



5116 Heather Drive
Anacortes, WA 98221
360.588.9956

Funding Reserve Analysis *for*

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023

May 10, 2023



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5116 Heather Drive
Anacortes, WA 9822
360.588.9956

May 10, 2023

Mr. Rick Tanner
Birch Bay Village Community
8055 Cowichan Road
Blaine WA 98230

Dear Mr. Rick Tanner,

Introduction

First, we would like to thank you for utilizing our services. Our approach is to provide the members, the board and management with understandable information to make informed decisions needed to best manage your reserve fund and annual contributions. We strive to understand the association's needs and design a funding strategy for meeting those needs based on a realistic approach to finances available and real-world workings of most associations. We live and work in the local area and work hard to keep up to date with costs in your association's neighborhood.

Included within the following pages you will find:

Three funding models which detail how your association finances will look during the 30-year forecast window.

- Current Level of Contributions
- Baseline Funded
- Fully Funded (per the State of Washington RCW 64.34.380)

A list of the community components that the association is responsible for maintaining.

- Estimated current cost of replacement of each component.
- Timeline of estimated remaining life and estimated cost at replacement date per component.

Annual expenditure detail.

Expenses by item and by calendar year.

Average deficit or surplus from a Fully Funded Balance for the association and per member in dollar amount and percentage (based on equal percentage ownership for all units). This amount is calculated by subtracting the association's reserve account balance as of the date of the study (*Budget Year Beginning Date*) from the Fully Funded Balance. Also included is the same calculated amounts as projected at the end of the each study year (*Budget Year Ending Date*).

What is our Recommended Funding Goal? Maintaining the Reserve Fund at a level equal to the value of deterioration is called "Full Funding" (100% Funded). As each asset ages and becomes "used up", the Reserve Fund grows proportionally. This is simple, responsible, and our recommendation.

Evidence shows that associations in the:

- 0-50% range are considered in **Poor** condition and at a high risk of special assessments or deferred maintenance.
- 60-80% range are considered in **Good** condition and should strive to gradually increase reserves.
- 90-130% range are considered in **Excellent** condition and enjoy a low risk of special assessments or deferred maintenance.

The attached funding study is limited in scope to those expense items listed in the attached Expense Detail Report. Expense items which have an expected life of more than 30 Years are not included in this reserve study unless payment for these long-lived items overlaps the 30 Years reserve study envelope.

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023

Executive Summary

Name	Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Location	Blaine, WA
Contributing Members	1128
Year Built	1966
Fiscal Year Ends	2023
Depth of Study	Level 3a Study (<i>Without Site Visit</i>)
Date of Study	May 10, 2023
Last On-Site Inspection Date	April 26, 2022
Inflation Rate for Projections	8% Years 2023-2024/5% 2025>

Reserve Account Summary

Reported Current Annual Reserve Contribution	\$239,328 per year
Estimated Fiscal Year Starting Balance	\$1,700,343
Fiscal Year Beginning Balance If Fully Funded	\$3,291,187 (<i>ideal amount in reserves</i>)
Average Deficit/Surplus Per Member (<i>As of Budget Year Beginning Date</i>)	-\$1,410 Percent Funded 52%



5 - Year Summary - Current vs. Baseline vs. Fully Funded (*As of Budget Year Ending Date*)

	Current Funding Model <i>Contribution amount supplied by Client</i>		Baseline Funded Model <i>Reserve account above \$0 within study timeframe</i>		Fully Funded Model Recommended <i>Achieve 100% funded within the 30 year study timeframe</i>	
2023	\$1,862,736	49%	\$1,962,178	52%	\$1,978,517	53%
2024	\$488,898	20%	\$685,742	28%	\$729,926	30%
2025	\$516,787	21%	\$808,305	32%	\$893,286	36%
2026	\$777,955	28%	\$1,169,027	41%	\$1,309,347	46%
2027	\$1,052,593	33%	\$1,548,347	49%	\$1,760,290	55%
	<i>Contribution increases vary</i>		<i>Contribution set for minimum to maintain positive balance</i>		<i>Model goal is to achieve 100% funded by year 30</i>	

The percentage figures above represent the percentage each model is above or below fully funded for the noted time period

Project Description

Birch Bay Village is located along the northern shore of Birch Bay in Washington State. Originally developed in the mid 1960's, the community consists of 1132 lots covering approximately 694 acres. At this point most of the lots have private residences that have been site built, although there are two sections devoted to modular residential structures. The Community assets include a 250 boat marina & administration building, a 9-hole golf course & pro shop, tennis courts, a clubhouse, swimming pool & pool building, an extensive maintenance building & yard, two lakes and approximately 13 miles of asphalt paved streets.

This year's report is a Level 3 Reserve financial update only and does not include a site inspection or revision to the community's assets. For this report we have relied on current information provided by management, previous reserve studies and field notes from our last site visit.

The association reported several projects planned for the coming year. Please refer to the detailed report pages in the following sections of the report.

(Report Note - material and labor costs appear to be continuing to increase in all construction categories. Many associations have reported dramatic cost differences in recent contractor bids on the same projects. We highly recommend associations request contractor bids on upcoming projects early in the process. Until such time as cost increases moderate all models will include an inflation factor of 8% through 2024 then decrease to 5%.

Reserve Fund Status and Funding Plan Recommendation - Based on our findings, the current level of funding of the reserve account ***is not adequate to fund projected expenses for the long term.*** We recommend the association gradually adopt a reserve funding plan based on the Fully Funding Model in order to ensure that adequate funding is available throughout the 30-year study period.

Current Assessment Projection - The initial reserve assessment is the association's reported current fiscal year funding level and projected out 30 years to illustrate the adequacy of the current funding over time.

Current Total Reported Annual Reserve Contribution - \$239,328

Baseline Funded Model - The goal of this funding method is to keep the reserve cash balance above zero. This means that while each individual component may not be fully funded, the reserve balance overall does not drop below zero during the projected period. A facility using this funding method must understand that even a minor reduction in a component's remaining useful life **or unplanned expenses** can result in a deficit in the reserve cash balance **and may require additional funding.**

Recommended Total Annual Reserve Contribution - \$338,676

Fully Funded Model - This is a straight-line funding model. It distributes the cash reserves to individual reserve components and then calculates what the reserve assessment and interest contribution (minus taxes) should be, again by each reserve component. The current annual assessment is then determined by summing all the individual component assessments. This is the most conservative funding model. It leads to or maintains a fully funded reserve position. (Please note that the Fully Funded Model incorporates funding parameters that seek to reach 100% funded at year 30 reserve study limit. The recommended contribution amount may be unusually high or low for the first few years depending on the current reserve account balance and upcoming expenses).

Recommended Total Annual Reserve Contribution - \$355,000

In this Reserve Study the following components are excluded:

Power Lines – Generally utility companies.
Utility Main Lines – Generally utility companies or City.

Depth of Study

We have completed a Level 3 Reserve Study for your association. A field inspection was not made to verify the current status of the various reserve study components, their physical condition, and to verify component quantities.

Understanding the Budget Year

Your study is based on the standard calendar year January 1 through December 31st. January is the “*budget year beginning*”. This account balance is the starting point for determining the distribution of available funds for the year. Reserve contributions plus any addition income or deposits and interest for the 12-month period are calculated then projected expenses for the year are deducted. The result is the *budget year ending* balance estimated for December 31st.

Initial Reserves

Initial reserves for this reserve study are estimated to be \$1,700,343 as of 12/31/2022. We have relied upon the client to provide the current (or projected) reserve balance, the estimated net-after-tax current rate of interest earnings, and to indicate if those earnings accrue to the reserve fund.

Keeping Your Reserve Study Current

We recommend that your reserve analysis study be updated on an annual basis due to fluctuating interest rates, inflationary changes, and the unpredictable nature of the lives of many of the assets under consideration. All of the information collected during our inspection of the facilities site and computations made subsequently in preparing this reserve analysis study are retained in our computer files.

Conflict of Interest

As the preparer of this reserve study, Pacific Crest Reserves certifies that we do not have any vested interests, financial interests, or other interests that would cause a conflict of interest in the preparation of this reserve study.

Date of Physical Inspection

The property was physically inspected by Pacific Crest Reserves on April 26, 2022.

Pacific Crest Reserves would like to thank the members and management for the opportunity to be of service in the preparation of the attached funding study. Again, please feel free to contact us if you have any questions.

Prepared by:

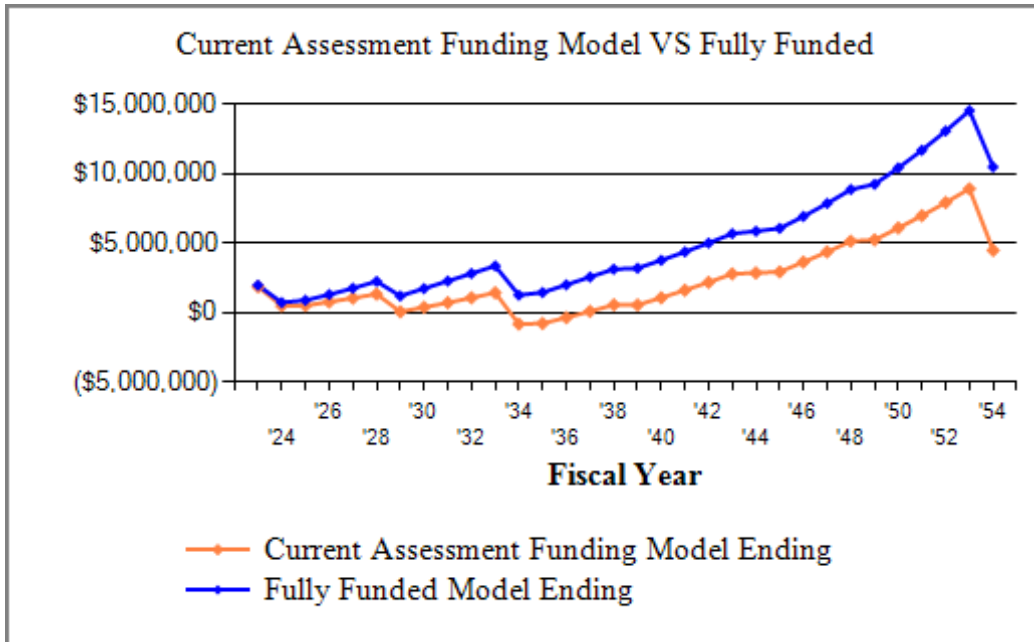
Charlie Barefield

Charlie Barefield
Reserve Analyst Principal

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
 Blaine, WA
Current Assessment Projection Summary

Report Date	May 10, 2023
Budget Year Beginning	January 1, 2023
Budget Year Ending	December 31, 2023
Total Units	1128

Report Parameters	
Interest Rate on Reserve Deposit	0.17%
Tax Rate Included in Interest Rate	
2023 Beginning Balance	\$1,700,343



The Current Assessment Funding Model is based on the current annual assessment, parameters, and reserve fund balance. Because it is calculated using the current annual assessment, it will give the accurate projection of how well the association is funded for the next 30 years of planned reserve expenditures.

Current Assessment Funding Model Summary of Calculations

Required Monthly Contribution	\$19,944.00
<i>Average \$17.68 per unit monthly</i>	
Average Net Monthly Interest Earned	\$255.40
Total Monthly Allocation to Reserves	\$20,199.40
<i>Average \$17.91 per unit monthly</i>	

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Current Assessment Projection**

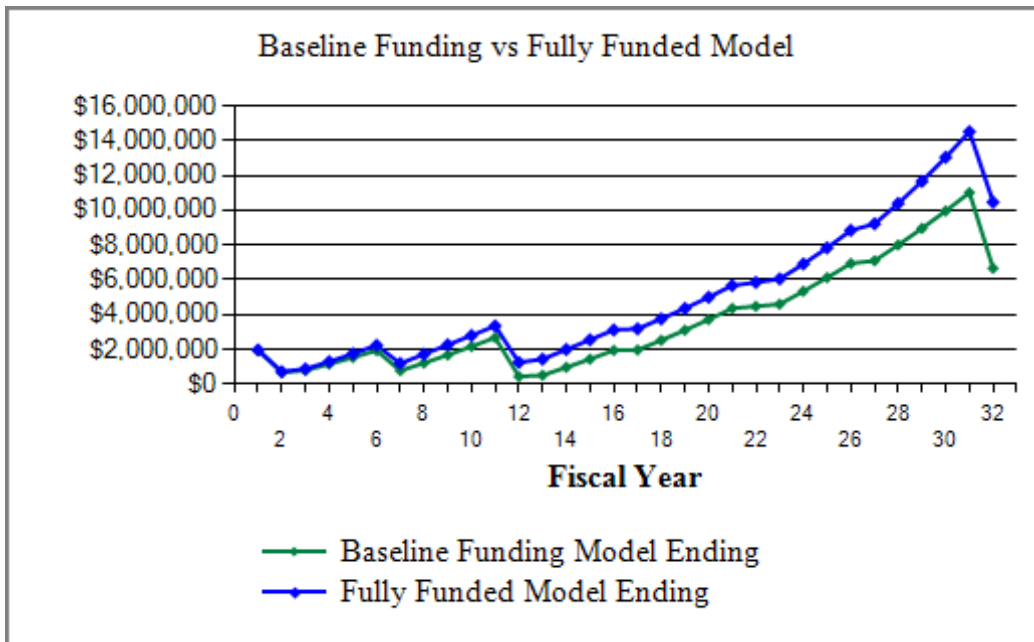
Beginning Balance: \$1,700,343

Year	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2023	239,328	3,065	80,000	1,862,736	3,764,448	49%
2024	258,474	648	1,632,960	488,898	2,437,543	20%
2025	279,152	680	251,942	516,787	2,495,489	21%
2026	293,110	1,125	33,067	777,955	2,828,589	28%
2027	307,765	1,594	34,721	1,052,593	3,188,759	33%
2028	323,154	2,086	36,457	1,341,376	3,577,876	37%
2029	339,311		1,607,747	72,940	2,349,990	3%
2030	356,277	395	40,194	389,418	2,720,710	14%
2031	374,091	963	42,203	722,268	3,122,627	23%
2032	392,795	1,560	44,314	1,072,310	3,557,933	30%
2033	412,435	2,188	46,529	1,440,403	4,028,964	36%
2034	433,057		2,687,062	-813,602	1,768,087	
2035	454,709		410,388	-769,280	1,802,628	
2036	477,445		53,863	-345,699	2,232,098	
2037	501,317		56,557	99,062	2,700,009	4%
2038	526,383	569	59,384	566,629	3,209,131	18%
2039	552,702	534	561,182	558,683	3,238,645	17%
2040	580,337	1,414	65,471	1,074,963	3,813,047	28%
2041	609,354	2,340	68,745	1,617,913	4,436,792	36%
2042	639,822	3,314	72,182	2,188,867	5,113,378	43%
2043	671,813	4,338	75,791	2,789,227	5,846,531	48%
2044	705,404	4,439	636,646	2,862,423	6,055,298	47%
2045	740,674	4,545	668,478	2,939,164	6,270,325	47%
2046	777,708	5,732	87,738	3,634,865	7,136,590	51%
2047	816,593	6,979	92,125	4,366,313	8,073,804	54%
2048	857,423	8,291	96,731	5,135,296	9,086,899	57%
2049	900,294	8,425	812,539	5,231,475	9,434,598	55%
2050	945,308	9,872	106,646	6,080,009	10,578,197	57%
2051	992,574	11,394	111,978	6,971,999	11,812,569	59%
2052	1,042,202	12,993	117,577	7,909,618	13,143,932	60%
2053	1,094,313	14,675	123,456	8,895,149	14,578,900	61%
2054	1,149,028	6,906	5,574,031	4,477,052	10,407,883	43%

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
 Blaine, WA
Baseline Funding Model Summary

Report Date	May 10, 2023
Budget Year Beginning	January 1, 2023
Budget Year Ending	December 31, 2023
Total Units	1128

Report Parameters	
Annual Assessment Increase	5.00%
Interest Rate on Reserve Deposit	0.17%
Tax Rate Included in Interest Rate	
2023 Beginning Balance	\$1,700,343



The **Threshold Funding Model** calculates the minimum reserve assessments, with the restriction that the reserve balance is not allowed to go below \$0 or other predetermined threshold, during the period of time examined. All funds for planned reserve expenditures will be available on the first day of each fiscal year. The **Threshold Funding Model** allows the client to choose the level of conservative funding they desire by choosing the threshold dollar amount.

Baseline Funding Model Summary of Calculations	
Required Monthly Contribution	\$28,223.03
<i>Average \$25.02 per unit monthly</i>	
Average Net Monthly Interest Earned	\$263.26
Total Monthly Allocation to Reserves	\$28,486.29
<i>Average \$25.25 per unit monthly</i>	

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Baseline Funding Model Projection**

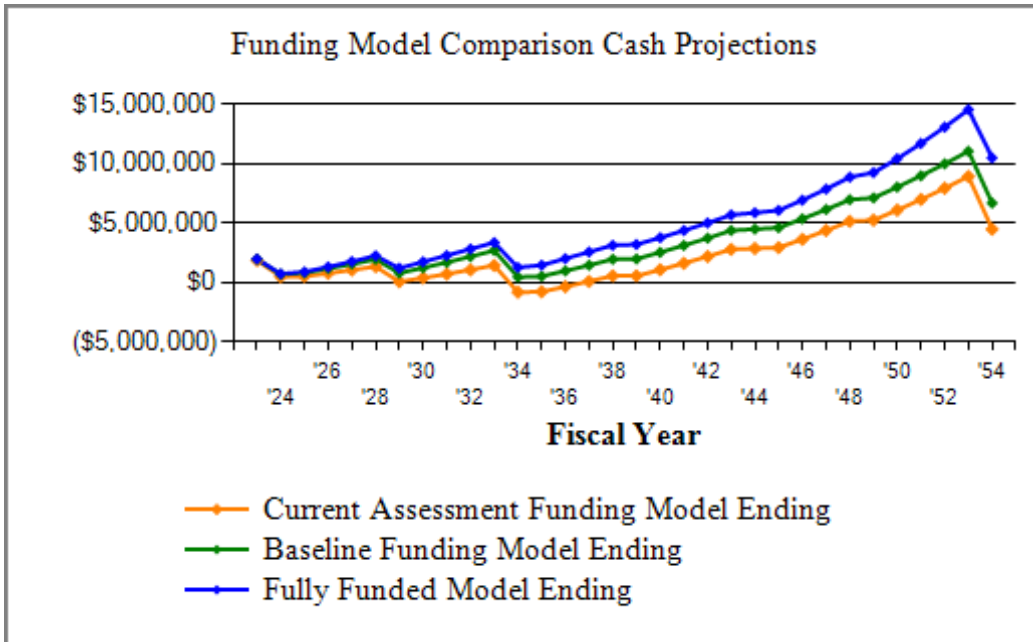
Beginning Balance: \$1,700,343

Year	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2023	338,676	3,159	80,000	1,962,178	3,764,448	52%
2024	355,610	914	1,632,960	685,742	2,437,543	28%
2025	373,391	1,114	251,942	808,305	2,495,489	32%
2026	392,060	1,730	33,067	1,169,027	2,828,589	41%
2027	411,663	2,377	34,721	1,548,347	3,188,759	49%
2028	432,246	3,058	36,457	1,947,194	3,577,876	54%
2029	453,859	1,025	1,607,747	794,331	2,349,990	34%
2030	476,552	1,773	40,194	1,232,461	2,720,710	45%
2031	500,379	2,559	42,203	1,693,197	3,122,627	54%
2032	525,398	3,386	44,314	2,177,667	3,557,933	61%
2033	551,668	4,256	46,529	2,687,062	4,028,964	67%
2034	457,808	434	2,687,062	458,243	1,768,087	26%
2035	480,699	540	410,388	529,094	1,802,628	29%
2036	504,734	1,311	53,863	981,275	2,232,098	44%
2037	529,971	2,122	56,557	1,456,812	2,700,009	54%
2038	556,469	2,975	59,384	1,956,871	3,209,131	61%
2039	584,292	2,999	561,182	1,982,980	3,238,645	61%
2040	613,507	3,940	65,471	2,534,956	3,813,047	66%
2041	644,182	4,930	68,745	3,115,324	4,436,792	70%
2042	676,392	5,971	72,182	3,725,505	5,113,378	73%
2043	710,211	7,066	75,791	4,366,991	5,846,531	75%
2044	745,722	7,241	636,646	4,483,307	6,055,298	74%
2045	783,008	7,424	668,478	4,605,261	6,270,325	73%
2046	822,158	8,692	87,738	5,348,373	7,136,590	75%
2047	863,266	10,025	92,125	6,129,539	8,073,804	76%
2048	906,429	11,426	96,731	6,950,663	9,086,899	76%
2049	951,751	11,653	812,539	7,101,527	9,434,598	75%
2050	999,338	13,199	106,646	8,007,419	10,578,197	76%
2051	1,049,305	14,823	111,978	8,959,569	11,812,569	76%
2052	1,101,771	16,531	117,577	9,960,294	13,143,932	76%
2053	1,156,859	18,325	123,456	11,012,022	14,578,900	76%
2054	1,214,702	10,676	5,574,031	6,663,369	10,407,883	64%

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
 Blaine, WA
Fully Funded Model Summary

Report Date	May 10, 2023
Budget Year Beginning	January 1, 2023
Budget Year Ending	December 31, 2023
Total Units	1128

Report Parameters	
Interest Rate on Reserve Deposit	0.17%
Tax Rate Included in Interest Rate	
2023 Beginning Balance	\$1,700,343



The **Component Funding Model's** long-term objective is to provide a plan to a fully funded reserve position over the longest period of time practical. This is the most conservative funding model.

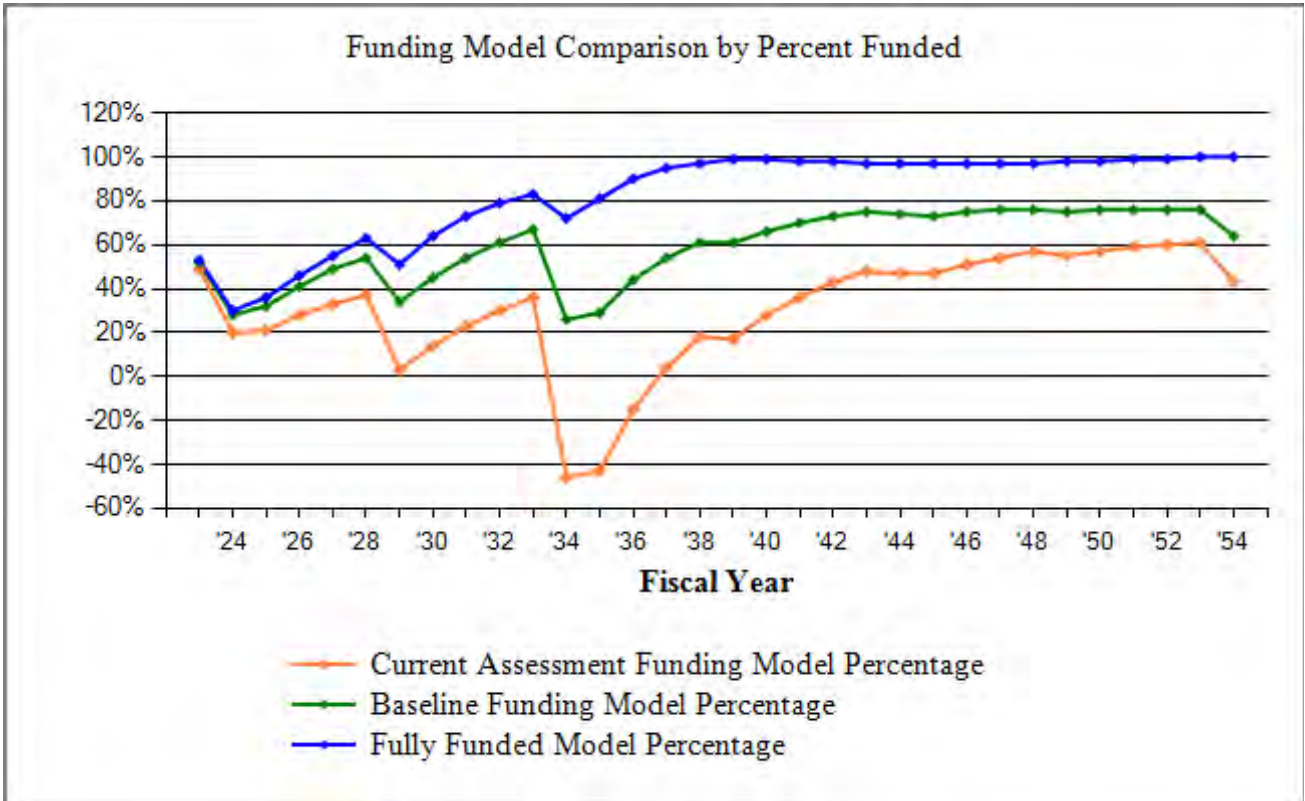
Fully Funded Model Summary of Calculations	
Required Monthly Contribution	\$29,583.33
<i>Average \$26.23 per unit monthly</i>	
Average Net Monthly Interest Earned	\$264.55
Total Monthly Allocation to Reserves	\$29,847.88
<i>Average \$26.46 per unit monthly</i>	

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Fully Funded Model Projection**

Beginning Balance: \$1,700,343

Year	Annual Contribution	Annual Interest	Annual Expenditures	Projected Ending Reserves	Fully Funded Reserves	Percent Funded
2023	355,000	3,175	80,000	1,978,517	3,764,448	53%
2024	383,400	969	1,632,960	729,926	2,437,543	30%
2025	414,072	1,230	251,942	893,286	2,495,489	36%
2026	447,198	1,931	33,067	1,309,347	2,828,589	46%
2027	482,974	2,690	34,721	1,760,290	3,188,759	55%
2028	521,611	3,514	36,457	2,248,958	3,577,876	63%
2029	563,340	1,657	1,607,747	1,206,209	2,349,990	51%
2030	568,974	2,582	40,194	1,737,571	2,720,710	64%
2031	574,664	3,514	42,203	2,273,545	3,122,627	73%
2032	580,410	4,455	44,314	2,814,097	3,557,933	79%
2033	586,214	5,403	46,529	3,359,185	4,028,964	83%
2034	592,076	1,739	2,687,062	1,265,938	1,768,087	72%
2035	597,997	2,066	410,388	1,455,613	1,802,628	81%
2036	603,977	3,028	53,863	2,008,755	2,232,098	90%
2037	610,017	3,998	56,557	2,566,213	2,700,009	95%
2038	616,117	4,975	59,384	3,127,920	3,209,131	97%
2039	622,278	5,086	561,182	3,194,102	3,238,645	99%
2040	628,501	6,076	65,471	3,763,207	3,813,047	99%
2041	664,326	7,101	68,745	4,365,889	4,436,792	98%
2042	702,192	8,186	72,182	5,004,085	5,113,378	98%
2043	742,217	9,335	75,791	5,679,846	5,846,531	97%
2044	800,852	9,592	636,646	5,853,645	6,055,298	97%
2045	864,120	9,901	668,478	6,059,187	6,270,325	97%
2046	932,385	11,343	87,738	6,915,177	7,136,590	97%
2047	1,006,043	12,904	92,125	7,842,000	8,073,804	97%
2048	1,085,521	14,595	96,731	8,845,384	9,086,899	97%
2049	1,171,277	15,180	812,539	9,219,302	9,434,598	98%
2050	1,263,808	17,159	106,646	10,393,622	10,578,197	98%
2051	1,363,649	19,301	111,978	11,664,594	11,812,569	99%
2052	1,471,377	21,619	117,577	13,040,013	13,143,932	99%
2053	1,565,545	24,107	123,456	14,506,209	14,578,900	100%
2054	1,510,000	17,076	5,574,031	10,459,253	10,407,883	100%

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Funding Model Comparison by Percent Funded**



The chart above compares the projected Reserve Percentage Funded of the three funding models (Current Assessment Funding Model, Baseline Funding Model and Fully Funded Model) over 30 years.

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Annual Expenditure Detail**

Description	Expenditures
Replacement Year 2023	
Drainage Pipe Replacement - 2023	80,000
Total for 2023	\$80,000
Replacement Year 2024	
Anti-Backflow Valve	29,160
Asphalt Paving - Resurface Phase 1	991,440
Asphalt Paving - Seal Coat Application Phase 1	204,120
Overflow Pump & Conveyance System	408,240
Total for 2024	\$1,632,960
Replacement Year 2025	
Asphalt Paving - Seal Coat Application Phase 2	220,450
Culvert Drain System - Maintenance	31,493
Total for 2025	\$251,942
Replacement Year 2026	
Culvert Drain System - Maintenance	33,067
Total for 2026	\$33,067
Replacement Year 2027	
Culvert Drain System - Maintenance	34,721
Total for 2027	\$34,721
Replacement Year 2028	
Culvert Drain System - Maintenance	36,457
Total for 2028	\$36,457
Replacement Year 2029	
Asphalt Paving - Resurface Phase 2	1,301,510
Asphalt Paving - Seal Coat Application Phase 3	267,958
Culvert Drain System - Maintenance	38,280
Total for 2029	\$1,607,747
Replacement Year 2030	
Culvert Drain System - Maintenance	40,194
Total for 2030	\$40,194

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Annual Expenditure Detail**

Description	Expenditures
Replacement Year 2031	
Culvert Drain System - Maintenance	42,203
Total for 2031	\$42,203
Replacement Year 2032	
Culvert Drain System - Maintenance	44,314
Total for 2032	\$44,314
Replacement Year 2033	
Culvert Drain System - Maintenance	46,529
Total for 2033	\$46,529
Replacement Year 2034	
Asphalt Paving - Resurface Phase 3	1,661,093
Asphalt Paving - Seal Coat Application Phase 1	341,990
Culvert Drain System - Maintenance	48,856
Seagate Culvert	635,124
Total for 2034	\$2,687,062
Replacement Year 2035	
Asphalt Paving - Seal Coat Application Phase 2	359,089
Culvert Drain System - Maintenance	51,298
Total for 2035	\$410,388
Replacement Year 2036	
Culvert Drain System - Maintenance	53,863
Total for 2036	\$53,863
Replacement Year 2037	
Culvert Drain System - Maintenance	56,557
Total for 2037	\$56,557
Replacement Year 2038	
Culvert Drain System - Maintenance	59,384
Total for 2038	\$59,384
Replacement Year 2039	
Anti-Backflow Valve	62,354

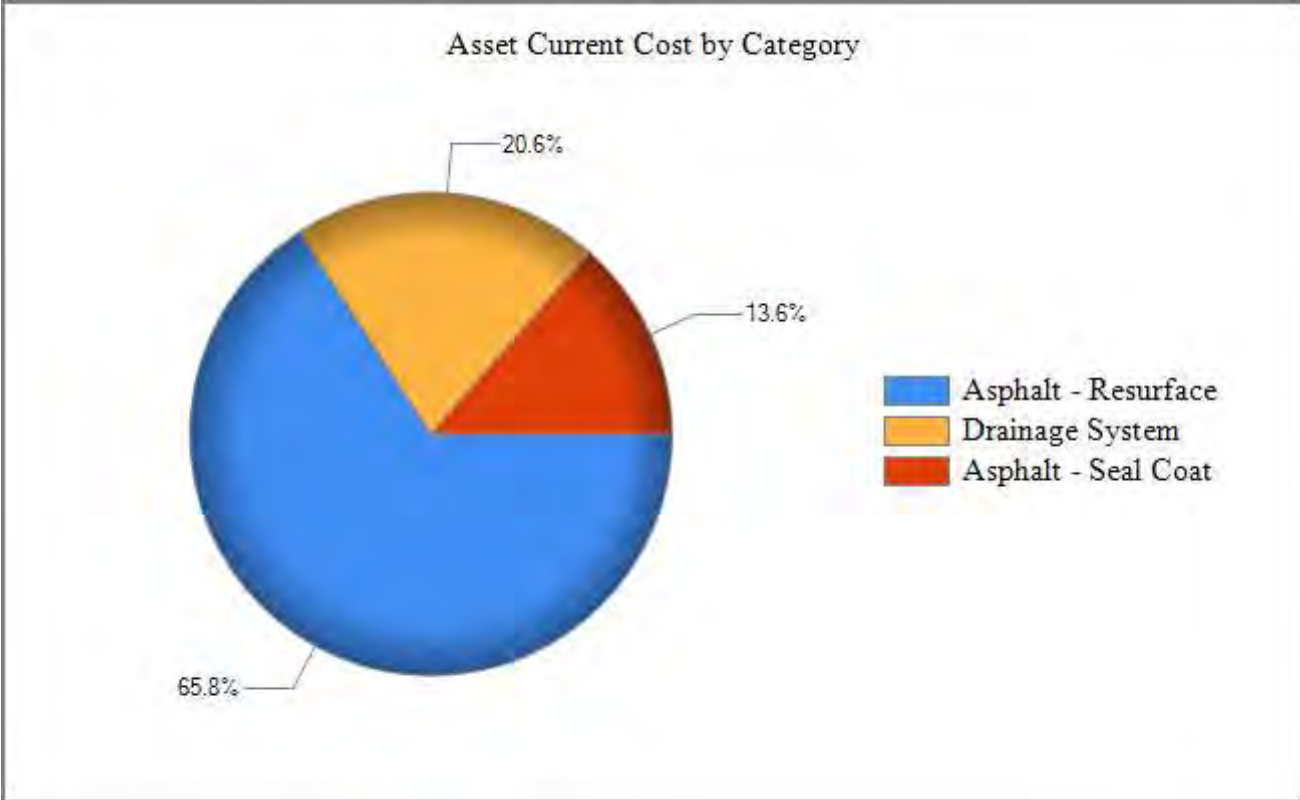
**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Annual Expenditure Detail**

Description	Expenditures
Replacement Year 2039 continued...	
Asphalt Paving - Seal Coat Application Phase 3	436,475
Culvert Drain System - Maintenance	62,354
Total for 2039	\$561,182
Replacement Year 2040	
Culvert Drain System - Maintenance	65,471
Total for 2040	\$65,471
Replacement Year 2041	
Culvert Drain System - Maintenance	68,745
Total for 2041	\$68,745
Replacement Year 2042	
Culvert Drain System - Maintenance	72,182
Total for 2042	\$72,182
Replacement Year 2043	
Culvert Drain System - Maintenance	75,791
Total for 2043	\$75,791
Replacement Year 2044	
Asphalt Paving - Seal Coat Application Phase 1	557,065
Culvert Drain System - Maintenance	79,581
Total for 2044	\$636,646
Replacement Year 2045	
Asphalt Paving - Seal Coat Application Phase 2	584,918
Culvert Drain System - Maintenance	83,560
Total for 2045	\$668,478
Replacement Year 2046	
Culvert Drain System - Maintenance	87,738
Total for 2046	\$87,738
Replacement Year 2047	
Culvert Drain System - Maintenance	92,125
Total for 2047	\$92,125

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Annual Expenditure Detail**

Description	Expenditures
Replacement Year 2048	
Culvert Drain System - Maintenance	96,731
Total for 2048	\$96,731
Replacement Year 2049	
Asphalt Paving - Seal Coat Application Phase 3	710,972
Culvert Drain System - Maintenance	101,567
Total for 2049	\$812,539
Replacement Year 2050	
Culvert Drain System - Maintenance	106,646
Total for 2050	\$106,646
Replacement Year 2051	
Culvert Drain System - Maintenance	111,978
Total for 2051	\$111,978
Replacement Year 2052	
Culvert Drain System - Maintenance	117,577
Total for 2052	\$117,577
Replacement Year 2053	
Culvert Drain System - Maintenance	123,456
Total for 2053	\$123,456
Replacement Year 2054	
Anti-Backflow Valve	129,629
Asphalt Paving - Resurface Phase 1	4,407,374
Asphalt Paving - Seal Coat Application Phase 1	907,400
Culvert Drain System - Maintenance	129,629
Total for 2054	\$5,574,031

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Asset Current Cost by Category



The above chart illustrates the current cost breakdown percentage of the Component Categories in this reserve study (highest percentage components listed at top, items less than 2% are listed as "Other"). Special attention should be given to those component categories which take up a bulk of the % of the current cost as these may require significant planning to adequately budget for their replacement. Refer to the Cash Flow Projections and the Annual Expenditure Report for the projected timeline of expected expenditures.

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Detail Report by Category**

Asphalt Paving - Resurface Phase 1 - 2024

Asset ID	1001	1 Allowance @	\$918,000.00
Category	Asphalt - Resurface	Asset Actual Cost	\$918,000.00
Placed in Service	January 1994	Percent Replacement	100%
Useful Life	30	Future Cost	\$991,440.00
Replacement Year	2024		
Remaining Life	1		



Our understanding is patching of the damaged areas will continue until resurfacing is scheduled.

The Community includes approximately 13 miles of asphalt paved roads. The association has resurfacing planned in three phases beginning in 2024. Regular cycles of repair and seal coat application are the most cost-effective program for the long-term care of asphalt. Water penetration is the largest contributor to deterioration.

Asphalt Paving - Resurface Phase 2 - 2029

Asset ID	1002	1 Allowance @	\$918,000.00
Category	Asphalt - Resurface	Asset Actual Cost	\$918,000.00
Placed in Service	January 1999	Percent Replacement	100%
Useful Life	30	Future Cost	\$1,301,509.64
Replacement Year	2029		
Remaining Life	6		

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Detail Report by Category**

Asphalt Paving - Resurface Phase 3 - 2034

Asset ID	1003	1 Allowance @	\$918,000.00
Category	Asphalt - Resurface	Asset Actual Cost	\$918,000.00
Placed in Service	January 2004	Percent Replacement	100%
Useful Life	30	Future Cost	\$1,661,092.75
Replacement Year	2034		
Remaining Life	11		

Asphalt Paving - Seal Coat Application Phase 1 - 2024

Asset ID	1004	1 Allowance @	\$189,000.00
Category	Asphalt - Seal Coat	Asset Actual Cost	\$189,000.00
Placed in Service	January 2014	Percent Replacement	100%
Useful Life	10	Future Cost	\$204,120.00
Replacement Year	2024		
Remaining Life	1		



No update for 2023

It is advisable to clean and apply a good quality seal coat in 10-year cycles to preserve the integrity of the surface layer.

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Detail Report by Category**

Asphalt Paving - Seal Coat Application Phase 2 - 2025

Asset ID	1005	1 Allowance @	\$189,000.00
Category	Asphalt - Seal Coat	Asset Actual Cost	\$189,000.00
Placed in Service	January 2015	Percent Replacement	100%
Useful Life	10	Future Cost	\$220,449.60
Replacement Year	2025		
Remaining Life	2		

Asphalt Paving - Seal Coat Application Phase 3 - 2029

Asset ID	1006	1 Allowance @	\$189,000.00
Category	Asphalt - Seal Coat	Asset Actual Cost	\$189,000.00
Placed in Service	January 2019	Percent Replacement	100%
Useful Life	10	Future Cost	\$267,957.87
Replacement Year	2029		
Remaining Life	6		

Culvert Drain System - Maintenance - 2025

Asset ID	1007	1 Allowance @	\$27,000.00
Category	Drainage System	Asset Actual Cost	\$27,000.00
Placed in Service	January 2022	Percent Replacement	100%
Useful Life	1	Future Cost	\$31,492.80
Adjustment	2		
Replacement Year	2025		
Remaining Life	2		

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Detail Report by Category**

Culvert Drain System - Maintenance continued...



No update for 2023

The community includes some 20 plus miles of drainage ditches and associated culverts. Cleaning and maintaining the the drainage system requires annual expense and major replacement of these essential elements over time.

Anti-Backflow Valve - 2024		1 Allowance @ \$27,000.00
Asset ID	1008	Asset Actual Cost \$27,000.00
		Percent Replacement 100%
Category	Drainage System	Future Cost \$29,160.00
Placed in Service	January 2007	
Useful Life	15	
Adjustment	2	
Replacement Year	2024	
Remaining Life	1	

No update for 2023, cycle revised.

The association will install a anti-backflow valve to replace the existing duckbill valve to control storm water drainage outflow.

Seagate Culvert - 2034		1 Allowance @ \$351,000.00
Asset ID	1009	Asset Actual Cost \$351,000.00
		Percent Replacement 100%
Category	Drainage System	Future Cost \$635,123.70
Placed in Service	January 2004	
Useful Life	30	
Replacement Year	2034	
Remaining Life	11	

No update for 2023

**Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Detail Report by Category**

Overflow Pump & Conveyance System - 2024

Asset ID	1010	1 Allowance @	\$378,000.00
Category	Drainage System	Asset Actual Cost	\$378,000.00
Placed in Service	January 2008	Percent Replacement	100%
Useful Life	15	Future Cost	\$408,240.00
Adjustment	1		
Replacement Year	2024		
Remaining Life	1		

No update for 2023, cycle revised.

A new pump and system will be installed in 2023 and is included as a one time charge. Future pump maintenance and repair will be considered an operation expense.

Drainage Pipe Replacement - 2023 - 2023

Asset ID	1011	1 Allowance @	\$80,000.00
Category	Drainage System	Asset Actual Cost	\$80,000.00
Placed in Service	June 1966	Percent Replacement	100%
Useful Life	1	Future Cost	\$80,000.00
Replacement Year	2023		
Remaining Life	0		

It was reported \$80,000 will be spent in 2023 on drainage pipe replacement.

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Expenses by Item and by Calender Year

Description	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Anti-Backflow Valve		29,160								
Asphalt Paving - Resurface Phase 1		991,440								
Asphalt Paving - Resurface Phase 2							1,301,510			
Asphalt Paving - Resurface Phase 3										
Asphalt Paving - Seal Coat Application Phase 1		204,120								
Asphalt Paving - Seal Coat Application Phase 2			220,450							
Asphalt Paving - Seal Coat Application Phase 3							267,958			
Culvert Drain System - Maintenance			31,493	33,067	34,721	36,457	38,280	40,194	42,203	44,314
Drainage Pipe Replacement - 2023	80,000									
Overflow Pump & Conveyance System		408,240								
Seagate Culvert										
Year Total:	80,000	1,632,960	251,942	33,067	34,721	36,457	1,607,747	40,194	42,203	44,314

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Expenses by Item and by Calender Year

Description	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Anti-Backflow Valve							62,354			
Asphalt Paving - Resurface Phase 1										
Asphalt Paving - Resurface Phase 2										
Asphalt Paving - Resurface Phase 3		1,661,093								
Asphalt Paving - Seal Coat Application Phase 1		341,990								
Asphalt Paving - Seal Coat Application Phase 2			359,089							
Asphalt Paving - Seal Coat Application Phase 3							436,475			
Culvert Drain System - Maintenance	46,529	48,856	51,298	53,863	56,557	59,384	62,354	65,471	68,745	72,182
Drainage Pipe Replacement - 2023										
Overflow Pump & Conveyance System										
Seagate Culvert		635,124								
Year Total:	46,529	2,687,062	410,388	53,863	56,557	59,384	561,182	65,471	68,745	72,182

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Expenses by Item and by Calender Year

Description	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
Anti-Backflow Valve										
Asphalt Paving - Resurface Phase 1										
Asphalt Paving - Resurface Phase 2										
Asphalt Paving - Resurface Phase 3										
Asphalt Paving - Seal Coat Application Phase 1		557,065								
Asphalt Paving - Seal Coat Application Phase 2			584,918							
Asphalt Paving - Seal Coat Application Phase 3							710,972			
Culvert Drain System - Maintenance	75,791	79,581	83,560	87,738	92,125	96,731	101,567	106,646	111,978	117,577
Drainage Pipe Replacement - 2023										
Overflow Pump & Conveyance System										
Seagate Culvert										
Year Total:	75,791	636,646	668,478	87,738	92,125	96,731	812,539	106,646	111,978	117,577

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023
Expenses by Item and by Calender Year

Description	2053	2054
Anti-Backflow Valve		129,629
Asphalt Paving - Resurface Phase 1		4,407,374
Asphalt Paving - Resurface Phase 2		
Asphalt Paving - Resurface Phase 3		
Asphalt Paving - Seal Coat Application Phase 1		907,400
Asphalt Paving - Seal Coat Application Phase 2		
Asphalt Paving - Seal Coat Application Phase 3		
Culvert Drain System - Maintenance	123,456	129,629
Drainage Pipe Replacement - 2023		
Overflow Pump & Conveyance System		
Seagate Culvert		
Year Total:	123,456	5,574,031



Reserve Study Disclosure Form

In Compliance with RCW 64.34.308 and RCW 64.38.025 (2019)

Name of Association: Birch Bay Village Community - Roads & Drainage

Current Year Reported Budget Contribution to Reserves: \$239,328

Recommended 2023 Contribution to Reserves, per study: \$355,000

Funding Plan Used for Recommendations: Full Funding

Projected Year End Reserve Balance at Current Funding Level: \$1,862,736
(Percentages below indicate the projected year end percentage level of the Reserve Fund vs Fully Funded at the Current Contribution Amount)

Projected Year End Balance If the account was Fully Funded: \$3,764,448

5 Year Balances

Estimates Per Study:	2023	2024	2025	2026	2027
Projected Year End Reserve Balances at Current Contribution Level	\$1,862,736	\$488,898	\$516,787	\$777,955	\$1,052,593
<i>Average Deficit/Surplus Per Member: \$-\$1,410 Percent Funded 52%</i>					
Projected Year End Reserve Balances at Recommended Funding Contribution Level:	\$1,978,517	\$729,926	\$893,286	\$1,309,347	\$1,760,290
Projected Year End Fully Funded Reserves If Fully Funded:	\$3,764,448	\$2,437,543	\$2,495,489	\$2,828,589	\$3,188,759
Percent Reserve is Fully Funded at Current Funding Level:	49%	20%	21%	28%	33%

Based upon the most recent reserve study, will the association have funds to meet obligations for the next 30 years at the current contribution rate? No

To be Completed by Management

Proposed 2023 Budget's Contribution to Reserves: _____

Is Additional Funding (Regular or Special Assessment) Planned? Yes/No

When is it due? (Month/Year) _____

What is the Purpose? Description of Project(s): _____

Duration of Assessment: Start Date _____ End Date _____

Assessment Amount per Unit on Average: Per Month _____ Per Year _____

Author Name _____

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023

Appendix - Disclosure, Definitions & Calculations

Percent Funded

Many reserve studies use the concept of "Percent Funded" to measure the reserve account balance against a theoretically perfect value. Percent Funded is often used as a measure of the "Financial Health" of an association. The assumption is, the higher the percentage, the greater the "Financial Health". The question of substance is simply: How much is enough? To answer the question, some understanding of Percent Funded is required. Percent Funded is the ratio of current cash reserves divided by the Fully Funded value at any instant in time. Fully Funded is defined as the present value of the sum of all Reserve Items divided by the expected life of each item. In essence, Fully Funded is simply the total of the average net present value of the association improvements. Reserve Items with a remaining life greater than the study life are not included in the calculation. For example; building framing, foundations, water lines, and other long-lived items that fall outside the envelope of the reserve study are excluded from the calculation. Percent Funded is then, the current reserve balance divided by the Fully Funded value multiplied by 100 (to give a percentage). The concept of percent funded is useful when the reserve study is comprehensive, but misleading when the reserve study is superficial or constrained. As a result, we recommend that the statement "Percent Funded" be used with caution.

Washington State Homeowners and Condominium Act Compliance with RCW 64.38 and RCW 64.34 (2019)

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. A reserve component list (as applicable), including roofing, painting, paving, decks, siding, plumbing, windows, and any other reserve component that would cost more than one percent of the annual budget for major maintenance, repair, or replacement. If one of these reserve components is not included in the reserve study, the study should provide commentary explaining the basis for its exclusion. The study must also include quantities and estimates for the useful life of each reserve component, remaining useful life of each reserve component, and current repair and replacement cost for each component.

Disclosures Required by RCW 64.90.550.

This Reserve Study meets all requirements of the Washington Uniform Common Interest Ownership Act.

- a) This Reserve Study was prepared with the assistance of a reserve study professional and that professional was independent;
- b) This Reserve Study includes all information required by RCW 64.90.550 Reserve Study – Contents; and
- c) 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 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 the association to (1) defer major maintenance, repair, or replacement, (2) increase future reserve contributions, (3) borrow funds to pay for major maintenance, repair, or replacement, or (4) impose special assessments for the cost of major maintenance, repair, or replacement.

Reserve Study Assumptions

The below listed assumptions are implicit in this reserve study:

- Cost estimates and financial information are accurate and current.
- No unforeseen circumstances will cause a significant reduction of reserves.
- Sufficient comprehensive property insurance exists to protect from insurable risks.
- The association plans to continue to maintain the existing common areas and amenities.
- Reserve payments occur at the end of every calendar month.
- Expenses occur at the end of the expense year.

Inflation Estimate

Inflation for the last year has been reviewed and a best fit regression analysis of the last 12 months has been used to determine future expense estimates. Based on the current economic conditions, the inflation rate will need to be closely monitored as this is a critical factor in reserve planning for future fund needs.

Impact of Component Life

The projected life expectancy of the major components and the reserve funding needs of the association are closely tied.

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023

Appendix - Disclosure, Definitions & Calculations

Performing the appropriate routine maintenance for each major component generally increases the components' useful life, effectively moving the component expense into the future which reduces the reserve funding payments of the association. Failure to perform such maintenance can shorten the remaining useful lives of the major components, bringing the replacement expense closer to the present which increases the reserve funding payments of the association.

Study Method

This reserve analysis study and the parameters under which it has been completed are based upon information provided to us in part by representatives of the association, its contractors, assorted vendors, specialist and independent contractors, the Community Association Institute, and various construction pricing and scheduling manuals including, but not limited to: Marshall & Swift Valuation Service, RS Means Facilities Maintenance & Repair Cost Data, RS Means Repair & Remodeling Cost Data, National Construction Estimator, National Repair & Remodel Estimator, Dodge Cost Manual and McGraw-Hill Professional. Additionally, costs are obtained from numerous vendor catalogues, actual quotations or historical costs, and our own experience in the field of property management and reserve study preparation.

It has been assumed, unless otherwise noted in this report, that all assets have been designed and constructed properly and that each estimated useful life will approximate that of the norm per industry standards and/or manufacturer's specifications. In some cases, estimates may have been used on assets, which have an indeterminable but potential liability to the association. The decision for the inclusion of these as well as all assets considered is left to the client.

We recommend that your reserve analysis study be updated on an annual basis due to fluctuating interest rates, inflationary changes, and the unpredictable nature of the lives of many of the assets under consideration. All of the information collected during our inspection of the association and computations made subsequently in preparing this reserve analysis study are retained in our computer files. Therefore, annual updates may be completed quickly and inexpensively each year.

Items Beyond the Scope of this Report

Building or land appraisals for any purpose.

State or local zoning ordinance violations.

Building code violations.

Soils conditions, soils contamination or geological stability of site.

Engineering analysis or structural stability of site.

Air quality, asbestos, electromagnetic radiation, formaldehyde, lead, mercury, radon, water quality or other environmental hazards.

Invasions by pests, termites and any or all other destroying organisms, insects, birds, bats or animals to buildings or site.

This study is not a pest inspection.

Adequacy or efficiency of any system or component on site.

Specifically excluded reserve items:

Septic systems and septic tanks.

Buried or concealed portions of swimming pools, pool liners, Jacuzzis and spas or similar items.

Items concealed by signs.

Missing or omitted information supplied by the Client for the purposes of reserve study preparation.

Hidden improvements such as sewer lines, water lines, irrigation lines or other buried or concealed items.

Definitions:

Purpose of Distribution

Distribution will have no real meaning for a cash flow model. But the nature of the Fully Funded Model requires it. Annuity payments are based on an accumulation of reserves for each component in the study. Because a study will rarely start with 'perfect' funding for each component, a starting point for each year must be established.

At the start of the study (The beginning fiscal date)

The beginning balance is used for distribution

Going through the components ordered by remaining life and starting with the least remaining life, the balance is assigned to the components by the value of fully funded for each component. Fully funded for components with no

Birch Bay Village Community - Roads & Drainage Level 3a Study 2023

Appendix - Disclosure, Definitions & Calculations

life left is the replacement value of the component.

If after the last component there is still a balance remaining, the list of components is iterated again and the moneys are assigned at the replacement cost of each component.

If after the second pass on there are remaining funds then just the components being replaced are iterated and distribution is set to twice the replacement value.

If there are still funds after the above, they are considered excess funds.

In each following year of the projection

Money is accumulated from contributions and interest on deposit. Expenditures for replacement/repair of components is subtracted. This becomes the ending balance of the year. This money is distributed in the same manner as described above.

Calculations:

Fully Funded Methods

Basic Fully Funded

There are two published methods of calculating Fully Funded. The first only considers the present value of a component. Present value in each period will change according to the inflation applied.

$$FullyFunded = (Age / Useful Life) * Present Value$$

Community Association Press Fully Funded

To account for inflation and interest earned on deposit the writers of '**RESERVE FUNDS: How & Why community Associations Invest Assets**' came up with:

$$Basic_FF = (Age / Useful Life) * Present Value$$

$$CAI_FF = Basic_FF \\ + Basic_FF / (1 + interest)^{Remaining Life} \\ - Basic_FF / (1 + inflation)^{Remaining Life}$$