18%	\$8,765	\$8,983	\$0	\$130	\$515	\$17,362
2017	\$57,524	30%	\$17,362	\$9,252	\$0	\$220	\$0	\$26,834
2018	\$66,338	40%	\$26,834	\$9,530	\$0	\$309	\$1,448	\$35,225
2019	\$74,138	48%	\$35,225	\$9,816	\$0	\$401	\$0	\$45,442
2020	\$83,882	54%	\$45,442	\$10,110	\$0	\$308	\$39,391	\$16,469
2021	\$53,572	31%	\$16,469	\$10,413	\$0	\$211	\$1,069	\$26,025
2022	\$62,056	42%	\$26,025	\$10,726	\$0	\$314	\$0	\$37,065
2023	\$72,135	51%	\$37,065	\$11,048	\$0	\$399	\$5,384	\$43,127
2024	\$77,217	56%	\$43,127	\$11,379	\$0	\$488	\$0	\$54,994
2025	\$88,251	62%	\$54,994	\$11,720	\$0	\$609	\$0	\$67,323
2026	\$99,878	67%	\$67,323	\$12,072	\$0	\$661	\$14,534	\$65,522
2027	\$97,152	67%	\$65,522	\$12,434	\$0	\$717	\$0	\$78,673
2028	\$109,593	72%	\$78,673	\$12,807	\$0	\$848	\$477	\$91,851
2029	\$122,201	75%	\$91,851	\$13,191	\$0	\$984	\$0	\$106,027
2030	\$135,973	78%	\$106,027	\$13,587	\$0	\$856	\$54,496	\$65,974
2031	\$94,331	70%	\$65,974	\$13,995	\$0	\$730	\$0	\$80,698
2032	\$107,882	75%	\$80,698	\$14,414	\$0	\$879	\$0	\$95,992
2033	\$122,162	79%	\$95,992	\$14,847	\$0	\$998	\$7,235	\$104,602
2034	\$129,749	81%	\$104,602	\$15,292	\$0	\$1,122	\$0	\$121,016
2035	\$145,357	83%	\$121,016	\$15,751	\$0	\$1,289	\$0	\$138,056
2036	\$161,785	85%	\$138,056	\$16,224	\$0	\$908	\$110,771	\$44,417
2037	\$64,973	68%	\$44,417	\$16,710	\$0	\$528	\$0	\$61,655
2038	\$79,724	77%	\$61,655	\$17,212	\$0	\$699	\$641	\$78,924
2039	\$94,642	83%	\$78,924	\$17,728	\$0	\$878	\$0	\$97,530
2040	\$111,063	88%	\$97,530	\$18,260	\$0	\$711	\$71,144	\$45,357
2041	\$55,105	82%	\$45,357	\$18,808	\$0	\$548	\$0	\$64,712
2042	\$71,167	91%	\$64,712	\$19,372	\$0	\$733	\$2,221	\$82,596
2043	\$85,856	96%	\$82,596	\$19,953	\$0	\$877	\$9,724	\$93,702
2044	\$93,702	100%	\$93,702	\$20,552	\$0	\$1,040	\$0	\$115,293



## PHYSICAL ANALYSIS

This section of the report provides specific information regarding the physical condition of the property. The physical data that follows is a result of the visual (non-intrusive) site review, that includes discussion with on-site managers (or Board members) regarding known conditions of the components. Advance planning results in the mitigation of component deterioration, and provides a direct correlation between components and their remaining useful life.

#### Site Inspection

A site inspection is conducted to assess the general condition of the property and its reserve components. The on-site inspection is visual in nature, and no destructive or invasive testing is conducted. Observations are recorded using a representative sampling of the Association's common areas and reserve components. The component inventory and associated field measurements are also substantiated as part of the inspection.

### Component Inventory

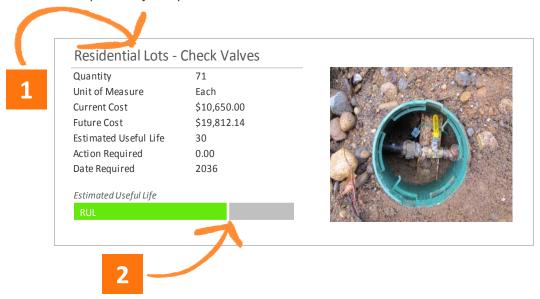
The component inventory summarizes associated costs of each reserve component, and additionally highlights preventative maintenance requirements and provides a graphic of the remaining useful life. The inventory provides a visual reference point for understanding the Association 's common area responsibilities. Preventative maintenance requirements (highlighted in orange) are coordinated for use in conjunction with items outlined in the preceding Maintenance Plan.

## COMPONENT INVENTORY

The following inventory summarizes the cost, timing and maintenance needs of the each of reserve components funded through the Association's reserves. The list of components is unique to the Association and may serve as a general guide in determining the current condition and level of care needed to adequately maintain each component.

## **Understanding the Component Inventory**

In addition to a photo, three key sections of information are provided for each reserve component. The information is intended to visually simplify and summarize the key points of information on a component by component basis.



- **Key Component Information** Key information including the quantity, unit of measure, current cost, future cost, estimated and useful life expectations, action and date required is tabulated for easy reference.
- Estimated Useful Life The bar chart graphically represents the remaining useful life (RUL) of the reserve component in green. The RUL visualizes the percentage of time remaining until the next repair or replacement event as measured against the component 's estimated useful life.



## HDPE Pipe - On-Site [10% Repair]

Quantity 375 Unit of Measure LF

**Current Cost** \$4,875.00 **Future Cost** \$5,651.46

Estimated Useful Life 10 Action Required 0.00 Date Required 2020

Estimated Useful Life

Photo Unavailable

## HDPE Pipe - Off-Site [10% Repair]

Quantity 745 LF Unit of Measure

\$16,203.75 **Current Cost Future Cost** \$18,784.59

Estimated Useful Life 10 Action Required 0.00 Date Required 2020

Estimated Useful Life

Photo Unavailable

## HDPE Pipe - Site Restoration, Residences

345 Quantity Unit of Measure LF

**Current Cost** \$1,725.00 Future Cost \$1,999.75 Estimated Useful Life 10

Action Required 0.00 Date Required 2020





## HDPE Pipe - Trench Excavation & Backfill

745 Quantity Unit of Measure LF

**Current Cost** \$11,175.00 **Future Cost** \$12,954.89

Estimated Useful Life 10 Action Required 0.00 Date Required 2020

Estimated Useful Life

Photo Unavailable

## Residential Lots - Check Valves

Quantity 71 Unit of Measure Each \$10,650.00 **Current Cost Future Cost** \$19,812.14 Estimated Useful Life 30

Action Required 0.00 Date Required 2036

Estimated Useful Life



## Treatment Building - [8'x8'] Replace

1 Quantity Unit of Measure Lump Sum **Current Cost** \$10,000.00 \$13,842.34 Future Cost

Estimated Useful Life 20 Action Required 0.00 Date Required 2026





## Treatment Building - Pump

Quantity Unit of Measure Each \$1,000.00 **Current Cost Future Cost** \$1,092.73 Estimated Useful Life 12 Action Required 0.00 2018 Date Required





## Treatment Building - Heater

Quantity 1 Unit of Measure Each **Current Cost** \$325.00 **Future Cost** \$355.14 Estimated Useful Life 10 Action Required 0.00 Date Required 2018

Estimated Useful Life



## Treatment Building - Exhaust Fan

Quantity 1 Unit of Measure Each **Current Cost** \$245.00 \$292.54 **Future Cost** Estimated Useful Life 15 Action Required 0.00 Date Required 2021





## Treatment Building - Controller

Quantity Unit of Measure Each \$650.00 **Current Cost Future Cost** \$776.13 Estimated Useful Life 15 Action Required 0.00 Date Required 2021





## Treatment Building - Sump Grate

Quantity 1 Unit of Measure Each **Current Cost** \$500.00 **Future Cost** \$515.00 Estimated Useful Life 10 Action Required 0.00 Date Required 2016

Estimated Useful Life

RUI



## Water Flow Meter

1 Quantity Unit of Measure Lump Sum **Current Cost** \$4,250.00 \$5,383.77 Future Cost Estimated Useful Life 10 Action Required 0.00 Date Required 2023

Estimated Useful Life

Photo Unavailable



## Discharge Control Vault

Quantity Unit of Measure Each \$3,000.00 **Current Cost Future Cost** \$5,580.88 Estimated Useful Life 30 Action Required 0.00 Date Required 2036

Estimated Useful Life



## **Septic Aerator**

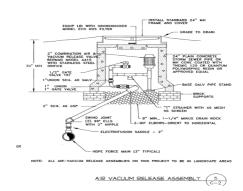
Quantity 1 Unit of Measure Each **Current Cost** \$2,500.00 **Future Cost** \$4,650.74 Estimated Useful Life 30 Action Required 0.00 Date Required 2036

Estimated Useful Life



## Air Vacuum Release Assembly

2 Quantity Unit of Measure Each **Current Cost** \$9,000.00 \$16,742.65 **Future Cost** Estimated Useful Life 30 Action Required 0.00 Date Required 2036

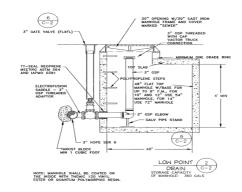




## Low Point Drain

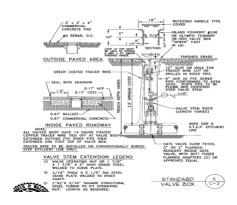
Quantity 1 Unit of Measure Each **Current Cost** \$3,000.00 **Future Cost** \$5,580.88 Estimated Useful Life 30 Action Required 0.00 2036 Date Required

Estimated Useful Life



## Standard Valve Box

Quantity 10 Unit of Measure Each **Current Cost** \$30,000.00 **Future Cost** \$55,808.84 Estimated Useful Life 30 Action Required 0.00 Date Required 2036





## **DISCLOSURES**

As a guideline for establishing and spending reserves, it is assumed that the reserve study will be regularly updated to address the Association's changing physical and financial circumstances. As such this report is valid at the date shown and Reserve Study Group, LLC (RSG) cannot be held responsible for subsequent changes in physical/chemical environmental conditions and/or legislation over which we have no control.

This reserve study is based on visual inspections of the physical plant 's major components. No invasive or destructive testing, or testing of materials was conducted during the inspections, or at any other time during the preparation of this report. It is assumed that all building and ancillary components have been designed and constructed properly and that life cycles will approximate normal industry performance standards. RSG shall not be responsible for accurate determination of remaining life expectancies of components that may have been improperly designed and constructed. Our opinions of the remaining life expectancy of the property 's components do not represent a guarantee or warranty of performance in relation to the product, materials or workmanship.

Cost estimates used represent a preliminary opinion only and are neither a quote nor a warranty of actual costs that may be incurred. These estimates are based on typical cost data that may not fully characterize the scope of the underlying property conditions. It should be anticipated that actual cost outcomes will be impacted by varying physical and economic conditions, maintenance practices, changes in technology, and future regulatory actions.

The authors of this report make no representation or warranty, expressed or implied, with respect to the contents of this publication or any part thereof and cannot accept any legal responsibility or liability for any inaccuracies, errors or omissions contained in this publication or any part thereof. Our best professional judgment has been used, however certain facts forming the basis of this report are subject to professional interpretation and differing conclusions could be reached.

RSG nor any of its representatives, agents or employees maintain management roles or vested interest in, or have other business relationships with the Association. There is no perceived or actual conflicts of interest between RSG and the Association.

This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair, or replacement of a reserve component.



## **GLOSSARY OF TERMS**

### Component

The individual line items in the Reserve Study which are included in the Physical Analysis. These elements form the building blocks for the Reserve Study.

#### Estimated Useful Life

The estimated time, in years, that a reserve component can be expected to serve its intended function if properly constructed in its present application or installation.

### Fully Funded

When the actual (or projected) Reserve balance is equal to the Fully Funded Balance.

### Fully Funded Balance (FFB)

The Reserve balance that is in direct proportion to the fraction of life "used up" of the current Repair or Replacement cost. This number is calculated for each component, then summed together for an Association total.

FFB = Current Cost x Effective Age / Useful Life

#### Percent Funded

The ratio, at a particular point of time, of the actual Reserve Balance to the Fully Funded Balance (FFB), expressed as a percentage.

#### Remaining Useful Life

The estimated time, in years, that a Reserve Component can be expected to continue to service its intended function. Projects anticipated to occur in the initial year have a "zero" Remaining Life.

#### Unit Cost Estimate

The cost of replacing, repairing, or restoring a Reserve Component to its original functional condition. The Current Replacement Cost would be the cost to replace, repair, or restore the component during the current year.

#### Unit of Measure

Various units of measure have been used as the quantify the amounts and costs in relation to each reserve component. Below are the key units used as part of this report.

SF = Square Foot SY = Square Yard

LF = Linear Foot SQUARE = 100 Square Feet (Roofing)



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