KING COUNTY FIRE PROTECTION DISTRICT NO.16

7220 NE 181st Street
KENMORE, WA 98028

BUSINESS: 425-354-1780 FAX: 425-354-1781

MINUTES **November 9, 2021**

SPECIAL MEETING BOARD OF COMMISSIONERS

at Northshore Fire Department's Headquarters Station 51

Virtual Meeting via Zoom

I. OPEN SPECIAL NORTHSHORE MEETING

1.1 Roll Call

Chair Rick Webster called the meeting to order at 4:00 PM.

Persons in attendance were Commissioners Eric Adman, Josh Pratt, Milton Curtis, Rick Webster, and Dave Maehren. Also present was Chief McDonald, Legal Counsel Matt Paxton, Advisory Board member Nate Herzog, and Board Secretary Amy Oakley, and 11 members of the public.

II. PUBLIC COMMENT

2.1 No public comments.

III. APPROVAL OF THE AGENDA

3.1 ***Commissioner Adman moved to adopt the agenda as presented. Commissioner Pratt seconded. The motion passed unanimously.***

IV. BOARD DISCUSSION AND POSSIBLE ACTION ITEMS

4.1 Conversation with IAFF, Local 2459

- Vice President, Brian Ford, had no comments for the Board.

4.2 RCL Capital Reserve Funding Study

- The updated study was not available. The study is expected to be completed in the next couple of weeks.
- The Board will continue to discuss this item at the next meeting.

4.3 Revisit Reserve Funding Resolution 20-10

- The Board will carry this item forward to the next meeting.
- Chief McDonald provided an update on the amount of reserve dedicated to facilities in the 2022 budget.
- The Board will continue to discuss this item at the next meeting.

4.4 Fire Marshall and IT ILA Agreements

- Chief McDonald updated the Board on the progress of an addendum to extend the NORCOM IT contract through the first quarter of 2022.

- Chief McDonald provided an update that the City of Bothell will not extend their ILA to provide Fire Marshall services after December 31, 2021.
- The Board discussed options for covering Fire Marshall duties in the first quarter of 2022.
- The Board will continue to discuss this item at the next meeting.

4.5 Contract for Services Update

- Chair Webster updated the Board that consultant Tom Broetje will review the materials and provide a briefing at the next meeting.
- The Board will continue to discuss this item at the next meeting.

EXECUTIVE SESSION

The Board moved into Executive Session at 4:27PM until 4:42PM to discuss with legal counsel representing the agency matters relating to litigation or potential litigation pursuant to RCW 42.30.110(1)(i), and to discuss the performance of an employee pursuant to RCW 42.30.110(1)(g). The Board extended the session by five minutes. The Board moved back into open session at 4:50PM.

4.6 Fire Chief Performance Review Discussion

- The Board will prepare a draft performance review for Chief McDonald and will discuss further at a future meeting.

V. UPCOMING BOARD AGENDAS

5.1 In addition to the standard items, the November 16th meeting agenda will include RCL Reserve Funding Study, Reserve Funding Resolution 20-10, Fire Marshall ILA Agreements, NSFD operations discussion, Fire Chief Performance Review process, report out from Tom Broetje on the Contract for Services Proposals, and Water Rescue Program overview.

ADJOURNMENT

The meeting adjourned at 4:55PM

NEXT MEETING DATE

The next Board of Commissioners meeting is scheduled for November 16, 2021.

Attachments: Agenda, NSFD 2019 Capital Reserve Study, Resolution 20-10, Fire Marshall ILA, Contract Clarification and Responses from Eastside Fire & Rescue and Shoreline Fire Department.

BOARD OF COMMISSIONERS

Electronically signed- Eric Adman

ERIC ADMAN, Member

Electronically signed- Josh Pratt

JOSH PRATT, Member

Electronically signed- Milton Curtis

MILTON CURTIS M.D., Member

Electronically signed- Rick Webster

RICK WEBSTER, Member

DAVID MAEHREN, Member

ATTEST

Amy Oakley

Amy Oakley, Secretary

King County Fire Protection District No. 16

Adopted at a Regular Meeting of the Board of Commissioners on November 16th, 2021

From: Josh Pratt
To: Board Secretary
Subject: RE: Meeting minutes: Electronic signature- Documents approved 11/16
Date: Wednesday, November 17, 2021 1:46:48 PM

The following documents are Approved and Electronically Signed this 17th day of November, 2021, by Commissioner Josh Pratt.

- Regular Meeting minutes 11/2/2021
- Special Meeting Minutes 11/9/2021

From: Eric Adman
To: Board Secretary
Subject: Re: Meeting minutes: Electronic signature- Documents approved 11/16
Date: Wednesday, November 17, 2021 1:07:06 PM

The following documents are Approved and Electronically Signed this 17th day of November, 2021, by Commissioner Adman:

- Regular Meeting minutes 11/2/2021
- Special Meeting Minutes 11/9/2021

From: Richard Webster
To: Board Secretary
Subject: RE: Meeting minutes: Electronic signature- Documents approved 11/16
Date: Tuesday, November 16, 2021 8:52:34 PM

The following documents are Approved and Electronically Signed this 16th day of November, 2021, by Commissioner Rick Webster.

- Regular Meeting minutes 11/2/2021
- Special Meeting Minutes 11/9/2021

From: Milton Curtis
To: Board Secretary
Subject: RE: Meeting minutes: Electronic signature- Documents approved 11/16
Date: Tuesday, November 16, 2021 8:37:10 PM

The following documents are Approved and Electronically Signed this 16 day of November, 2021, by Commissioner Milton Curtis.

From: Board Secretary
Sent: Tuesday, November 16, 2021 8:31 PM
To: Commissioners <e-mailcommissioners@northshorefire.com>
Subject: Meeting minutes: Electronic signature- Documents approved 11/16

Commissioners,

Attached please find the meeting minutes approved at tonight's regular meeting. At your earliest availability, please respond with your electronic signature using the following verbiage:

The following documents are Approved and Electronically Signed this _____ day of _____, 2021, by Commissioner _____.

- Regular Meeting minutes 11/2/2021
- Special Meeting Minutes 11/9/2021

Northshore Fire Department Board of Commissioners

Headquarters Station 7220 NE 181st Street, Kenmore, WA

Northshore Fire Department Board of Commissioners

Special Meeting Agenda

Tuesday, November 9, 2021

4:00PM

Meeting held virtually, via Zoom

To provide public comment, please see instructions at the end of the agenda.

To attend this meeting live, click the link below and enter the ID & Password provided.
A recording of this meeting will also be posted in AV Capture.

Join Zoom Meeting Online at:

https://us02web.zoom.us/j/85044713997?pwd=dW1uWDFpNldPZ1dSSU1ZYy9LSXVQQT09

Call in to Zoom Meeting at: (253) 215-8782

Meeting ID: 850 4471 3997

Passcode: 743608

I. Open Special Northshore Board Meeting

1.1 Roll Call

II. Public Comment

2.1 Public Comment

III. Approval of Agenda

3.1 Approval of the Meeting Agenda

IV. Board Discussion and Possible Action Items

4.1 Conversation with IAFF, Local 2459

4.2 RCL Capital Reserve Funding Study

4.3 Revisit Reserve Funding Resolution 20-10

4.4 Fire Marshall and IT ILA Agreements

4.5 Contract for Services Update

4.6 Fire Chief Performance Review Discussion

V. Executive Session

To discuss the performance of an employee pursuant to RCW 42.30.110(1)(g) and to discuss with legal counsel representing the agency matters relating to litigation or potential litigation pursuant to RCW 42.30.110(1)(i).

VI. Upcoming Board Agendas

6.1 Setting of Future Meeting Agenda(s)

Adjournment

Next Regular Meeting: Tuesday, November 16th, 2021 at 5:00 PM

Public Comment Procedures for Virtual Meetings:

Individuals wishing to comment may comment by appearing at the virtual meeting and "raising their hand" or the equivalent. The chair shall recognize those persons and provide them the opportunity to comment. Three minutes are allowed for comment.

If you wish to provide written public comment, you may do so by submitting a written statement to boardsecretary@northshorefire.com. Any comments received up to one hour before the posted meeting time, will be read during the public comment period.

To ensure your written comments are received and read at the proper meeting, your email must include:

- Date & Time of the meeting your comments are intended for
- Your name
- Whether or not you live in the city limits of Lake Forest Park or Kenmore
- Agenda Item and/or subject your comments refer to

Emails without this information may not be read at the meeting. And, in accordance with normal procedure, messages of an overly repetitive or inappropriate (vulgarity) nature may be declined to be read at the discretion of the meeting Chair.

Please check the District's AV Capture for the most up-to-date information about individual meetings.

Questions? Email Board Secretary Amy Oakley at boardsecretary@northshorefire.com.

NORTHSHORE FIRE DEPARTMENT

Kenmore & Lake Forest Park, Washington

STANDARD
LEVEL 1 CAPITAL RESERVE STUDY WITH A SITE VISIT
With funding recommendations for the 2020 fiscal year

Issued January, 2020

Prepared by:
Mahria Sooter, Reserve Specialist
Denise Dana, Reserve Specialist

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EXECUTIVE SUMMARY

Description

Northshore Fire Department has one station serving Kenmore and one serving Lake Forest Park, Washington. This Reserve Study meets the requirements of the Washington Unified Common Interest Owner Act for a Level 1 Reserve Study with a site visit, and was prepared by an independent Reserve Study Professional.

Background

The Northshore Fire Department consists of Station 51 and Station 57. The headquarters are housed at Station 51, along with a training facility. Construction Station 51 was completed in 2011; construction of Station 57 was completed in 1995.

The recommended annual contribution to reserves for 2020 is $162,300.

The prefix before the component number helps to distinguish which fire station a component references. “Stn.51” is abbreviated for Station 51 and “Stn.57” is abbreviated for Station 57.

Financial Information for the Current 2019 Fiscal Year

Reserve Account Balance on **January 1, 2019**	$170,000
Annual Operating Budget	$9,948,992
Component Inclusion Threshold (1% of the Operating Budget)	$99,490
Annual Budgeted Contribution to Reserves (2019)	$30,000
Remaining Contributions to Reserves for the Year	$30,000
Planned or Implemented Special Assessment	None
Fully Funded Balance	$942,417
Percent Funded at Time of Study	18%
Funding Status at Time of Study	High Risk for a Special Assessment

Recommended Contribution to Reserves Starting in 2020

2020 Recommended Annual Contribution Rate	**$162,300**
Breakdown of the Recommended Contribution :	
2020 Recommended Contribution per Month	$13,525
2020 Baseline Funding Plan Contribution Rate	**$153,900**
2020 Full Funding Plan Contribution Rate	**$185,300**

The recommended reserve contribution represents a Threshold Funding Plan to prevent special assessments over the course of the 30-year study **while maintaining a minimum reserve account balance of one year's contribution to reserves**. The fiscal year for the Reserve Study is a calendar year. Cost projection accuracy decreases into the distant future. Assumptions should be reconsidered and updated with each revision of the study.

While Northshore Fire Department is not required to comply with the Washington Unified Common Interest Owner Act, this report does comply with the requirements of RCW 64.90. Legal references to “associations” remain in the document. Northshore Fire Department is under no legal requirement to fund reserves.

Five Years At A Glance 2020 Through 2024

The following reserve funded expenses are expected to occur in the next five years at Northshore Fire Department in **constant dollar values**.

Year 1 (2020) Anticipated Maintenance	Estimated Cost
Stn.51 2.4.1 Concrete - Paving Repairs	$18,190
Stn.51 2.4.2 Concrete - Repaint Stalls & Curbs	$1,670
Stn.51 6.4.3 Fiber Cement Board Siding - Repair	$6,140
Stn.51 9.8.4 Fiber Cement Board Siding - Caulk & Paint	$21,190
Stn.51 10.4.1 Exterior Signage - Refurbish	$2,500
Stn.51 12.2.4 Duty Crew Kitchen Interiors - Refurbish	$10,000
Stn.51 12.2.5 Duty Crew Laundry Interiors - Refurbish	$2,000
Stn.51 12.2.7 Duty Crew Restrooms - Refurbish	$16,500
Stn.51 16.6.1 Exterior Light Fixtures - Replace	$10,000
Stn.51 17.1.1 Fireblast 451 - Maintenance	$10,000
Stn.51 18.1.1 Security / Surveillance System - Replace	$16,000
Stn.57 2.6.1 Asphalt Paving - Repair	$4,040
Stn.57 2.6.2 Asphalt Pavement- Seal Coat & Restripe	$5,050
Stn.57 18.1.2 Security / Surveillance System - Upgrade	$15,000
Total Estimated Expenses for Year 1 (2020)	**$138,280**

Year 2 (2021) Anticipated Maintenance	Estimated Cost
Stn.57 7.4.8 Roof Inspection & Minor Repair	$3,000
Stn.57 16.6.2 Exterior Light Fixtures - Replace	$2,750
Total Estimated Expenses for Year 2 (2021)	**$5,750**

Year 3 (2022) Anticipated Maintenance	Estimated Cost
Stn.51 2.7.3 Gate Operator - Maintenance	$1,650
Stn.51 3.3.1 Concrete Walkways - Repair	$5,450
Stn.51 8.2.5 Doors & Hardware - Maintenance	$3,580
Stn.51 9.8.1 Cedar Wood Siding - Maintenance	$21,880
Stn.51 9.8.2 Concrete Siding - Maintenance	$5,060
Stn.51 11.6.2 Unimac Gear Extractor - Replace	$8,800
Stn.51 11.6.3 Ramair Gear Dryer - Replace	$11,000
Stn.51 12.1.7 Public Meeting Room - Refurbish	$15,000
Stn.51 12.4.7 1st Floor Stained Concrete - Refurbish	$15,150
Stn.51 15.3.2 Storm Water System - Contingency	$5,000
Stn.57 12.3.4 Front Reception Desk & Office - Remodel	$25,000
Total Estimated Expenses for Year 3 (2022)	**$117,570**

Year 4 (2023) Anticipated Maintenance	Estimated Cost
Stn.51 8.2.1 Folding Bay Doors & Hardware - Maintenance	$5,500
Stn.51 8.2.3 Overhead Bay Door Operator - Contingency	$12,760
Stn.57 3.3.3 Exterior Concrete Paving - Repair	$3,200
Stn.57 9.8.5 Front Entry Steel Framed Structure - Paint	$2,250
Stn.57 15.5.2 Water Heater - Replace	$7,920
Total Estimated Expenses for Year 4 (2023)	**$31,630**

Year 5 (2024) Anticipated Maintenance	Estimated Cost
Stn.51 2.7.2 Prefinished Metal Fence & Gates - Maintenance	$7,300
Stn.51 2.8.1 Wood Benches - Maintenance	$2,200
Stn.51 7.4.6 Roof Inspection & Minor Repair	$6,130
Stn.51 11.4.2 Duty Crew Kitchen Equipment - Contingency	$15,000
Stn.51 11.6.1 Laundry Equipment - Contingency	$3,740
Stn.51 12.1.4 Bunk Gear Storage - Refurbish	$8,000
Stn.51 12.2.3 Duty Crew Sleep Room Interiors - Refurbish	$24,750
Stn.51 14.1.2 Elevators - 5 Year Load Test	$5,500
Stn.51 15.2.1 Plumbing System - Contingency	$5,000
Stn.51 15.4.1 Fire Detection System - Maintenance	$2,500
Stn.51 15.6.5 HVAC System - Contingency	$5,000
Stn.51 15.7.1 Exhaust Fans - Contingency	$7,620
Stn.57 8.2.8 Common Doors & Hardware - Maintenance	$3,320
Stn.57 11.6.4 Laundry Equipment - Contingency	$3,300
Stn.57 12.3.2 Apparatus Bay - Refurbish	$13,500
Stn.57 12.3.3 Hallway & Stairwell Walls & Ceiling - Paint	$7,000
Stn.57 12.3.5 Kitchen - Remodel	$10,000
Stn.57 12.3.6 Day / Dining Room - Remodel	$15,000
Stn.57 15.3.3 Irrigation System - Contingency	$2,500
Stn.57 15.7.2 Exhaust Fans - Contingency	$4,360
Total Estimated Expenses for Year 5 (2024)	**$151,720**

Many factors may influence the actual costs that may be experienced. The quality of replacement materials of items can significantly impact cost, as well as the timing between replacements. The use of Architects or independent construction managers to specify and oversee work may also cause additional expenses.

INTRODUCTION

Purpose of a Capital Reserve Study

The purpose of a Reserve Study is to recommend a reasonable annual reserve contribution rate made by an organization to its reserve account. Reserve accounts are established to fund major maintenance, repair, and replacement of common elements, including limited common elements, expected within the next thirty years. A Reserve Study is intended to project availability of adequate funds for the replacement or major repair of any significant component of the property as it becomes necessary without relying on special assessments. It is a budget planning tool which identifies the current status of the reserve account and a stable and equitable Funding Plan to offset the anticipated future major shared expenditures. Each reserve component is evaluated to determine the current condition, the remaining useful life, and the estimated replacement cost. This information is combined into a spreadsheet to determine funding requirements and establish the annual contribution rate needed to minimize the potential for special assessments. All costs and annual reserve fund balances are shown in constant dollars, and with adjustments for annual inflation and interest earned. Ideally, an even level of contributions is established that maintains a positive balance in the reserve account over the timeline the study examines.

A Reserve Study also calculates a theoretical "Fully Funded Balance". Fully Funded Balance is the sum total of the reserve components' depreciated value using a straight line depreciation method.

To calculate each component's depreciated value:

$$Depreciated\ Value = Current\ Replacement\ Cost \times \frac{Effective\ Age}{Expected\ Useful\ Life}$$

By comparing the actual current reserve fund balance, to the theoretical Fully Funded Balance a Percent Fully Funded is derived.

These expenses could be emergency repairs not covered by insurance, or expenses that differ from the existing Reserve Study in terms of timing or cost. The Fully Funded Balance is neither the present replacement cost of all of the Organization's reserve components, nor does it have a mathematical relationship to the recommended threshold reserve contribution funding plan.

The percent fully funded acts as a measuring tool to assess an organization's ability to absorb unplanned expenses.

Three levels of Reserve Studies:

Level 1: The first level, an initial Reserve Study, must be based upon a visual site inspection conducted by a Reserve Study Professional. This is also known as a full Level 1 Reserve Study with a site visit.

Level 2: Thereafter at least every three years, an updated Reserve Study must be prepared, which again is based upon a visual site inspection conducted by a Reserve Study Professional. This is also known as a Level 2 update with a site visit.

Level 3: As noted earlier, the Association is required to update its Reserve Study every year. However, in two of the three years, the annual updates do not require a site visit. This is also known as a Level 3 update without a site visit.

Level 4: The Community Associations Institute defines a Level 4 reserve study for communities under construction as a Preliminary, Community Not Yet Constructed reserve study.

This study is a Level 1 Reserve Study with a site visit.

Our Approach to a Reserve Study

Reserve Consultants LLC employs a "Reasonable Approach" when evaluating reserve components in order to draft a study that is of greatest value to our clients. This means we attempt to predict, based on the costs involved and the client's objectives, what a reasonable person will decide to have done when maintenance, repairs, or replacement become necessary. For example, a reasonable person will not replace a fence when it only needs to be repainted. The benefit of this is that reserve contributions are minimized to allow for what is most likely to occur. Our studies are not based on a worst-case scenario, but rather on what we expect is most likely to occur. Our approach assumes minor problems will be corrected as they occur, before they become major problem.

Several sources were used in drafting this report. These include:

- Site visit and visual inspection of a sampling of the components;
- Input provided by organization representatives;
- Review of a list of components the Organization is responsible for;
- Generally accepted construction, maintenance, and repair guidelines

Many factors may influence the actual costs that the organization will experience. The quality of replacement materials of items can significantly impact cost, as well as the timing between replacements. The use of Architects or independent construction managers to specify and oversee work may also cause additional expenses. Reserve Consultants LLC has been completing reserve studies and project management in the Pacific Northwest since 1992 and bases component repair and replacement cost estimates on this experience, as well information provided by the organization.

Government Requirements for a Reserve Study

Effective July 1, 2018, the **Washington Unified Common Interest Act (WUCIOA)** has impacted common interest communities. Our reserve studies comply with WUCIOA.

RCW 64.90.550 §2 states that a reserve study must include:

(a) A reserve component list, including any reserve component, the replacement cost of which exceeds one percent of the annual budget of the association, excluding contributions to the reserves for that reserve component. If one of these reserve components is not included in the reserve study, the study must explain the basis for its exclusion. The study must also include quantities and estimates for the useful life of each reserve component, the remaining useful life of each reserve component, and current major replacement costs for each reserve component;

(b) The date of the study and a disclosure as to whether the study meets the requirements of this section;

(c) The following level of reserve study performed:

a. Level I: Full reserve study funding analysis and plan;

b. Level II: Update with visual site inspection; or

c. Level III: Update with no visual site inspection;

(d) The association's reserve account balance;

(e) The percentage of the fully funded balance to which the reserve account is funded;

(f) Special assessments already implemented or planned;

(g) Interest and inflation assumptions;

(h) Current reserve account contribution rates for a full funding plan and a baseline funding plan;

(i) A recommended reserve account contribution rate for a full funding plan to achieve one hundred percent fully funded reserves by the end of the thirty-year study period, a recommended reserve account contribution rate for a baseline funding plan to maintain the reserve account balance above zero throughout the thirty-year study period without special assessments, and a reserve account contribution rate recommended by the reserve study professional;

(j) A projected reserve account balance for thirty years based on each funding plan presented in the reserve study;

(k) A disclosure on whether the reserve study was prepared with the assistance of a reserve study professional, and whether the reserve study professional was independent; and

(l) A statement of the amount of any current deficit or surplus in reserve funding expressed on a dollar per unit basis. The amount is calculated

by subtracting the association's reserve account balance as of the date of the study from the fully funded balance, and then multiplying the result by the fraction or percentage of the common expenses of the association allocable to each unit; except that if the fraction or percentage of the common expenses of the association allocable vary by unit, the association must calculate any current deficit or surplus in a manner that reflects the variation.

In addition, the WUCIOA requires the following disclosure in every Reserve Study (RCW 64.90.550 § 3):

> **"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 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."**

Furthermore, RCW 64.90.550 §2 states that the budget must include:

(d) the current amount of regular assessments budgeted for contribution to the reserve account;

(e) A statement of whether the association has a reserve study that meets the requirements of RCW 64.90.550 of this act and, if so, the extent to which the budget meets or deviates from the recommendations of that reserve study; and

(f) The current deficiency or surplus in reserve funding expressed on a per unit basis.

RCW 64.90.550 §2 (d) – (f) requirements are covered by the Supplemental Budget Information disclosure that is prepared with each reserve study when the Association is ready to ratify the budget.

Limitations and Assumptions of a Reserve Study

This Reserve Study is not a report on the condition of the assets maintained by Northshore Fire Department, or a detailed report of necessary maintenance to the assets. It is also not an investigation into or comment on the quality of construction of the reserve components, or whether the construction complies with the building code or the requirements of the Washington Common Interest Ownership Act (WUCIOA).

The component list is based on information provided by Northshore Fire Department. Reserve Consultants LLC does not provide legal interpretations of governing documents or auditing services on account information provided.

The observations made by Reserve Consultants LLC are limited to a visual inspection of a sample of the reserve components. Unless informed otherwise, our assumption is that the components are constructed in substantial compliance with the building code and to industry standards, and that it will receive ordinary and reasonable maintenance and repair by Northshore Fire Department. These assumptions include that most reserve components will achieve their normal useful lives for similar components in the Pacific Northwest, and that they will be replaced when necessary to prevent damage to other reserve components.

This Reserve Study assumes that the assets will be maintained to keep a good level of appearance, with a special emphasis on retaining the original appearance of the assets to the greatest possible extent. The analysis also assumes that Northshore Fire Department will replace materials as they are required with good quality materials, installed by qualified, licensed, contractors. We further assume that the assets will experience the full typical useful life for the new materials installed.

The long-term nature of this study requires that certain assumptions and predictions be made about future events. Since there can be no guarantee that these future events will occur as assumed, this analysis must be viewed in light of the circumstances under which it was conducted. Reasonable effort has been made to ensure that the conclusions of this report are based on reliable information and sound reasoning.

This report should be updated annually with actual repair costs, reserve fund balances, etc. Every three years it should be updated with a site inspection and professional review. Regular updating will allow changes based on actual occurrences and adjustments for the cost of repairs to be incorporated into the annual reserve contributions. This will allow any savings or additional costs to be properly allocated among unit owners.

Inflation and Interest Rate Projections

When making estimates on the future inflation and interest rates, we use a staggered approach to more accurately reflect future economic projections.

For **inflation,** we use the construction industry inflation rates published by RS Means, which differ from the consumer inflation index. The average annual construction inflation increase since 1966 is 4.16%. We do not apply inflation to the annual reserve contribution in Year 0. Likewise, we do not apply inflation to the recommended reserve contribution in Year 1 since this is the first year at the recommended contribution rate. Inflation applied to the components on the inflated spreadsheet is compounded annually; the values are listed for each year at the bottom of the inflated spreadsheet.

For **interest** rates, we analyze the historical data provided by the Board of Governors of the Federal Reserve. The average annual interest rate since 1987 is 3.44%. The interest for organizations is typically lower than average due to conservative investing options that are usually employed by organizations. Interest is applied to Year 0 only in the constant spreadsheet so that the starting reserve fund balance in Year 1 is the same for both the constant and inflated spreadsheets, as illustrated on the following page.

Inflation and Interest Rate Projections for Northshore Fire Department

Years Applied	Contribution Inflation	Inflation	Interest
Year 0 (2019) through Year 1 (2020)	0%	3%	2%
Year 2 (2021) through Year 10 (2029)	3%	3%	2%
Year 11 (2030) through Year 30 (2049)	4%	4%	3%

Starting Reserve Fund Balance for Year 1 (2020)

The starting reserve fund balance for 2020 has been estimated by combining the following figures that were provided by an organization representative:

	$170,000	reserve fund balance as of January 1, 2019
-	**($43,000)**	anticipated reserve maintenance expenses in 2019
+	**$0**	planned special assessment in 2019
+	**$30,000**	remaining reserve contributions for 2019
+	**$2,998**	projected interest on the 2019 reserve fund balance
	$159,998	estimated beginning balance for fiscal year 2020

The actual or projected total reserve fund balance presented in the Reserve Study is based on information provided to RCL and was not audited.

ORGANIZATION OVERVIEW

Northshore Fire Department has one station serving Kenmore and one serving Lake Forest Park in the State of Washington.

The Department headquarters are housed at Station 51, along with a training facility, in Kenmore. Construction Station 51 was completed in 2011.

Station 57 occupies a site in Lake Forest Park and was constructed in 1995.

Review of General Conditions

Station 51

The overall appearance of Station 51 was very good. The facility is constructed of durable materials and is regularly maintained. We understand that the Station invested in landscaping improvements this year.

The exterior siding is a combination of brick, cedar and fiber cement board siding. The wood was refinished in the recent past and the brick appeared to be weathering as expected. No issues were reported with the roofing systems.

A Training tower is located in the parking area adjacent to the Station. It is constructed of CMU block and has both metal standing seam and asphalt shingle roofing.

Station 57

The general appearance of Station 57 was good. The facility is well maintained and is scheduled to have a major renovation starting this year.

Renovations include the Apparatus Bay, which will receive new fiberglass reinforced plastic (FRP) panels and ceiling tiles, an updated Locker Room, and modifications to the existing restrooms. Carpeting throughout the facility will be removed, with polished concrete installed in its place.

The exterior of the building is brick with a standing metal seam roof topping the building. An asphalt lot provides parking at the front of the building.

COMPONENTS INCLUDED IN THE RESERVE STUDY

We have followed the reserve study guidelines for component inclusion required by WUCIOA. A reserve component is defined as a common component that the replacement cost of which exceeds one percent of the annual budget of the association, excluding contributions to the reserves for that reserve component. If one of these reserve components is not included in the reserve study, the study must explain the basis for its exclusion. (RCW 64.90.550). While the law defines the inclusion threshold to be 1% of the operating budget, or $99,490, components valued less than the legal threshold are included to better capture reserve funding for Northshore Fire Department.

Component Funding Excluded from the Reserve Study

Operating Budget

The following components may qualify for inclusion within the Reserve Study, but have been excluded from the budget because they are maintained with funds from the operating budget:

- acoustic ceiling tiles
- asphalt walkway repairs
- BBQ grill
- diesel tank @ Station 57
- glazing replacement
- gym equipment
- interior light fixtures
- IT equipment
- Tower wood trim & metal shutters
- rubber stair treads @ Station 57

RESERVE COMPONENT SUMMARY

The prefix before the component number helps to distinguish which fire station a component references.

"Stn.51" is abbreviated for Station 51 and "Stn.57" is abbreviated for Station 57.

Stn.51 2.4.1 Concrete - Paving Repairs

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 65,610 Square Feet
Unit Cost: $8.40 / SF
Estimate: 65,610 SF X 3% X $8.40/SF = $16,534 + tax = $18,190

Future Maintenance	
Year	**Cost**
1 (2020)	$18,190
11 (2030)	$18,190
21 (2040)	$18,190

There is a large paved area adjacent to Station 51 providing public parking, secured access parking, entry to the Apparatus Bay and a significant paved area around the training tower. Due to the brittle nature of concrete, periodic repairs will be necessary. Funds are budgeted in conjunction with repainting since the same contractor can often complete both projects. It was reported that there are a few areas of concern that will likely be addressed in the near future.

Stn.51 2.4.2 Concrete - Repaint Stalls & Curbs

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 76 Each
Unit Cost: $20.00 / EA
Estimate: 76 EA X 100% X $20.00/EA = $1,520 + tax = $1,670

Future Maintenance	
Year	**Cost**
1 (2020)	$1,670
11 (2030)	$1,670
21 (2040)	$1,670

Periodic deep cleaning and restriping of the stalls and curbs will be necessary as the concrete is exposed to the elements. We understand that the Station power washes the concrete as needed. The striping in the parking area is coming to the end of its useful life.

Stn.51 2.7.1 Prefinished Metal Fence - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 885 Linear Feet
Unit Cost: $75.00 / LF
Estimate: 885 LF X 100% X $75.00/LF = $66,375 + tax = $73,010

Future Maintenance	
Year	**Cost**
21 (2040)	$73,010

The fencing is factory finished metal and should require minimal maintenance. The budget provides funds to replace the fencing, three walk through gates and one swing gate at the end of its anticipated useful life. The fence and gates were in good condition overall.

Stn.51 2.7.2 Prefinished Metal Fence & Gates - Maintenance

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 885 Linear Feet
Unit Cost: $75.00 / LF
Estimate: 885 LF X 10% X $75.00/LF = $6,638 + tax = $7,300

Future Maintenance	
Year	**Cost**
5 (2024)	$7,300
15 (2034)	$7,300
25 (2044)	$7,300

This component budgets funds for periodic repairs to the fencing and gates, including touch up painting, as needed. No areas of concern were noted.

Stn.51 2.7.3 Gate Operator - Maintenance

Maintenance Cycle: 3 years
Next Maintenance: Year 3 (2022)
Quantity: 1 Each
Unit Cost: $1,500.00 / EA
Estimate: 1 EA X 100% X $1,500.00/EA = $1,500 + tax = $1,650

Future Maintenance	
Year	**Cost**
3 (2022)	$1,650
6 (2025)	$1,650
9 (2028)	$1,650
12 (2031)	$1,650
15 (2034)	$1,650
18 (2037)	$1,650
21 (2040)	$1,650
24 (2043)	$1,650
Repeat Every 3 Years	

A hydraulic swing gate with photo eyes controls access to the upper section of the parking lot. It was reported that the in-ground sensors had approximately $1,500 worth of work completed in the recent past. The photo eyes were out of service at the time of our site visit. The budget is intended to fund periodic repairs to the various components of the gate operator. The next maintenance is budgeted in three years since it is assumed that the sensors will be fixed this year.

Stn.51 2.8.1 Wood Benches - Maintenance

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 4 Each
Unit Cost: $500.00 / EA
Estimate: 4 EA X 100% X $500.00/EA = $2,000 + tax = $2,200

Future Maintenance	
Year	**Cost**
5 (2024)	$2,200
15 (2034)	$2,200
25 (2044)	$2,200

Wood benches are built into the cast in place concrete and will require periodic maintenance. The benches were weathering well and were in use while we were on site.

Stn.51 2.9.1 Landscaping - Maintenance

Maintenance Cycle: 8 years
Next Maintenance: Year 8 (2027)
Quantity: 1 Lump Sum
Unit Cost: $15,000.00 / LS
Estimate: $15,000

Future Maintenance	
Year	**Cost**
8 (2027)	$15,000
16 (2035)	$15,000
24 (2043)	$15,000

Approximately $11,000 was spent in 2019 on landscaping. The landscaping budget provides funds for major updates to the landscaping as plants mature, outgrow their beds and/or for tree maintenance.

Stn.51 3.3.1 Concrete Walkways - Repair

Maintenance Cycle: 6 years
Next Maintenance: Year 3 (2022)
Quantity: 5,700 Square Feet
Unit Cost: $8.70 / SF
Estimate: 5,700 SF X 10% X $8.70/SF = $4,959 + tax = $5,450

Future Maintenance	
Year	**Cost**
3 (2022)	$5,450
9 (2028)	$5,450
15 (2034)	$5,450
21 (2040)	$5,450
27 (2046)	$5,450

While the City of Kenmore owns the sidewalks, the responsibility for repairing sidewalks typically rests on the property owner. No trip hazards were noted while on site. We budget to repair up to 3% of the concrete walkways, curbs and pavement each repair cycle. We recommend grinding or cutting the concrete to resolve trip hazards where possible. Cracks, spalling and/or damaged areas that cannot be corrected by grinding are intended to be covered by this budget.

Stn.51 3.3.2 Cast Concrete Retaining Walls - Repair

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 740 Linear Feet
Unit Cost: $390.00 / LF
Estimate: 740 LF X 5% X $390.00/LF = $14,430 + tax = $15,870

Future Maintenance	
Year	**Cost**
6 (2025)	$15,870
21 (2040)	$15,870

We do not anticipate that the concrete retaining walls will need to be replaced within the next 30 years. This component budgets funds for inspections and repairs to ensure the integrity of the walls flanking the perimeter of the parking lot. The walls appeared to be performing well.

Stn.51 6.1.1 Garbage Bin Enclosure - Repair

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 1 Lump Sum
Unit Cost: $2,500.00 / LS
Estimate: $2,500

Future Maintenance	
Year	**Cost**
6 (2025)	$2,500
21 (2040)	$2,500

The garbage bin enclosure is constructed of cast in place concrete walls with steel framed gates with wood infill. Periodic repairs will be necessary, as will maintenance to the wood to keep the gates in optimal condition. The gates appeared to be serviceable and weathering well.

Stn.51 6.2.1 Pedestal Paver - Maintenance

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 180 Square Feet
Unit Cost: $37.00 / SF
Estimate: 180 SF X 25% X $37.00/SF = $1,665 + tax = $1,830

Future Maintenance	
Year	**Cost**
21 (2040)	$1,830

The 2nd floor outdoor patio has concrete pavers on pedestals which will need to be removed to replace the waterproofing membrane underneath. This component provides funds to replace up to 25% of the pavers if needed. The pavers appeared to be wearing well, with no obvious cracks or staining noted.

Stn.51 6.2.2 PVC Thermoplastic Membrane - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 180 Square Feet
Unit Cost: $20.00 / SF
Estimate: 180 SF X 100% X $20.00/SF = $3,600 + tax = $3,960

Future Maintenance	
Year	**Cost**
21 (2040)	$3,960

A PVC thermoplastic membrane was specified as the waterproofing membrane under the patio pedestal pavers. The membrane will need to be periodically replaced as the material degrades to ensure it keeps out moisture as designed. The Station is likely to realize savings if the deck's membrane is replaced in conjunction with the roofing membrane to safe on contractor mobilization fees. We were not able to observe the membrane during the site visit, but understand that there are no outstanding issues.

Stn.51 6.4.1 Brick Siding - Maintenance

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 7,010 Square Feet
Unit Cost: $25.00 / SF
Estimate: 7,010 SF X 5% X $25.00/SF = $8,763 + tax = $9,640

Future Maintenance	
Year	**Cost**
11 (2030)	$9,640

Two types of brick provide texture to the exterior of the building. We do not anticipate that the brick will need replacement over the next 30 years. This component budgets funds for periodic tuck pointing and/or steam cleaning to keep the building in optimal condition. At this time there is not a budget for sealing the brick and do not recommend doing so unless a specific water intrusion issue arises.

Stn.51 6.4.2 CMU Wall - Tuck Point

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 6,515 Square Feet
Unit Cost: $7.50 / SF
Estimate: 6,515 SF X 100% X $7.50/SF = $48,863 + tax = $53,750

Future Maintenance	
Year	**Cost**
11 (2030)	$53,750

The training tower is constructed of split face and smooth face CMU. We anticipate that the CMU will not need to be replaced within the next 30 years. Periodic tuck pointing of the mortar joints may be needed in the future, which this component is intended to fund.

Stn.51 6.4.3 Fiber Cement Board Siding - Repair

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 6,420 Square Feet
Unit Cost: $29.00 / SF
Estimate: 6,420 SF X 3% X $29.00/SF = $5,585 + tax = $6,140

Future Maintenance	
Year	**Cost**
1 (2020)	$6,140
11 (2030)	$6,140
21 (2040)	$6,140

Some areas of Station 51 have fiber cement board, which appears to be weathering well overall. A few cracked boards were noted in the HVAC well area, which we recommend be replaced with the next repainting.

Stn.51 6.4.4 Metal Siding - Replace

Maintenance Cycle: 35 years
Next Maintenance: Year 26 (2045)
Quantity: 2,340 Square Feet
Unit Cost: $16.00 / SF
Estimate: 2,340 SF X 100% X $16.00/SF = $37,440 + tax = $41,180

Future Maintenance	
Year	**Cost**
26 (2045)	$41,180

The metal siding is located along the apparatus bay exterior and above some windows. The factory finished panels are weathering as expected and are expected to require minimal maintenance. This component budgets for replacement of the panels at the end of their anticipated useful life.

Stn.51 7.1.1 Sealant Joints - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 1,700 Linear Feet
Unit Cost: $12.00 / LF
Estimate: 1,700 LF X 100% X $12.00/LF = $20,400 + tax = $22,440

Future Maintenance	
Year	**Cost**
6 (2025)	$22,440
21 (2040)	$22,440

Sealant joints will need to be periodically inspected and replaced. Areas that are failing should be removed and recaulked to maintain an effective barrier against moisture. As the building ages, it is likely that not all of the sealant will need to be replaced at once; areas with the most weather exposure will have the shortest useful life. The budgets reflects total replacement until the pattern of wear is determined. This component focuses on sealant joints in areas with masonry, specifically around doors and windows. Sealant joints in the areas with fiber cement board should be addressed with each paint cycle.

Stn.51 7.3.1 Scuppers, Gutters & Downspouts - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 560 Linear Feet
Unit Cost: $5.80 / LF
Estimate: 560 LF X 100% X $5.80/LF = $3,248 + tax = $3,570

Future Maintenance	
Year	**Cost**
21 (2040)	$3,570

The building has a combination of scuppers, downspouts and gutters. All appeared to be functioning as expected and attached appropriately. We budget for replacing these components in conjunction with the roof replacement since the two systems are integrated.

Stn.51 7.4.1 Low Sloped Ribbed Roof - Replace

Maintenance Cycle: 30 years **Next Maintenance:** Year 21 (2040)
Quantity: 101 Roofing Squares **Unit Cost:** $1,700.00 / SQ
Estimate: 101 SQ X 100% X $1,700.00/SQ = $172,210 + tax = $189,430

Future Maintenance	
Year	**Cost**
21 (2040)	$189,430

Visible sections of the roof have a Sika Sarnafil Décor membrane system, giving the roof the appearance of a standing metal seam roof. The system is a thermoplastic PVC membrane. No issues were reported and the roof was clean with no concerns noted.

Stn.51 7.4.2 Low Sloped Smooth Roof - Replace

Maintenance Cycle: 30 years **Next Maintenance:** Year 21 (2040)
Quantity: 95 Roofing Squares **Unit Cost:** $1,200.00 / SQ
Estimate: 95 SQ X 100% X $1,200.00/SQ = $113,472 + tax = $124,820

Future Maintenance	
Year	**Cost**
21 (2040)	$124,820

Sections of the roof that are not visible from the ground have a smooth Sika Sarnafil thermoplastic PVC membrane system. The roof has good slope and no concerns were noted while on site. The HVAC well area had some water ponding, which is to be expected in an area with little slope. This area in particular should be monitored for issues with the membrane, especially after severe weather events.

Stn.51 7.4.3 Tower Composition Shingles - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 2 Roofing Squares
Unit Cost: $550.00 / SQ
Estimate: 2 SQ X 100% X $550.00/SQ = $1,100 + tax = $1,210

Future Maintenance	
Year	**Cost**
21 (2040)	$1,210

The Tower has a small section of roofing with asphalt composition shingles. Since the shingles are not over occupied space, the useful life is longer than normally budgeted. The shingles appeared to be wearing as anticipated.

Stn.51 7.4.4 Tower Metal Roof - Replace

Maintenance Cycle: 50 years
Next Maintenance: Year 41 (2060)
Quantity: 6 Roofing Squares
Unit Cost: $780.00 / SQ
Estimate: 6 SQ X 100% X $780.00/SQ = $4,680 + tax = $5,150

Future Maintenance	
Year	**Cost**

The tallest roof on the Tower is metal standing seam. We were not able to observe the top of the roof directly, but since it is not located over occupied space the anticipated useful life has been extended. From the ground the roof appeared to be functioning as expected.

Stn.51 7.4.5 Apparatus Bay Metal Roof - Replace

Maintenance Cycle: 40 years
Next Maintenance: Year 31 (2050)
Quantity: 19 Roofing Squares
Unit Cost: $780.00 / SQ
Estimate: 19 SQ X 100% X $780.00/SQ = $14,820 + tax = $16,300

Future Maintenance	
Year	**Cost**

The support areas adjacent to the Apparatus Bay have a standing metal seam roof. The roof was clean and was weathering as expected. This component budgets for replacing the roof at the end of its typical useful life.

Stn.51 7.4.6 Roof Inspection & Minor Repair

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 223 Roofing Squares
Unit Cost: $500.00 / SQ
Estimate: 223 SQ X 5% X $500.00/SQ = $5,572 + tax = $6,130

Future Maintenance	
Year	**Cost**
5 (2024)	$6,130
10 (2029)	$6,130
15 (2034)	$6,130
20 (2039)	$6,130
25 (2044)	$6,130
30 (2049)	$6,130

We have allocated up to 5% cost of replacing the PVC roof to for repairs to any of the roofs and associated components, such as flashing. Due to the considerable damage potential a leaking roof can cause, we recommend regular cleanings and inspections to maintain the integrity of the weatherproof membrane, flashing and joints.

Stn.51 8.2.1 Folding Bay Doors & Hardware - Maintenance

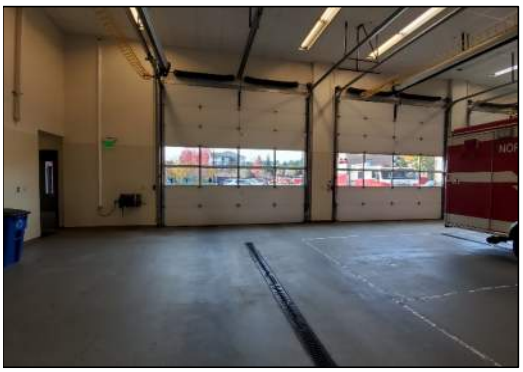
Maintenance Cycle: 5 years
Next Maintenance: Year 4 (2023)
Quantity: 5 Each
Unit Cost: $10,000.00 / EA
Estimate: 5 EA X 10% X $10,000.00/EA = $5,000 + tax = $5,500

Future Maintenance	
Year	**Cost**
4 (2023)	$5,500
9 (2028)	$5,500
14 (2033)	$5,500
19 (2038)	$5,500
24 (2043)	$5,500
29 (2048)	$5,500

The folding bay doors facing 73rd Ave NE have integrated opening hardware and are reportedly operating well. We have budgeted a contingency for maintenance since we do not anticipate that the doors will need total replacement within the next 30 years.

Stn.51 8.2.2 Overhead Bay Doors & Hardware - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 4 Each
Unit Cost: $5,500.00 / EA
Estimate: 4 EA X 100% X $5,500.00/EA = $22,000 + tax = $24,200



Future Maintenance	
Year	**Cost**
21 (2040)	$24,200

The Apparatus Bay sectional overhead doors facing the parking area have a metal exterior face and fiberglass interior with glass insets. We budget for periodic replacement of the doors to ensure they are operational at all times. We anticipate that funds for regular maintenance, such as spring replacement, will be paid for out of the operating budget.

Stn.51 8.2.3 Overhead Bay Door Operator - Contingency

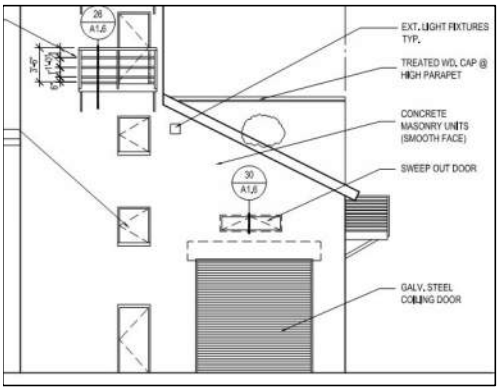
Maintenance Cycle: 5 years
Next Maintenance: Year 4 (2023)
Quantity: 4 Each
Unit Cost: $2,900.00 / EA
Estimate: 4 EA X 100% X $2,900.00/EA = $11,600 + tax = $12,760

Future Maintenance	
Year	**Cost**
4 (2023)	$12,760
9 (2028)	$12,760
14 (2033)	$12,760
19 (2038)	$12,760
24 (2043)	$12,760
29 (2048)	$12,760

The sectional overhead Apparatus Bay doors facing the parking area each have gearhead trolley-style operators. A regular maintenance budget has been set to address issues that may arise, or replace the units as needed. We understand that there have been some issues with the operators, which is not uncommon for these devices.

Stn.51 8.2.4 Coiling Door - Maintenance

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 2 Each
Unit Cost: $4,500.00 / EA
Estimate: 2 EA X 100% X $4,500.00/EA = $9,000 + tax = $9,900



Future Maintenance	
Year	**Cost**
21 (2040)	$9,900

Overhead coiling doors are located at the Tower and on the north end of the Apparatus Bay. We did not see the doors in use, but no problems were reported. We budget for total replacement at the end of their anticipated life span.

Stn.51 8.2.5 Doors & Hardware - Maintenance

Maintenance Cycle: 5 years
Next Maintenance: Year 3 (2022)
Quantity: 5 Each
Unit Cost: $650.00 / EA
Estimate: 5 EA X 100% X $650.00/EA = $3,250 + tax = $3,580

Future Maintenance	
Year	**Cost**
3 (2022)	$3,580
8 (2027)	$3,580
13 (2032)	$3,580
18 (2037)	$3,580
23 (2042)	$3,580
28 (2047)	$3,580

We do not anticipate that all of the doors will need to be replaced at once. Instead, the budget provides a contingency to address up to five doors and hardware sets at Station 51 and the Tower every five years. The doors leading to the exterior are steel, while the interior doors are wood. Aluminum storefront doors are addressed in a separate component.

Stn.51 8.3.1 Storefront System - Maintenance

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 420 Square Feet
Unit Cost: $83.00 / SF
Estimate: 420 SF X 20% X $83.00/SF = $6,972 + tax = $7,670

Future Maintenance	
Year	**Cost**
6 (2025)	$7,670
21 (2040)	$7,670

An aluminum storefront system is found at the entries to the Station. Depending on the frequency of use, major maintenance will periodically be required. This component budgets up to 20% of the replacement cost for periodic repairs to the doors, gaskets and glazing within the system.

Stn.51 8.3.2 Storefront System - Replace

Maintenance Cycle: 60 years
Next Maintenance: Year 52 (2071)
Quantity: 420 Square Feet
Unit Cost: $83.00 / SF
Estimate: 420 SF X 100% X $83.00/SF = $34,860 + tax = $38,350

Future Maintenance	
Year	Cost

Depending on the frequency of use, the cost for replacing the aluminum storefront system at the entries of the Station will outweigh the cost for repairs and/or the finish on the system may deteriorate to the point of needing replacement. This component budgets for total replacement of the storefront system.

Stn.51 8.5.1 Aluminum Windows - Replace

Maintenance Cycle: 40 years
Next Maintenance: Year 31 (2050)
Quantity: 2,620 Square Feet
Unit Cost: $60.00 / SF
Estimate: 2,620 SF X 100% X $60.00/SF = $157,200 + tax = $172,920

Future Maintenance	
Year	Cost

The windows on the exterior of the building are aluminum frame, which should require little maintenance. Windows are typically replaced because they are not operating properly, to update their appearance and/or to capture better energy efficiency. We expect that failed insulated glazing units will be replaced as needed with funds from the operating budget.

Stn.51 9.8.1 Cedar Wood Siding - Maintenance

Maintenance Cycle: 6 years
Next Maintenance: Year 3 (2022)
Quantity: 1,530 Square Feet
Unit Cost: $13.00 / SF
Estimate: 1,530 SF X 100% X $13.00/SF = $19,890 + tax = $21,880

Future Maintenance	
Year	**Cost**
3 (2022)	$21,880
9 (2028)	$21,880
15 (2034)	$21,880
21 (2040)	$21,880
27 (2046)	$21,880

It was reported that the exterior cedar wood siding was refinished in 2017 for approximately $5,000. We recommend a penetrating stain for maximum results. The finish was weathering well at the time of our site visit. We budget for future maintenance cycles.

Stn.51 9.8.2 Concrete Siding - Maintenance

Maintenance Cycle: 12 years
Next Maintenance: Year 3 (2022)
Quantity: 920 Square Feet
Unit Cost: $5.00 / SF
Estimate: 920 SF X 100% X $5.00/SF = $4,600 + tax = $5,060

Future Maintenance	
Year	**Cost**
3 (2022)	$5,060
15 (2034)	$5,060
27 (2046)	$5,060

Low concrete walls are located around the base of the building, as are cast in place concrete planting beds. The durable surface should require minimal maintenance. Funds are budgeted for periodic professional cleaning. We do not recommend painting the surfaces due to the future maintenance requirements.

Stn.51 9.8.3 Exterior Steel - Maintenance

Maintenance Cycle: 6 years
Next Maintenance: Year 6 (2025)
Quantity: 1 Lump Sum
Unit Cost: $8,000.00 / LS
Estimate: $8,000

Future Maintenance	
Year	**Cost**
6 (2025)	$8,000
12 (2031)	$8,000
18 (2037)	$8,000
24 (2043)	$8,000
30 (2049)	$8,000

This component budgets funds to paint the steel components found on the exterior of the facility, including the stairs on the Tower, handrails along the walkways, exterior doors, canopies and steel members on the Station building. Maintaining a regular paint cycle will help protect the steel from moisture, which could lead to corrosion, shortening the useful life of these components. The paint overall was weathering as expected with no areas of corrosion noted.

Stn.51 9.8.4 Fiber Cement Board Siding - Caulk & Paint

Maintenance Cycle: 8 years
Next Maintenance: Year 1 (2020)
Quantity: 6,420 Square Feet
Unit Cost: $3.00 / SF
Estimate: 6,420 SF X 100% X $3.00/SF = $19,260 + tax = $21,190

Future Maintenance	
Year	**Cost**
1 (2020)	$21,190
9 (2028)	$21,190
17 (2036)	$21,190
25 (2044)	$21,190

The paint on the fiber cement board around the HVAC well is coming to the end of its useful life. Verify that all exposed (cut) ends of the boards have adequate paint coverage to achieve a full useful life of the fiber cement board. The estimated cost includes funds for caulking with each paint cycle.

Stn.51 10.4.1 Exterior Signage - Refurbish

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 1 Lump Sum
Unit Cost: $2,500.00 / LS
Estimate: $2,500

Future Maintenance	
Year	Cost
1 (2020)	$2,500
11 (2030)	$2,500
21 (2040)	$2,500

Exterior signage is located on the low concrete walls along NE 181st Street and 73rd Ave NE. A large "51" is adjacent to the Apparatus Bay doors along 73rd Ave NE with back lighting. The signage is constructed from durable materials and will not likely need replacement within the next 30 years. This budget provides funds from periodic repairs, including to the lighting elements, to keep the high visibility signage in optimal condition.

Stn.51 10.5.1 Exterior Mail Pedestal Unit - Replace

Maintenance Cycle: 25 years
Next Maintenance: Year 16 (2035)
Quantity: 1 Each
Unit Cost: $2,000.00 / EA
Estimate: 1 EA X 100% X $2,000.00/EA = $2,000 + tax = $2,200

Future Maintenance	
Year	Cost
16 (2035)	$2,200

An exterior mail pedestal unit is located along NE 181st Street. No issues were reported. This budget provides funds for replacing the unit at the approximate end of useful life.

Stn.51 11.1.1 Propane Forklift - Replace

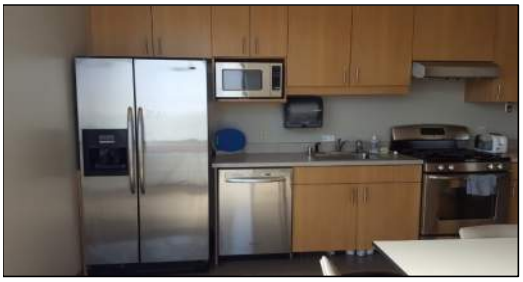
Maintenance Cycle: 20 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Each
Unit Cost: $20,000.00 / EA
Estimate: 1 EA X 100% X $20,000.00/EA = $20,000 + tax = $22,000

Future Maintenance	
Year	**Cost**
10 (2029)	$22,000
30 (2049)	$22,000

A used propane forklift was donated to the Station in 2017. The forklift is a useful piece of equipment, so we have budgeted for replacement with a used model in approximately 10 years.

Stn.51 11.4.1 Admin Kitchen Equipment - Contingency

Maintenance Cycle: 10 years
Next Maintenance: Year 8 (2027)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: $5,000



Future Maintenance	
Year	**Cost**
8 (2027)	$5,000
18 (2037)	$5,000
28 (2047)	$5,000

The Admin Kitchen is located on the first floor and receives moderate use. Equipment includes a 30" gas range, vent hood, microwave, dishwasher, and refrigerator. It is unlikely that all of the equipment will need to be replaced at once, so we budget a repair contingency to periodically replace equipment as needed.

Stn.51 11.4.2 Duty Crew Kitchen Equipment - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 1 Lump Sum
Unit Cost: $15,000.00 / LS
Estimate: $15,000

Future Maintenance	
Year	**Cost**
5 (2024)	$15,000
10 (2029)	$15,000
15 (2034)	$15,000
20 (2039)	$15,000
25 (2044)	$15,000
30 (2049)	$15,000

The Duty Crew Kitchen is located on the second floor and is heavily used. Equipment includes a 60" Wolf gas range with six burners, 66" vent hood with a 1500 CFM hood ventilator, Kitchenaid counter top microwave, Bosch undercounter dishwasher, and four Kitchenaid stainless steel refrigerators. It is unlikely that all of the equipment will need to be replaced at once, so we budget a repair contingency to periodically replace equipment as needed. Since the Duty Crew Kitchen is larger and used more frequently, the budget is larger and the maintenance cycle is more frequent than the Admin Kitchen's budget.

Stn.51 11.6.1 Laundry Equipment - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 4 Each
Unit Cost: $850.00 / EA
Estimate: 4 EA X 100% X $850.00/EA = $3,400 + tax = $3,740

Future Maintenance	
Year	**Cost**
5 (2024)	$3,740
10 (2029)	$3,740
15 (2034)	$3,740
20 (2039)	$3,740
25 (2044)	$3,740
30 (2049)	$3,740

The Duty Crew Laundry room has a Whirlpool Front Load Washer & Dryer and a Maytag Front Load washer & dryer which reportedly are constantly used. We have provided a frequent replacement cycle based on the number of loads, rather than the number of years in service. All machines were operational at the time of our site visit.

Stn.51 11.6.2 Unimac Gear Extractor - Replace

Maintenance Cycle: 12 years
Next Maintenance: Year 3 (2022)
Quantity: 1 Each
Unit Cost: $8,000.00 / EA
Estimate: 1 EA X 100% X $8,000.00/EA = $8,000 + tax = $8,800

Future Maintenance	
Year	**Cost**
3 (2022)	$8,800
15 (2034)	$8,800
27 (2046)	$8,800

The Unimac commercial washer is located near the Apparatus Bay to wash gear and reportedly receives constant use. We budget for periodic replacement or major repairs of the unit, which was functioning well at the time of our site visit.

Stn.51 11.6.3 Ramair Gear Dryer - Replace

Maintenance Cycle: 12 years
Next Maintenance: Year 3 (2022)
Quantity: 1 Each
Unit Cost: $10,000.00 / EA
Estimate: 1 EA X 100% X $10,000.00/EA = $10,000 + tax = $11,000

Future Maintenance	
Year	**Cost**
3 (2022)	$11,000
15 (2034)	$11,000
27 (2046)	$11,000

A heavy duty gear dryer is located near the Apparatus Bay. We understand that it was in good working order. We budget for periodic replacement of the unit which receives consistent use.

Stn.51 11.8.1 Air Compressor System - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 1 Each
Unit Cost: $8,000.00 / EA
Estimate: 1 EA X 100% X $8,000.00/EA = $8,000 + tax = $8,800

Future Maintenance	
Year	**Cost**
6 (2025)	$8,800
21 (2040)	$8,800

An industrial air compressor system is utilized to maintain the fire equipment. We understand that it was functioning as expected. The budget provides funds for replacement at the end of its typical useful life.

Stn.51 12.1.1 Apparatus Bay - Refurbish

Maintenance Cycle: 25 years
Next Maintenance: Year 16 (2035)
Quantity: 12,525 Square Feet
Unit Cost: $5.00 / SF
Estimate: 12,525 SF X 100% X $5.00/SF = $62,625 + tax = $68,890

Future Maintenance	
Year	**Cost**
16 (2035)	$68,890

This component budgets funds to refurbish the approximately 7,380 sf Apparatus Bay and adjoining Comp Room, Disaster Storage, Equip Decon, Hose/Equip Stor, SCBA Maint, and Shop. Funds will most likely be focused on replacing ceiling tiles, updating the FRP wall panels, and resealing concrete flooring. This component is discretionary and should be updated in terms of timing and budget to meet the needs of the Station.

Stn.51 12.1.2 Admin Common Areas - Repaint

Maintenance Cycle: 16 years
Next Maintenance: Year 7 (2026)
Quantity: 12,115 Square Feet
Unit Cost: $1.30 / SF
Estimate: 12,115 SF X 100% X $1.30/SF = $15,750 + tax = $17,320

Future Maintenance	
Year	**Cost**
7 (2026)	$17,320
23 (2042)	$17,320

For the sake of the report, we refer to common areas on the first level as the EMS Exam & Storage, Hallways, Admin Kitchen, Storage, and Stairways since these areas will most likely be painted at the same time. The paint was in good overall condition.

Stn.51 12.1.3 Exercise Room - Refurbish

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 1 Lump Sum
Unit Cost: $3,000.00 / LS
Estimate: $3,000

Future Maintenance	
Year	**Cost**
11 (2030)	$3,000

This budget provides funds to periodically refurbish the exercise room finishes, including painting, mirrors, television monitors and rubberized flooring. We understand that equipment is maintained and purchased with funds from the maintenance budget. The 1300 sf room was clean and in good condition at the time of our site visit.

Stn.51 12.1.4 Bunk Gear Storage - Refurbish

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 1 Lump Sum
Unit Cost: $8,000.00 / LS
Estimate: $8,000

Future Maintenance	
Year	**Cost**
5 (2024)	$8,000
15 (2034)	$8,000
25 (2044)	$8,000

The Bunk Gear Storage room is just off the Apparatus Bay and receives frequent traffic, but is well maintained. This component budgets funds to update finishes, storage furnishings, and to update the configuration of the 645 sf Bunk Gear Storage and Dry Closet area as needed.

Stn.51 12.1.5 Admin Offices - Refurbish

Maintenance Cycle: 16 years
Next Maintenance: Year 7 (2026)
Quantity: 1 Lump Sum
Unit Cost: $25,000.00 / LS
Estimate: $25,000

Future Maintenance	
Year	**Cost**
7 (2026)	$25,000
23 (2042)	$25,000

For the purposes of this report, the 10,330 sf of administrative spaces on the first floor are referred to as the Admin Offices, including the Comp Systems, Conference Room, FP Conference, FP Workroom, 9 Offices, Reception, Records, Uniform Storage and the Workroom. This component budgets funds for repainting the trim and walls and for updating the furnishings.

Stn.51 12.1.6 Lobby - Refurbish

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $20,000

Next Maintenance: Year 8 (2027)
Unit Cost: $20,000.00 / LS

Future Maintenance	
Year	**Cost**
8 (2027)	$20,000
23 (2042)	$20,000

This component budgets funds for updating finishes and furnishings in the Lobby, including the adjacent hallways and Vending Room, a total of approximately 3,595 sf. Funds are for refinishing the interior wood surfaces, updating the reception millwork facing the Lobby, painting the walls, as well as updating the art and furniture.

Stn.51 12.1.7 Public Meeting Room - Refurbish

Maintenance Cycle: 12 years
Quantity: 1 Lump Sum
Estimate: $15,000

Next Maintenance: Year 3 (2022)
Unit Cost: $15,000.00 / LS

Future Maintenance	
Year	**Cost**
3 (2022)	$15,000
15 (2034)	$15,000
27 (2046)	$15,000

A large public meeting room includes room partitioning doors which allows the space to be divided into two. This component budgets funds for periodic updates to the kitchenettes, paint and furniture. Also included is maintenance to the partition doors, which we do not anticipate will need to be replaced in the next 30 years. The funds are not specifically allocated so that they may be applied to the greatest need. The room was in serviceable condition, though we understand that there have been some issues with furniture in the recent past. Updating the AV equipment is funded in a separate component, are the flooring updates.

Stn.51 12.1.8 Public & Admin Restrooms - Refurbish

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 7 Each
Unit Cost: $2,500.00 / EA
Estimate: 7 EA X 100% X $2,500.00/EA = $17,500 + tax = $19,250

Future Maintenance	
Year	**Cost**
11 (2030)	$19,250

The public and administrative restrooms are located on the first floor and receive moderate use. The restrooms were clean and well maintained. This budget provides funds for replacing fixtures, updating finishes and making major repairs. The flooring updates are budgeted in a separate component.

Stn.51 12.2.1 Duty Crew Common Areas - Full Repaint

Maintenance Cycle: 16 years
Next Maintenance: Year 9 (2028)
Quantity: 9,630 Square Feet
Unit Cost: $1.30 / SF
Estimate: 9,630 SF X 100% X $1.30/SF = $12,519 + tax = $13,770

Future Maintenance	
Year	**Cost**
9 (2028)	$13,770
25 (2044)	$13,770

The common areas on the second floor include the hallways, Storage, Workroom, Stair and Quiet Area. All areas were in good condition overall. This component budgets for full repainting of these areas.

Stn.51 12.2.2 Duty Crew Common Areas - Touchup Paint

Maintenance Cycle: 16 years
Next Maintenance: Year 17 (2036)
Quantity: 9,630 Square Feet
Unit Cost: $1.30 / SF
Estimate: 9,630 SF X 100% X $1.30/SF = $12,519 + tax = $13,770

Future Maintenance	
Year	**Cost**
17 (2036)	$13,770

The common areas on the second floor include the hallways, Storage, Workroom, Stair and Quiet Area. All areas were in good condition overall. Due to the heavy use in the Duty Crew areas, this component provides funds for touch up painting in these areas.

Stn.51 12.2.3 Duty Crew Sleep Room Interiors - Refurbish

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 9 Each
Unit Cost: $2,500.00 / EA
Estimate: 9 EA X 100% X $2,500.00/EA = $22,500 + tax = $24,750

Future Maintenance	
Year	**Cost**
5 (2024)	$24,750
15 (2034)	$24,750
25 (2044)	$24,750

Nine sleep rooms are available for the Duty Crews' use. The rooms are simply furnished and were in good condition overall. This component budgets funds to repaint the walls and update the furnishings. The flooring replacement is budgeted in a separate component.

Stn.51 12.2.4 Duty Crew Kitchen Interiors - Refurbish

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $10,000

Next Maintenance: Year 1 (2020)
Unit Cost: $10,000.00 / LS

Future Maintenance	
Year	**Cost**
1 (2020)	$10,000
11 (2030)	$10,000
21 (2040)	$10,000

This component provides funds to periodically update the walls, furniture, counters and cabinets in the Duty Crew kitchen, which we understand gets heavy use. The 980 sf area was clean and well maintained. Replacement of kitchen equipment is budgeted in a separate component.

Stn.51 12.2.5 Duty Crew Laundry Interiors - Refurbish

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $2,000

Next Maintenance: Year 1 (2020)
Unit Cost: $2,000.00 / LS

Future Maintenance	
Year	**Cost**
1 (2020)	$2,000
11 (2030)	$2,000
21 (2040)	$2,000

A 345 sf laundry area is available on the second floor in the Duty Crew area. The budget is intended for replacing utility sinks, counters and cabinets, as well as painting wall surfaces. A separate component budgets funds for replacing the washing and drying equipment.

Stn.51 12.2.6 Duty Crew Office/Training Areas - Refurbish

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 1 Lump Sum
Unit Cost: $6,000.00 / LS
Estimate: $6,000

Future Maintenance	
Year	**Cost**
6 (2025)	$6,000
21 (2040)	$6,000

The second floor has Duty Crew office and training area which will need periodic refurbishment of the wall paint and furniture. The areas are about 2,620 sf total.

Stn.51 12.2.7 Duty Crew Restrooms - Refurbish

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 6 Each
Unit Cost: $2,500.00 / EA
Estimate: 6 EA X 100% X $2,500.00/EA = $15,000 + tax = $16,500

Future Maintenance	
Year	**Cost**
1 (2020)	$16,500
11 (2030)	$16,500
21 (2040)	$16,500

The second floor has two single occupant restrooms and a four stall shower/toilet adjacent to a double sink Lavatory Area. Similar to the first floor, the restrooms were found to be clean and well maintained. This budget provides funds for replacing fixtures, updating finishes and making major repairs. The flooring updates are budgeted in a separate component.

Stn.51 12.4.1 1st Floor Interior Carpet Flooring - Replace

Maintenance Cycle: 24 years
Next Maintenance: Year 15 (2034)
Quantity: 704 Square Yards
Unit Cost: $44.00 / SY
Estimate: 704 SY X 100% X $44.00/SY = $30,981 + tax = $34,080

Future Maintenance	
Year	**Cost**
15 (2034)	$34,080

There are twenty four rooms with carpet on the first floor of Station 51. We budget for replacement of the carpeting on a less frequent cycle than the Duty Crew areas due to less wear and tear these areas experience. Timing of the next replacement should be adjusted to meet the needs of the Station and tolerance to wear.

Stn.51 12.4.2 2nd Floor Interior Carpet Flooring - Replace

Maintenance Cycle: 16 years
Next Maintenance: Year 7 (2026)
Quantity: 507 Square Yards
Unit Cost: $44.00 / SY
Estimate: 507 SY X 100% X $44.00/SY = $22,313 + tax = $24,540

Future Maintenance	
Year	**Cost**
7 (2026)	$24,540
23 (2042)	$24,540

A total of nineteen rooms have carpet on the 2nd floor, including hallways, workrooms, the classroom, sleep rooms and support areas. We budget to replace all of the carpet at once on the second floor for continuity of appearance.

Stn.51 12.4.3 1st Floor Resilient Flooring - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 655 Square Feet
Unit Cost: $3.20 / SF
Estimate: 655 SF X 100% X $3.20/SF = $2,096 + tax = $2,310

Future Maintenance	
Year	**Cost**
11 (2030)	$2,310

The restrooms closest to the Public Meeting room have resilient flooring. The flooring was wearing well; this component budgets funds for replacing the flooring at the end of its typical useful life.

Stn.51 12.4.4 2nd Floor Resilient Flooring - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 770 Square Feet
Unit Cost: $3.20 / SF
Estimate: 770 SF X 100% X $3.20/SF = $2,464 + tax = $2,710

Future Maintenance	
Year	**Cost**
6 (2025)	$2,710
21 (2040)	$2,710

The restrooms, shower area and laundry room on the second floor have resilient flooring. We have budgeted for replacement on a shorter maintenance cycle than the restrooms on the first floor due to the higher use in the Duty Crew areas. The flooring in these areas appeared to be regularly maintained, with no issues reported.

Stn.51 12.4.5 1st Floor Sheet Flooring - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 1,950 Square Feet
Unit Cost: $15.00 / SF
Estimate: 1,950 SF X 100% X $15.00/SF = $29,250 + tax = $32,180

Future Maintenance	
Year	**Cost**
11 (2030)	$32,180

Welded seam rubber sheet flooring was specified in eleven rooms on the first level, including the EMS Exam room, workroom and support areas. Rubber treads are located on the stairwell treads. This component budgets funds for periodic replacement of these surfaces, which were in good condition.

Stn.51 12.4.6 2nd Floor Sheet Flooring - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 2,510 Square Feet
Unit Cost: $15.00 / SF
Estimate: 2,510 SF X 100% X $15.00/SF = $37,650 + tax = $41,420

Future Maintenance	
Year	**Cost**
6 (2025)	$41,420
21 (2040)	$41,420

Welded seam rubber sheet flooring was specified in eight rooms on the second level, including the Kitchen, hallways, and support areas. Rubber treads are located on the stairwell treads. This component budgets funds for periodic replacement of these surfaces more frequently than areas with the same type of flooring on the first floor because they are more heavily trafficked. The areas observed appeared to be regularly maintained.

Stn.51 12.4.7 1st Floor Stained Concrete - Refurbish

Maintenance Cycle: 12 years
Next Maintenance: Year 3 (2022)
Quantity: 510 Square Feet
Unit Cost: $27.00 / SF
Estimate: 510 SF X 100% X $27.00/SF = $13,770 + tax = $15,150

Future Maintenance	
Year	**Cost**
3 (2022)	$15,150
15 (2034)	$15,150
27 (2046)	$15,150

Stained concrete surfaces are located in the Lobby, some hallways and in front of the kitchenettes in the Public Meeting Room. This component provides funds to refurbish the flooring surface to keep these high use areas in optimal condition. They were wearing well, with no issues reported.

Stn.51 12.6.1 Elevator Cab Interior - Remodel

Maintenance Cycle: 40 years
Next Maintenance: Year 31 (2050)
Quantity: 1 Lump Sum
Unit Cost: $6,000.00 / LS
Estimate: $6,000

Future Maintenance	
Year	**Cost**

Remodeling the elevator cab is reportedly a low priority for the Station. We budget funds for updating the cab interiors in conjunction with major elevator maintenance. The finishes inside the cab are wearing well.

Stn.51 14.1.1 Elevator - Major Upgrades

Maintenance Cycle: 40 years
Next Maintenance: Year 31 (2050)
Quantity: 1 Lump Sum
Unit Cost: $125,000.00 / LS
Estimate: $125,000

Future Maintenance	
Year	**Cost**

The elevator is on a full service contract that keeps it operational at all times. The allowance is intended to cover the cost of major repairs and replacements not covered under a typical full service contract, such as control replacement, pump replacement and hydraulic cylinder replacement. During our visit the elevator's mechanical equipment was in proper working order with no problems being noted. We recommend that the Station discuss future maintenance needs with the elevator service provider to better understand the timing and cost of future major maintenance that is outside the regular maintenance contract.

Stn.51 14.1.2 Elevators - 5 Year Load Test

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: 1 LS X 100% X $5,000.00/LS = $5,000 + tax = $5,500

Future Maintenance	
Year	**Cost**
5 (2024)	$5,500
10 (2029)	$5,500
15 (2034)	$5,500
20 (2039)	$5,500
25 (2044)	$5,500
30 (2049)	$5,500

This component budgets for the Five-Year Safety Test for elevators mandated by the Washington State Department of Labor and Industries. The test evaluates the overspeed rupture valve and the plunger gripper per code requirements. This test is not typically covered under maintenance contracts and has an average cost of about $5,000 per elevator cab to complete.

Stn.51 15.2.1 Plumbing System - Contingency

Maintenance Cycle: 5 years
Quantity: 1 Lump Sum
Estimate: $5,000

Next Maintenance: Year 5 (2024)
Unit Cost: $5,000.00 / LS

Future Maintenance	
Year	**Cost**
5 (2024)	$5,000
10 (2029)	$5,000
15 (2034)	$5,000
20 (2039)	$5,000
25 (2044)	$5,000
30 (2049)	$5,000

The supply plumbing is copper; its useful life should exceed the scope of this report. The Station has experienced some issues with pin hole leaks, which is not uncommon with copper plumbing. We carry a contingency to deal with periodic plumbing supply and drain line issues as they arise.

Stn.51 15.2.2 Plumbing Supply Lines - Replace

Maintenance Cycle: 60 years
Quantity: 1 Lump Sum
Estimate: $60,000

Next Maintenance: Year 51 (2070)
Unit Cost: $60,000.00 / LS

Future Maintenance	
Year	**Cost**

It was reported that some pin hole leaks have been experienced by the Station since construction was completed in 2011. It is our understanding that the quality of contemporary copper supply lines is not as high as that of copper used in the past. In addition, the circulating hot water system could promote a shorter useful life of the supply system. Therefore, a budget to replace the supply lines with PEX, or its equivalent, is budgeted once the system has been in service for 60 years. The cost will vary greatly on what supply lines are used at the time of replacement, accessibility to the lines, etc. This component is intended to help financially prepare the Station for the future expense, with the intention that the pricing will be refined as replacement is in a 5 - 10 year frame.

Stn.51 15.3.1 Irrigation System - Contingency

Maintenance Cycle: 10 years
Next Maintenance: Year 10 (2029)
Quantity: 12 Zones
Unit Cost: $780.00 / ZN
Estimate: 12 ZN X 100% X $780.00/ZN = $9,360 + tax = $10,300

Future Maintenance	
Year	**Cost**
10 (2029)	$10,300
20 (2039)	$10,300
30 (2049)	$10,300

There are approximately twelve zones associated with the drip system. In 2019 one controller was replaced. This component allocates funds for major maintenance of the irrigation system, beyond what is handled by the landscaping maintenance crew and/or from funds from the operating budget, such as selective repairs to sections of plumbing, replacing controllers or timers. The estimated costs would not be sufficient to replace the entire system.

Stn.51 15.3.2 Storm Water System - Contingency

Maintenance Cycle: 3 years
Next Maintenance: Year 3 (2022)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: $5,000

Future Maintenance	
Year	**Cost**
3 (2022)	$5,000
6 (2025)	$5,000
9 (2028)	$5,000
12 (2031)	$5,000
15 (2034)	$5,000
18 (2037)	$5,000
21 (2040)	$5,000
24 (2043)	$5,000
Repeat Every 3 Years	

It was reported that there are nine organic filters that need periodic replacement. This budget covers the cost to replace the filters and complete other maintenance to the stormwater system, including making modifications to site drainage and upkeep of the detention vault located under the concrete parking area, as needed.

Stn.51 15.4.1 Fire Detection System - Maintenance

Maintenance Cycle: 5 years
Quantity: 1 Lump Sum
Estimate: $2,500

Next Maintenance: Year 5 (2024)
Unit Cost: $2,500.00 / LS

Future Maintenance	
Year	**Cost**
5 (2024)	$2,500
10 (2029)	$2,500
15 (2034)	$2,500
20 (2039)	$2,500
25 (2044)	$2,500
30 (2049)	$2,500

The fire detection system repair allowance is intended to financially prepare the Station to maintain the fire detection and related systems, including smoke and CO sensors, alarms, exit signage and emergency egress fixtures.

Stn.51 15.4.2 Fire Sprinkler System - Maintenance

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $8,000

Next Maintenance: Year 6 (2025)
Unit Cost: $8,000.00 / LS

Future Maintenance	
Year	**Cost**
6 (2025)	$8,000
21 (2040)	$8,000

The building has a wet sprinkler system throughout the occupied building. The system will occasionally need piping and sprinkler head repairs. This component provides a maintenance contingency for such repairs, though no issues were reported at the time of our site visit.

Stn.51 15.5.1 Water Heater - Contingency

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 2 Each
Unit Cost: $7,400.00 / EA
Estimate: 2 EA X 100% X $7,400.00/EA = $14,800 + tax = $16,280

Future Maintenance	
Year	**Cost**
11 (2030)	$16,280

The Station has two Phoenix 80 gallon direct vent ultra-high efficiency gas hot water heaters on a circulating water system to provide hot water on demand. We anticipate that necessary repairs to the circulating pumps will be infrequent and inexpensive enough to handle through the operating budget. It was reported that the circulating pumps were replaced in 2019. This component provides funds for periodic replacement of the hot water heaters and associated expansion tanks.

Stn.51 15.6.1 Heat Recovery Unit - Replace

Maintenance Cycle: 25 years
Next Maintenance: Year 16 (2035)
Quantity: 1 Each
Unit Cost: $12,000.00 / EA
Estimate: 1 EA X 100% X $12,000.00/EA = $12,000 + tax = $13,200

Future Maintenance	
Year	**Cost**
16 (2035)	$13,200

A gas Aaon Bunker Gear heat recovery rooftop unit was specified for Station 51. Since the unit is located on the rooftop, replacement of the unit will require extra effort, with the possibility that a crane may be necessary to remove and replace the equipment. We budget for total replacement of the unit at the end of its typical useful life, when major repairs are no longer feasible.

Stn.51 15.6.2 Indirect Makeup AHU - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 1 Each
Unit Cost: $9,000.00 / EA
Estimate: 1 EA X 100% X $9,000.00/EA = $9,000 + tax = $9,900

Future Maintenance	
Year	**Cost**
11 (2030)	$9,900

Aaon RN-016 indirect makeup air handling unit is located in the rooftop HVAC well. Since the unit is located on the rooftop, replacement of the unit will require extra effort, with the possibility that a crane may be necessary to remove and replace the equipment. We budget for total replacement of the unit at the end of its typical useful life, when major repairs are no longer feasible.

Stn.51 15.6.3 Furnace - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 1 Each
Unit Cost: $2,000.00 / EA
Estimate: 1 EA X 100% X $2,000.00/EA = $2,000 + tax = $2,200

Future Maintenance	
Year	**Cost**
11 (2030)	$2,200

A Reznor SDH-100 furnace was specified for the Station. The system was operational at the time of our visit. We budget for major repairs or replacement of the system at the end of its anticipated useful life.

Stn.51 15.6.4 VRF Heat Pump - Contingency

Maintenance Cycle: 6 years
Next Maintenance: Year 6 (2025)
Quantity: 40 Each
Unit Cost: $1,331.20 / EA
Estimate: 40 EA X 33% X $1,331.20/EA = $17,572 + tax = $19,330

Future Maintenance	
Year	**Cost**
6 (2025)	$19,330
12 (2031)	$19,330
18 (2037)	$19,330
24 (2043)	$19,330
30 (2049)	$19,330

A Mitsubishi VRF heat pump split system with 35 interior units and five exterior units was specified for the Station. It was reported that the system has not been functioning as expected, though a solution was not known at the time of the report. Three motherboards have been replaced; approximately $3,500 has been spent in 2019 on miscellaneous repairs. This component budgets funds to replace up to 33% of the units each maintenance cycle since it is unlikely that all of the units will be replaced at once.

Stn.51 15.6.5 HVAC System - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: $5,000

Future Maintenance	
Year	**Cost**
5 (2024)	$5,000
10 (2029)	$5,000
15 (2034)	$5,000
20 (2039)	$5,000
25 (2044)	$5,000
30 (2049)	$5,000

This component provides a contingency for HVAC components not specifically listed, such as the Markel H3483 ceiling electric heater, five branch circuit controllers, eight electric duct heaters, and two Markle P-125 Radiant ceiling heat panels in the EMS storage room that were specified for the Station. It was reported that the HVAC system has not been performing as expected, and that two blowers were replaced in 2019 at a cost of $1,200.

Stn.51 15.6.6 Infrared Heaters - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 6 Each
Unit Cost: $2,300.00 / EA
Estimate: 6 EA X 100% X $2,300.00/EA = $13,800 + tax = $15,180

Future Maintenance	
Year	**Cost**
11 (2030)	$15,180

There are six Roberts Gordon Vantage II infrared heaters in the Apparatus Bay. No issues were reported; the budget provides funds for total replacement at the end of their typical useful life.

Stn.51 15.7.1 Exhaust Fans - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 14 Each
Unit Cost: $1,500.00 / EA
Estimate: 14 EA X 33% X $1,500.00/EA = $6,930 + tax = $7,620

Future Maintenance	
Year	**Cost**
5 (2024)	$7,620
10 (2029)	$7,620
15 (2034)	$7,620
20 (2039)	$7,620
25 (2044)	$7,620
30 (2049)	$7,620

There are thirteen exhaust fans located throughout Station 51 and a specialized exhaust removal system is in the Apparatus Bay. This budget establishes a repair contingency to ensure that the system has funding to keep it in optimal condition. The budget reflects anticipated costs to repair up to 33% of the system each maintenance cycle, including vent hoods on the exterior of the building. Typically, exhaust systems are maintained, rather than removed and replaced within a 30 year timeframe.

Stn.51 16.3.1 Electrical System - Contingency

Maintenance Cycle: 10 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: $5,000

Future Maintenance	
Year	**Cost**
10 (2029)	$5,000
20 (2039)	$5,000
30 (2049)	$5,000

Once the electrical system has been in service 20 years we typically recommend an electrical preventative maintenance inspection and service on all panels every three years. This component provides a contingency to address future preventative maintenance inspections, and any other electrical system issue that may arise. The electrical meter bases are housed on the interior of the building, so we do not anticipate that they will need to be replaced in the next 30 years.

Stn.51 16.5.1 Emergency Generator - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 1 Each
Unit Cost: $18,000.00 / EA
Estimate: 1 EA X 100% X $18,000.00/EA = $18,000 + tax = $19,800

Future Maintenance	
Year	**Cost**
21 (2040)	$19,800

A Detroit diesel generator with a 1,000 gallon fuel tank provides the Station with power in the event of a power failure. The system is reportedly tested regularly and has engaged during power outages in the past. Since the generator provides power to a critical emergency service, we budget for replacement once the generator has been in service 30 years. The system may remain serviceable longer with regular maintenance and intermittent use.

Stn.51 16.5.2 Generator Fuel Tank - Replace

Maintenance Cycle: 30 years
Next Maintenance: Year 21 (2040)
Quantity: 1 Each
Unit Cost: $8,000.00 / EA
Estimate: 1 EA X 100% X $8,000.00/EA = $8,000 + tax = $8,800

Future Maintenance	
Year	**Cost**
21 (2040)	$8,800

The fuel tank for the generator is located in the elements and will periodically need to be replaced. Since it is a critical component of the emergency generator system, we have budgeted for its replacement when it has been in service 30 years.

Stn.51 16.6.1 Exterior Light Fixtures - Replace

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 1 Lump Sum
Unit Cost: $10,000.00 / LS
Estimate: $10,000

Future Maintenance	
Year	**Cost**
1 (2020)	$10,000
11 (2030)	$10,000
21 (2040)	$10,000

There are a variety of exterior light fixtures associated with Station 51, including light bollards, stair lighting (which we understand is not currently functioning), building mounted fixtures and pole mounted fixtures in the parking area. It was reported that some of the lamps needed for some of the building mounted fixtures are no longer available; these fixtures will need to be replaced within the next year or so. Since all of the fixtures will not be replaced at once, we budget a lump sum each repair cycle to address the lighting fixtures that need to be updated or replaced. There are approximately 40 exterior light fixtures total.

Stn.51 16.8.1 Fire Control Panel - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 11 (2030)
Quantity: 1 Each
Unit Cost: $3,400.00 / EA
Estimate: 1 EA X 100% X $3,400.00/EA = $3,400 + tax = $3,740

Future Maintenance	
Year	**Cost**
11 (2030)	$3,740

The Station has one EST fire alarm control panel that is regularly inspected. We do not anticipate that any major maintenance will be required. The budget is for replacement of the panel at the end of its useful life.

Stn.51 16.9.1 Audio/Visual Equipment - Upgrades

Maintenance Cycle: 15 years
Next Maintenance: Year 6 (2025)
Quantity: 1 Lump Sum
Unit Cost: $77,000.00 / LS
Estimate: $77,000

Future Maintenance	
Year	**Cost**
6 (2025)	$77,000
21 (2040)	$77,000

An estimate was provided for upgrades to the current system, which is not up to current standards. The bid includes costs for "Head End" equipment at $42,641.37 and projection system replacement at $18,329.07, with an additional $16,000 needed to upgrade the upstairs training room. We understand that this work will likely be completed by the end of 2020.

Stn.51 17.1.1 Fireblast 451 - Maintenance

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $10,000

Next Maintenance: Year 1 (2020)
Unit Cost: $10,000.00 / LS

Future Maintenance	
Year	**Cost**
1 (2020)	$10,000
11 (2030)	$10,000
21 (2040)	$10,000

The Tower has a computerized live fire burn prop that utilizes a propane tank for training drills. This component provides funds for major repairs and periodic upgrades as needed.

Stn.51 18.1.1 Security / Surveillance System - Replace

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $16,000

Next Maintenance: Year 1 (2020)
Unit Cost: $16,000.00 / LS

Future Maintenance	
Year	**Cost**
1 (2020)	$16,000
11 (2030)	$16,000
21 (2040)	$16,000

This year or next there are plans to install one additional keypad and 7 cameras, as well as upgrades to the software and hardware. There are currently six keypads on site. We maintain a budget for future upgrades to the system as components wear out and/or become obsolete.

Stn.57 2.6.1 Asphalt Paving - Repair

Maintenance Cycle: 6 years
Next Maintenance: Year 1 (2019)
Quantity: 9,180 Square Feet
Unit Cost: $8.00 / SF
Estimate: 9,180 SF X 5% X $8.00/SF = $3,672 + tax = $4,040

Future Maintenance	
Year	**Cost**
1 (2020)	$4,040
7 (2026)	$4,040
13 (2032)	$4,040
19 (2038)	$4,040
25 (2044)	$4,040

The asphalt pavement of the parking areas and driveway appeared to be in good condition overall, with no broken or sunken areas of asphalt noted. The asphalt walkway along Brookside Blvd NE seemed even with no visible root intrusion damage causing trip hazards. The budget provides funds to repair up to 5% of the total asphalt pavement. Considering the current condition of the asphalt pavement we do not include a budget for asphalt overlay.

Stn.57 2.6.2 Asphalt Pavement- Seal Coat & Restripe

Maintenance Cycle: 6 years
Next Maintenance: Year 1 (2020)
Quantity: 9,180 Square Feet
Unit Cost: $0.50 / SF
Estimate: 9,180 SF X 100% X $0.50/SF = $4,590 + tax = $5,050

Future Maintenance	
Year	**Cost**
1 (2020)	$5,050
7 (2026)	$5,050
13 (2032)	$5,050
19 (2038)	$5,050
25 (2044)	$5,050

Last seal coated and restriped in 2012, the seal coat seemed to be performing well and the striping was clearly visible. We recommend that the Station regularly repair and seal coat the asphalt to help prevent water intrusion, which could degrade the subgrade. Over a period of time water intrusion can lead to “alligatoring” and delamination of the asphalt surface. The budget provides funds to seal coat and restripe the asphalt pavement every six years in conjunction with asphalt paving repairs.

Stn.57 2.7.4 Privacy Wood Fence - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 10 (2029)
Quantity: 120 Linear Feet
Unit Cost: $46.00 / LF
Estimate: 120 LF X 100% X $46.00/LF = $5,520 + tax = $6,070

Future Maintenance	
Year	**Cost**
10 (2029)	$6,070
25 (2044)	$6,070

The privacy wood fence sits atop a concrete retaining wall located at the north side of the property. Another wood fence section creates a privacy screen around the back-patio area. Both fences appeared to be stable and in good condition. The budget maintains funds to replace the wood fence sections when they have reached the approximate end of their useful life. We do not anticipate that the concrete retaining walls will need to be replaced within the next 30 years.

Stn.57 2.7.5 Chain-link Fence - Repair

Maintenance Cycle: 40 years
Next Maintenance: Year 20 (2039)
Quantity: 205 Linear Feet
Unit Cost: $19.00 / LF
Estimate: 205 LF X 100% X $19.00/LF = $3,895 + tax = $4,280

Future Maintenance	
Year	**Cost**
20 (2039)	$4,280

A vinyl coated six foot chain-link fence secures the Lyon Creek wetland area located at the northeast side of the property. The fence appeared to be stable and in good condition. The budget saves for replacing the chain-link fence when it has reached the approximate end of its useful life. Repairs should be paid with funds from the operating budget.

Stn.57 2.9.2 Landscaping - Maintenance

Maintenance Cycle: 8 years
Quantity: 1 Lump Sum
Estimate: $5,000

Next Maintenance: Year 8 (2027)
Unit Cost: $5,000.00 / LS

Future Maintenance	
Year	**Cost**
8 (2027)	$5,000
16 (2035)	$5,000
24 (2043)	$5,000

This component provides funds for periodic large landscaping projects, such as removing and replacing overgrown plants or large tree pruning. Regular landscaping maintenance is paid for with funds from the operating budget. The budget saves a lump sum amount to be drawn from as needed.

Stn.57 2.9.3 Wetland - Maintenance

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $10,000

Next Maintenance: Year 15 (2034)
Unit Cost: $10,000.00 / LS

Future Maintenance	
Year	**Cost**
15 (2034)	$10,000
30 (2049)	$10,000

Wetlands are protected environments that require specialized maintenance. Qualified professionals are required to inspect and repair critical structural features such as embankments, outlets, pipes and risers. Other considerations include removing accumulated sediment, removal of trash and invasive plants. This component budgets funds for periodic inspections, permits and maintenance of the wetland area adjacent to Station 57.

Stn.57 3.3.3 Exterior Concrete Paving - Repair

Maintenance Cycle: 6 years
Next Maintenance: Year 4 (2023)
Quantity: 1,730 Square Feet
Unit Cost: $8.40 / SF
Estimate: 1,730 SF X 20% X $8.40/SF = $2,906 + tax = $3,200

Future Maintenance	
Year	**Cost**
4 (2023)	$3,200
10 (2029)	$3,200
16 (2035)	$3,200
22 (2041)	$3,200
28 (2047)	$3,200

The concrete pavement of the walkways and patio seemed to be in good condition. In 2017 concrete sections were slab jacked to remove trip hazards. We budget to repair up to 20% of the concrete walkways and curbs each repair cycle. We recommend grinding or cutting the concrete to resolve trip hazards where possible. Cracks, spalling and/or damaged areas that cannot be corrected by grinding are intended to be covered by this component.

Stn.57 6.1.2 Garbage Bin Enclosure - Contingency

Maintenance Cycle: 20 years
Next Maintenance: Year 20 (2039)
Quantity: 1 Lump Sum
Unit Cost: $1,500.00 / LS
Estimate: $1,500

Future Maintenance	
Year	**Cost**
20 (2039)	$1,500

The dumpster enclosure has three six-foot brick walls with a front-closing wood gate. The budget allocates funds to replace the wood gate only. Brick repairs of the dumpster walls may be addressed as needed in conjunction with the brick siding maintenance.

Stn.57 6.4.5 Brick Siding - Maintenance

Maintenance Cycle: 20 years
Next Maintenance: Year 10 (2029)
Quantity: 4,860 Square Feet
Unit Cost: $24.00 / SF
Estimate: 4,860 SF X 10% X $24.00/SF = $11,664 + tax = $12,830

Future Maintenance	
Year	**Cost**
10 (2029)	$12,830
30 (2049)	$12,830

The brick siding of the station building appeared to be in good condition, with no visible staining, efflorescence or cracking noted. The reserve allowance is intended for periodic repairs and tuck-pointing of the brick façades with a budget to address up to 10% of the maintenance each repair cycle.

Stn.57 7.3.2 Gutters & Downspouts - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 13 (2032)
Quantity: 511 Linear Feet
Unit Cost: $5.63 / LF
Estimate: 511 LF X 100% X $5.63/LF = $2,877 + tax = $3,160

Future Maintenance	
Year	**Cost**
13 (2032)	$3,160

The component saves for replacing the gutters and downspouts when they have reached the approximate end of their useful life. The facility representative indicated the gutters are covered by screens.

Stn.57 7.4.7 Metal Roof - Replace

Maintenance Cycle: 40 years
Next Maintenance: Year 13 (2032)
Quantity: 70 Roofing Squares
Unit Cost: $780.00 / SQ
Estimate: 70 SQ X 100% X $780.00/SQ = $54,600 + tax = $60,060

Future Maintenance	
Year	**Cost**
13 (2032)	$60,060

The metal roof appeared to be clean and in good condition overall. The roof is original to the building with an install date of 1992. We budget for a complete roof replacement. As the roof nears the end of its useful life the year for replacement may be adjusted according to how well the roof is performing

Stn.57 7.4.8 Roof Inspection & Minor Repair

Maintenance Cycle: 5 years
Next Maintenance: Year 2 (2021)
Quantity: 70 Roofing Squares
Unit Cost: $780.00 / SQ
Estimate: 70 SQ X 5% X $780.00/SQ = $2,730 + tax = $3,000

Future Maintenance	
Year	**Cost**
2 (2021)	$3,000
7 (2026)	$3,000
12 (2031)	$3,000
17 (2036)	$3,000
22 (2041)	$3,000
27 (2046)	$3,000

We include a budget for regular roof inspections and repairs as needed with a budget equal to 5% of the total replacement. Due to the considerable damage potential a leaking roof can cause, we recommend regular cleanings and inspections to maintain the integrity of the weatherproof membrane, flashing and joints.

Stn.57 8.2.8 Common Doors & Hardware - Maintenance

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 31 Each
Unit Cost: $650.00 / EA
Estimate: 31 EA X 15% X $650.00/EA = $3,023 + tax = $3,320

Future Maintenance	
Year	**Cost**
5 (2024)	$3,320
15 (2034)	$3,320
25 (2044)	$3,320

Since is it unlikely that the station will need to replace all of the common doors and hardware at once, we budget a maintenance contingency to replace about four doors and hardware sets every maintenance cycle. We anticipate that the funds will be used as needed to keep the doors secure and operational at all times.

Stn.57 8.2.6 Overhead Bay Door - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 10 (2029)
Quantity: 5 Each
Unit Cost: $1,036.36 / EA
Estimate: 5 EA X 100% X $1,036.36/EA = $5,182 + tax = $5,700

Future Maintenance	
Year	**Cost**
10 (2029)	$5,700
30 (2049)	$5,700

The Apparatus Bay is secured by five 14-foot tall sectional overhead bay doors with pane windows. The budget provides funds to replace the doors when they have reached the approximate end of their useful life. Funds may be drawn from as needed to keep the doors and associated hardware, such as springs, functional at all times.

Stn.57 8.2.7 Bay Door Operator - Contingency

Maintenance Cycle: 20 years
Next Maintenance: Year 20 (2039)
Quantity: 5 Each
Unit Cost: $10,000.00 / EA
Estimate: 5 EA X 100% X $10,000.00/EA = $50,000 + tax = $55,000

Future Maintenance	
Year	**Cost**
20 (2039)	$55,000

The Apparatus Bay sectional overhead doors are operated by gearhead trolley-style operators. The operators were reported to be functioning properly. The budget provides funds to replace five bay door operators.

Stn.57 8.3.3 Storefront System - Maintenance

Maintenance Cycle: 10 years
Next Maintenance: Year 10 (2029)
Quantity: 5 Each
Unit Cost: $3,500.00 / EA
Estimate: 5 EA X 100% X $3,500.00/EA = $17,500 + tax = $19,250

Future Maintenance	
Year	**Cost**
10 (2029)	$19,250
20 (2039)	$19,250
30 (2049)	$19,250

The aluminum framed glass entry door and windows seemed to be sturdy and in good condition. No issues with functionality were reported. The budget provides funds to repair or replace sections of the system and replace door hardware as needed.

Stn.57 8.5.2 Aluminum Framed Windows - Replace

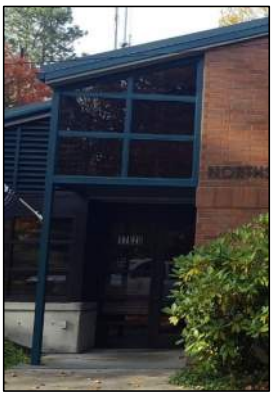
Maintenance Cycle: 45 years
Next Maintenance: Year 18 (2037)
Quantity: 1 Lump Sum
Unit Cost: $30,000.00 / LS
Estimate: $30,000

Future Maintenance	
Year	**Cost**
18 (2037)	$30,000

The component provides funds for window glazing and frame replacement once the fifteen windows on the building have been in service approximately 45 years. The Station has about five windows that are over eight feet wide. We have allocated additional funds for the replacement of the oversized windows. Windows are typically replaced because they are not operating properly, to update their appearance and/or to capture better energy efficiency. We expect that failed insulated glazing units will be replaced as needed with funds from the operating budget.

Stn.57 9.8.5 Front Entry Steel Framed Structure - Paint

Maintenance Cycle: 10 years
Next Maintenance: Year 4 (2023)
Quantity: 128 Linear Feet
Unit Cost: $16.00 / LF
Estimate: 128 LF X 100% X $16.00/LF = $2,048 + tax = $2,250



Future Maintenance	
Year	**Cost**
4 (2023)	$2,250
14 (2033)	$2,250
24 (2043)	$2,250

The paint of the front entry steel framed structure seemed to be in good condition. The budget allows for painting the exterior metal periodically. We recommend maintaining a regular paint cycle to protect the exterior metal from moisture damage, which should help the structure achieve its expected useful life. The glazing panes at the top of the structure should be maintained with funds from the operating budget.

Stn.57 10.4.2 Exterior Signage - Refurbish

Maintenance Cycle: 15 years
Next Maintenance: Year 12 (2031)
Quantity: 1 Lump Sum
Unit Cost: $2,500.00 / LS
Estimate: $2,500

Future Maintenance	
Year	**Cost**
12 (2031)	$2,500
27 (2046)	$2,500

The large metal station number signage was installed in 2016. The budget provides funds to clean and repaint the numbers and lettering periodically.

Stn.57 11.4.3 Kitchen Equipment - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 8 (2027)
Quantity: 5 Each
Unit Cost: $5,000.00 / EA
Estimate: 5 EA X 50% X $5,000.00/EA = $12,500 + tax = $13,750

Future Maintenance	
Year	**Cost**
8 (2027)	$13,750
13 (2032)	$13,750
18 (2037)	$13,750
23 (2042)	$13,750
28 (2047)	$13,750

The Station kitchen equipment includes a Viking four burner gas range, an undercounter dishwasher, and three refrigerators. The budget allows for the purchase of up to two appliances every five years. The appliances were reported to be functioning properly at the time of the site visit.

Stn.57 11.6.4 Laundry Equipment - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 2 Each
Unit Cost: $1,500.00 / EA
Estimate: 2 EA X 100% X $1,500.00/EA = $3,000 + tax = $3,300

Future Maintenance	
Year	**Cost**
5 (2024)	$3,300
10 (2029)	$3,300
15 (2034)	$3,300
20 (2039)	$3,300
25 (2044)	$3,300
30 (2049)	$3,300

The Laundry Room provides a super capacity top load washer and a super capacity front load dryer. Funds are allocated to replace the washer and dryer set with a similar quality appliance each maintenance cycle.

Stn.57 11.6.5 Station Extractor - Bunker Gear Washer

Maintenance Cycle: 12 years
Next Maintenance: Year 7 (2026)
Quantity: 1 Each
Unit Cost: $8,000.00 / EA
Estimate: 1 EA X 100% X $8,000.00/EA = $8,000 + tax = $8,800

Future Maintenance	
Year	**Cost**
7 (2026)	$8,800
19 (2038)	$8,800

A Unimac washer extractor that is responsible for cleaning the firemen's gear is located in the Shop Room next to the Apparatus Bay. After the remodel project in 2020 the shop area will be converted to a Locker Room. The budget provides funds to replace the washer extractor with a similar high-performance industrial washer extractor.

Stn.57 11.8.2 Air Compressor - Replace

Maintenance Cycle: 12 years
Next Maintenance: Year 13 (2032)
Quantity: 3,640 Square Feet
Unit Cost: $10.00 / SF
Estimate: 3,640 SF X 100% X $10.00/SF = $36,400 + tax = $40,040

Future Maintenance	
Year	**Cost**
13 (2032)	$40,040
25 (2044)	$40,040

The component maintains funds to replace the fire station utility air compressor. The equipment was reported as functional at the time of our site visit, with no issues noted.

Stn.57 12.3.1 Interior Concrete Floor - Refurbish

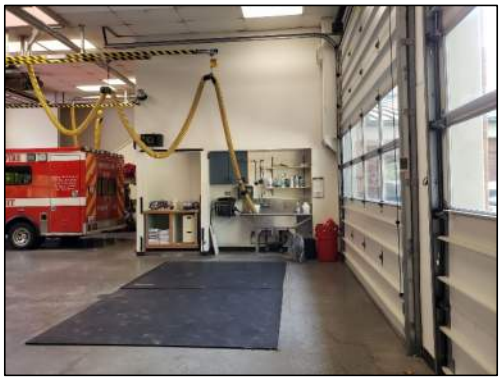
Maintenance Cycle: 25 years
Next Maintenance: Year 26 (2045)
Quantity: 5,748 Square Feet
Unit Cost: $5.00 / SF
Estimate: 5,748 SF X 25% X $5.00/SF = $7,185 + tax = $7,900

Future Maintenance	
Year	**Cost**
26 (2045)	$7,900

The Station remodel project planned for 2020 includes removing the interior flooring and replacing it with polished concrete flooring throughout the Station. This component provides funds to refurbish the concrete flooring regularly to keep the surface in optimal condition.

Stn.57 12.3.2 Apparatus Bay - Refurbish

Maintenance Cycle: 10 years
Next Maintenance: Year 5 (2024)
Quantity: 5,844 Square Feet
Unit Cost: $2.10 / SF
Estimate: 5,844 SF X 100% X $2.10/SF = $12,272 + tax = $13,500



Future Maintenance	
Year	**Cost**
5 (2024)	$13,500
15 (2034)	$13,500
25 (2044)	$13,500

The bid drawings indicate the Apparatus Bay fiberglass reinforced plastic (FRP) wall panels and ceiling tiles will be replaced. This component maintains funds to refurbish the apparatus bay FRP panels, and ceiling tile 25 year after the new materials have been installed.

Stn.57 12.3.3 Hallway & Stairwell Walls & Ceiling - Paint

Maintenance Cycle: 25 years
Next Maintenance: Year 5 (2024)
Quantity: 1 Lump Sum
Unit Cost: $7,000.00 / LS
Estimate: $7,000

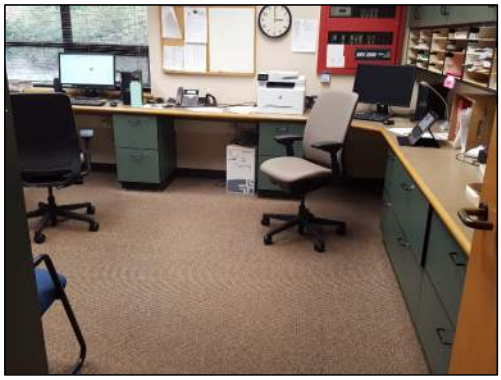
Future Maintenance	
Year	**Cost**
5 (2024)	$7,000
30 (2049)	$7,000

The hallways and stairwell leading to the mezzanine level seem to be in good condition. These areas are not being updated during the remodel project planned for 2020. The budget provides funds to paint the walls and ceiling of the hallways and stairwell.

Stn.57 12.3.4 Front Reception Desk & Office - Remodel

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $25,000

Next Maintenance: Year 3 (2022)
Unit Cost: $25,000.00 / LS



Future Maintenance	
Year	**Cost**
3 (2022)	$25,000
13 (2032)	$25,000
23 (2042)	$25,000

Remodeling the front reception desk and offices is an aesthetic consideration and my be updated at the discretion of the management to fit the needs of the Station.

Stn.57 12.3.5 Kitchen - Remodel

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $10,000

Next Maintenance: Year 5 (2024)
Unit Cost: $10,000.00 / LS

Future Maintenance	
Year	**Cost**
5 (2024)	$10,000
15 (2034)	$10,000
25 (2044)	$10,000

The Kitchen walls, furniture, counters and cabinets seemed to be in good condition. The kitchen area is not included in the 2020 remodel project. The budget provides fund to update the kitchen area within the next five years. This component is also a discretionary expense and may be adjusted as needed. Replacement of kitchen equipment is budgeted in a separate component.

Stn.57 12.3.6 Day / Dining Room - Remodel

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $15,000

Next Maintenance: Year 5 (2024)
Unit Cost: $15,000.00 / LS

Future Maintenance	
Year	**Cost**
5 (2024)	$15,000
20 (2039)	$15,000

The budget provides funds to update the Day Room and Dining Area. The areas appeared to be in good condition overall. The budget amount and timing may be adjusted to better fit the needs of the Station.

Stn.57 12.3.7 Duty Crew Sleep Rooms - Refurbish

Maintenance Cycle: 20 years
Quantity: 1 Lump Sum
Estimate: $5,000

Next Maintenance: Year 10 (2029)
Unit Cost: $5,000.00 / LS

Future Maintenance	
Year	**Cost**
10 (2029)	$5,000
30 (2049)	$5,000

We include a budget a contingency for refurbishing the six sleep rooms in the Station. Funds may be drawn from as needed to paint wall surfaces and replace furnishings.

Stn.57 12.3.8 Exercise Room - Refurbish

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $30,000

Next Maintenance: Year 16 (2035)
Unit Cost: $30,000.00 / LS

Future Maintenance	
Year	**Cost**
16 (2035)	$30,000

The exercise room seemed to be in good condition. The lump sum budget provides funds to replace the rubberized flooring, mirrors, and paint walls. Replacing exercise equipment is funded through the operating budget.

Stn.57 12.3.9 Locker & Restroom - Refurbish

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $2,000

Next Maintenance: Year 7 (2026)
Unit Cost: $2,000.00 / LS

Future Maintenance	
Year	**Cost**
7 (2026)	$2,000
22 (2041)	$2,000

The Station plans to remodel the restrooms and create a Locker Room in 2020. This component maintains funds to refurbish the restrooms and Locker Room fifteen years after the rooms have been in service.

Stn.57 12.3.10 Laundry & Utility Room - Refurbish

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $10,000

Next Maintenance: Year 10 (2029)
Unit Cost: $10,000.00 / LS

Future Maintenance	
Year	**Cost**
10 (2029)	$10,000
20 (2039)	$10,000
30 (2049)	$10,000

The Laundry and Utility rooms appeared to be in good condition. The budget is intended for replacing utility sinks, counters and cabinets, as well as painting wall surfaces. A separate component budgets funds for replacing the washing and drying equipment.

Stn.57 15.2.3 Plumbing System - Contingency

Maintenance Cycle: 10 years
Quantity: 1 Lump Sum
Estimate: $5,000

Next Maintenance: Year 6 (2025)
Unit Cost: $5,000.00 / LS

Future Maintenance	
Year	**Cost**
6 (2025)	$5,000
16 (2035)	$5,000
26 (2045)	$5,000

The plumbing repair allowance is intended to help financially prepare the Station for any unforeseen problems with the common supply and drain plumbing lines, typically the sections running from the utility connection to the buildings. The allowance may be drawn from as needed. We have identified most supply lines to be copper with additional PEX lines.

Stn.57 15.3.3 Irrigation System - Contingency

Maintenance Cycle: 5 years
Quantity: 1 Lump Sum
Estimate: $2,500

Next Maintenance: Year 5 (2024)
Unit Cost: $2,500.00 / LS

Future Maintenance	
Year	**Cost**
5 (2024)	$2,500
10 (2029)	$2,500
15 (2034)	$2,500
20 (2039)	$2,500
25 (2044)	$2,500
30 (2049)	$2,500

The irrigation system was reported to be in working condition. The number of zones operating the system was unknown at the time of our site visit. The component provides a lump sum amount to repair or replace as needed sections of irrigation piping, controllers, sprinkler heads, and valves.

Stn.57 15.4.3 Fire Detection System - Maintenance

Maintenance Cycle: 15 years
Quantity: 1 Lump Sum
Estimate: $5,000

Next Maintenance: Year 7 (2026)
Unit Cost: $5,000.00 / LS

Future Maintenance	
Year	**Cost**
7 (2026)	$5,000
22 (2041)	$5,000

The fire detection system repair allowance is intended to financially prepare the Station to maintain the fire detection and related systems, including smoke and CO sensors, alarms, exit signage and emergency egress fixtures.

Stn.57 15.4.4 Wet & Dry Fire Sprinkler System - Contingency

Maintenance Cycle: 10 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: 1 LS X 100% X $5,000.00/LS = $5,000 + tax = $5,500

Future Maintenance	
Year	**Cost**
10 (2029)	$5,500
20 (2039)	$5,500
30 (2049)	$5,500

The sprinkler system is tested regularly with no issues noted. The budget provides funds to maintain components of the wet and dry fire suppression system including replacing the compressor, piping, sensor and valves.

Stn.57 15.5.2 Water Heater - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 4 (2023)
Quantity: 3 Each
Unit Cost: $2,400.00 / EA
Estimate: 3 EA X 100% X $2,400.00/EA = $7,200 + tax = $7,920

Future Maintenance	
Year	**Cost**
4 (2023)	$7,920
19 (2038)	$7,920

The 100 gallon water heater has an expected 10-year useful life. The budget allows for replacing the heater with a product of the same kind.

Stn.57 15.6.7 HVAC Units - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 8 (2027)
Quantity: 1 Each
Unit Cost: $10,000.00 / EA
Estimate: 1 EA X 100% X $10,000.00/EA = $10,000 + tax = $11,000

Future Maintenance	
Year	**Cost**
8 (2027)	$11,000
23 (2042)	$11,000

The three Lennox HVAC units located outside are original to the facility. The units were reported to be functional with no further issues noted. We allocate reserve funds for major repairs or replacement of three HVAC units.

Stn.57 15.6.8 Furnace - Replace

Maintenance Cycle: 10 years
Next Maintenance: Year 6 (2025)
Quantity: 5 Each
Unit Cost: $2,500.00 / EA
Estimate: 5 EA X 100% X $2,500.00/EA = $12,500 + tax = $13,750

Future Maintenance	
Year	**Cost**
6 (2025)	$13,750
16 (2035)	$13,750
26 (2045)	$13,750

The Carrier brand furnace located in the equipment room on the second floor was replaced about 5-7 years ago. The unit was reported to be functional at the time of the site visit. We budget for replacing the unit when it has reached the approximate end of its useful life.

Stn.57 15.6.9 Infrared Overhead Heaters - Replace

Maintenance Cycle: 10 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Lump Sum
Unit Cost: $5,000.00 / LS
Estimate: $5,000

Future Maintenance	
Year	**Cost**
10 (2029)	$5,000
20 (2039)	$5,000
30 (2049)	$5,000

The reserve contingency saves for replacing the five Reznor infrared overhead heaters located in the apparatus bay. No issues were noted.

Stn.57 15.7.2 Exhaust Fans - Contingency

Maintenance Cycle: 5 years
Next Maintenance: Year 5 (2024)
Quantity: 8 Each
Unit Cost: $1,500.00 / EA
Estimate: 8 EA X 33% X $1,500.00/EA = $3,960 + tax = $4,360

Future Maintenance	
Year	**Cost**
5 (2024)	$4,360
10 (2029)	$4,360
15 (2034)	$4,360
20 (2039)	$4,360
25 (2044)	$4,360
30 (2049)	$4,360

There are exhaust fans for the kitchen and restrooms, as well as a specialized exhaust removal system is in the Apparatus Bay at Station 57. This budget establishes a repair contingency to ensure that the system has funding to keep it in optimal condition. The exact number of exhausts was not provided; we estimate that there are approximately eight for the facility. The budget reflects anticipated costs to repair up to 33% of the system each maintenance cycle, including vent hoods on the exterior of the building. Typically, exhaust systems are maintained, rather than removed and replaced within a 30 year timeframe.

Stn.57 16.3.2 Electrical System - Contingency

Maintenance Cycle: 20 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Each
Unit Cost: $6,000.00 / EA
Estimate: 1 EA X 100% X $6,000.00/EA = $6,000 + tax = $6,600

Future Maintenance	
Year	**Cost**
10 (2029)	$6,600
30 (2049)	$6,600

We budget for preventative maintenance of the Station's interior electrical equipment. This budget is not intended to replace large scale electrical equipment. Since the electrical system is located inside the Station and is well protected from the elements, we expect the equipment to outlast the 30-year timeframe of this study.

Stn.57 16.5.3 Emergency Generator - Contingency

Maintenance Cycle: 20 years
Next Maintenance: Year 20 (2039)
Quantity: 1 Each
Unit Cost: $8,000.00 / EA
Estimate: 1 EA X 100% X $8,000.00/EA = $8,000 + tax = $8,800

Future Maintenance	
Year	**Cost**
20 (2039)	$8,800

The emergency generator is tested frequently and reported to be functional. The budget provides funds to complete major repairs as needed to keep the equipment functional at all times.

Stn.57 16.6.2 Exterior Light Fixtures - Replace

Maintenance Cycle: 15 years
Next Maintenance: Year 2 (2021)
Quantity: 5 Each
Unit Cost: $500.00 / EA
Estimate: 5 EA X 100% X $500.00/EA = $2,500 + tax = $2,750

Future Maintenance	
Year	**Cost**
2 (2021)	$2,750
17 (2036)	$2,750

The exterior light fixtures were reported to be functional. The timing system controlling the building security lights was not working properly and may need repair to restore the system. The budget provides funds to replace four exterior bollard light fixtures and four building security light fixtures.

Stn.57 16.8.2 Fire Control Panel - Replace

Maintenance Cycle: 20 years
Next Maintenance: Year 10 (2029)
Quantity: 1 Each
Unit Cost: $3,500.00 / EA
Estimate: 1 EA X 100% X $3,500.00/EA = $3,500 + tax = $3,850

Future Maintenance	
Year	**Cost**
10 (2029)	$3,850
30 (2049)	$3,850

The installation date of the current fire alarm control panel is not known, so we have assumed that it is half way through its typical life cycle. No issues were reported. The budget allows for future replacement of the fire control panel.

Stn.57 18.1.2 Security / Surveillance System - Upgrade

Maintenance Cycle: 10 years
Next Maintenance: Year 1 (2020)
Quantity: 1 Lump Sum
Unit Cost: $15,000.00 / LS
Estimate: $15,000

Future Maintenance	
Year	**Cost**
1 (2020)	$15,000

The Station's security system is reportedly outdated and the Department was obtaining bids at the time of our site visit to upgrade the system within the next year. The budget provides funds to upgrade the existing security system and surveillance system in 2020 in conjunction with Station 51.

Northshore Fire Department should determine the best reserve funding level for their organization based on their maintenance needs and risk aversion.

Recommended 2020 Contribution	**$162,300**
Recommended Contribution per Month	$13,525
Average Contribution per Unit per Year	$162,300

For budgeting purposes, we recommend that Northshore Fire Department set the contribution rate at $162,300 for reserves beginning in 2020. The annual reserve contribution should increase annually with inflation. This amount is determined using the Cash Flow method with a Threshold Funding plan, to provide adequate reserves each time an expense is anticipated, with a minimum level of reserves (the threshold) equal to one year's contribution to reserves at all times during the study period, so that no special assessments will be required.

The main financial consideration driving the reserve contribution rate for Northshore Fire Department is the expected maintenance expense in 2040. In this year we anticipate approximately $1,644,608 (in inflated dollar values) worth of maintenance. Most of the costs will be allocated to roofing replacement.

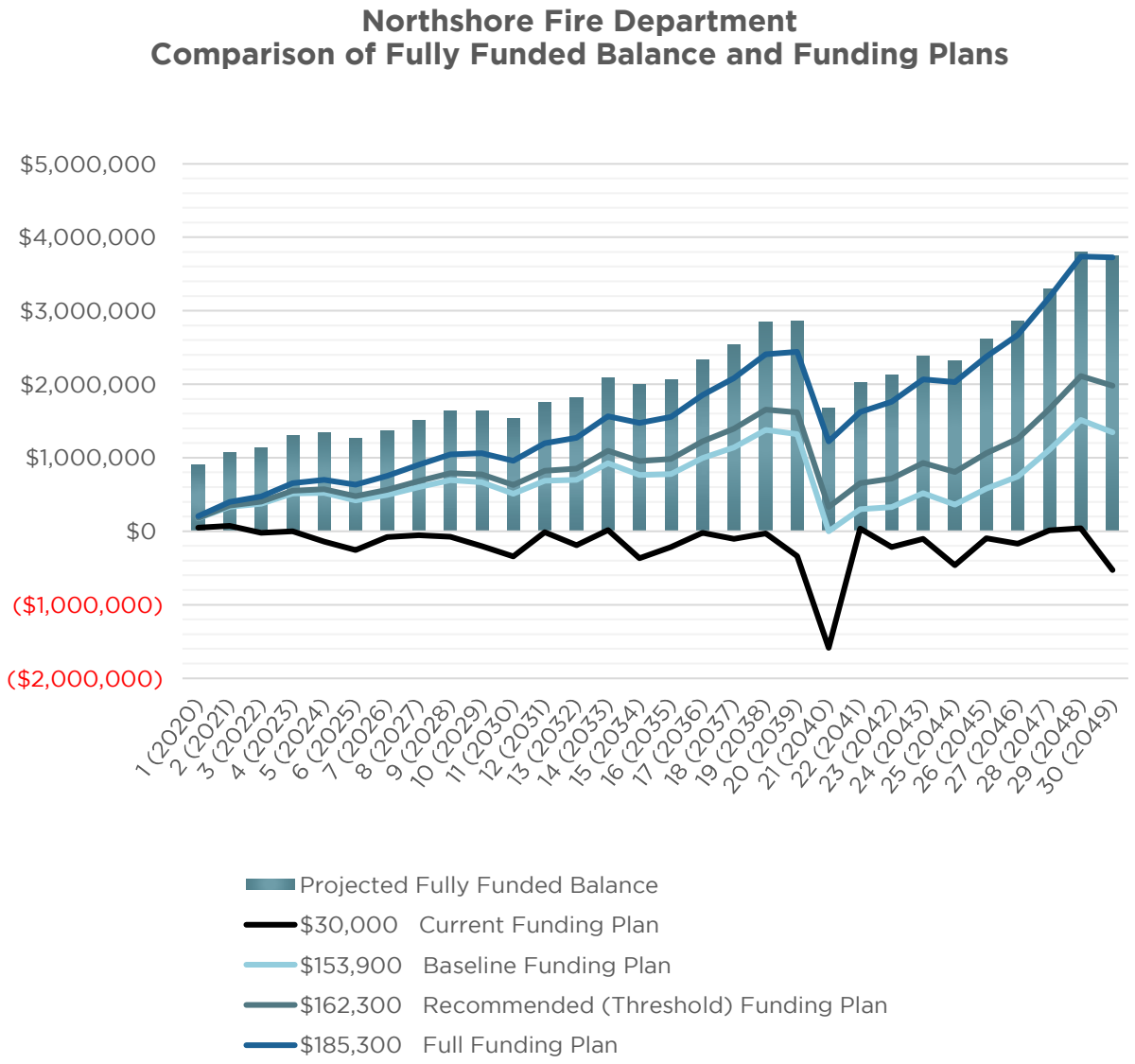
FUNDING PLANS

THRESHOLD FUNDING $162,300	BASELINE FUNDING $153,900	FULLY FUNDING $185,300
A starting annual contribution of $162,300 fulfills the definition of a Threshold Funding plan which provides funding as expenses are incurred over time, while always maintaining a minimum reserve fund balance of one year's contribution to reserves. This is our recommended funding plan.	An alternative strategy Northshore Fire Department could employ is Baseline Funding. This provides for necessary expenditures without maintaining a minimum reserve fund balance. To pursue such a strategy, the recommended Baseline Funding contribution rate would be $153,900.	Northshore Fire Department could also consider contributions to obtain and maintain the level of reserves to be Fully Funded, so that the Percent Fully Funded is 100% by Year 30. The recommended Full Funding contribution rate would be $185,300.

Comparison of Funding Plans and Fully Funded Balance Over 30 Years

Below is a line graph in compliance with RCW 64.90.550 §2(j) which depicts the projected fiscal year end reserve balance for the Current, Baseline, Recommended and Full Funding Plans for Northshore Fire Department.

The bar graph represents the projected Fully Funded Balance each year for the next 30 years.



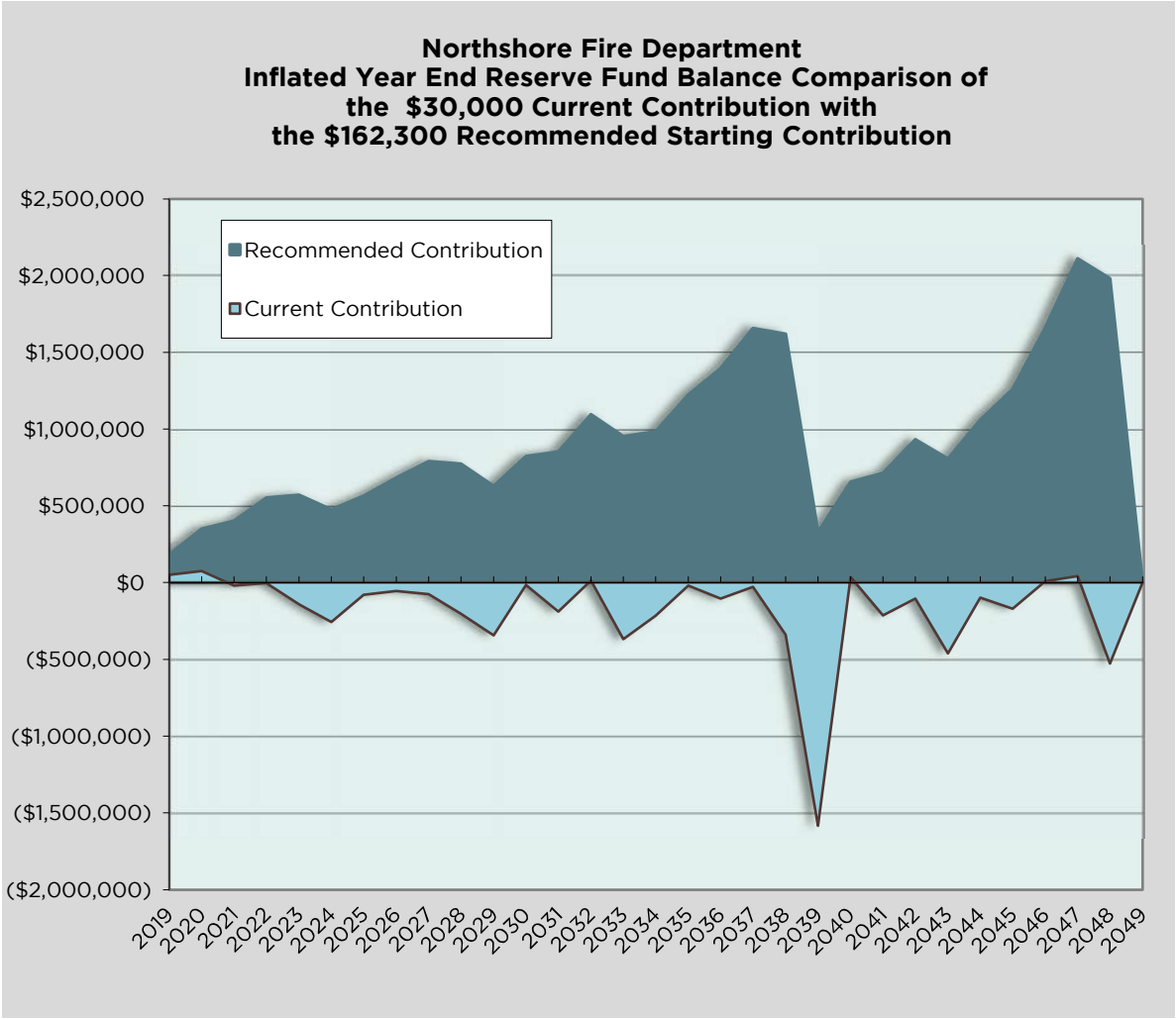
Projected Reserve Account Balance for Funding Plans Over 30 Years

Per RCW 64.90.550 §2 (j) of the Washington Unified Common Interest Owners Act (WUCIOA), the projected reserve account balance for each of the funding plans over the next 30 years is provided, along with the current funding plan projections.

Fiscal Year End	$30,000 Current Funding Plan	$162,300 Recommended (Threshold) Funding Plan	$153,900 Baseline Funding Plan	$185,300 Full Funding Plan
1 (2020)	$49,645	$183,268	$174,784	$206,498
2 (2021)	$75,685	$349,613	$332,220	$397,234
3 (2022)	($20,959)	$400,754	$374,013	$473,973
4 (2023)	($2,818)	$551,936	$515,390	$652,004
5 (2024)	($142,120)	$569,828	$523,002	$698,042
6 (2025)	($257,932)	$475,619	$418,021	$633,327
7 (2026)	($80,709)	$563,168	$494,288	$751,769
8 (2027)	($55,996)	$682,215	$601,523	$903,157
9 (2028)	($75,773)	$788,598	$695,545	$1,043,386
10 (2029)	($204,038)	$772,639	$666,655	$1,062,833
11 (2030)	($344,252)	$628,622	$507,889	$959,199
12 (2031)	($15,050)	$821,712	$685,325	$1,195,153
13 (2032)	($189,803)	$850,803	$697,810	$1,269,710
14 (2033)	$13,750	$1,095,048	$924,452	$1,562,156
15 (2034)	($368,309)	$953,280	$764,032	$1,471,461
16 (2035)	($216,155)	$984,179	$775,177	$1,556,447
17 (2036)	($20,486)	$1,223,477	$993,566	$1,852,996
18 (2037)	($105,175)	$1,393,217	$1,141,184	$2,083,308
19 (2038)	($28,585)	$1,655,380	$1,379,952	$2,409,527
20 (2039)	($340,480)	$1,618,808	$1,318,650	$2,440,668
21 (2040)	($1,584,349)	$328,987	$2,699	$1,222,395
22 (2041)	$34,782	$654,157	$300,269	$1,623,134
23 (2042)	($213,748)	$713,263	$330,236	$1,762,027
24 (2043)	($105,572)	$930,914	$517,132	$2,063,888
25 (2044)	($461,685)	$805,776	$359,546	$2,027,596
26 (2045)	($97,422)	$1,059,232	$578,779	$2,374,757
27 (2046)	($171,110)	$1,258,625	$742,089	$2,672,949
28 (2047)	$9,938	$1,661,266	$1,106,698	$3,179,726
29 (2048)	$41,464	$2,111,476	$1,516,833	$3,739,664
30 (2049)	($528,432)	$1,980,284	$1,343,426	$3,724,059

Inflated Year End Reserve Fund Balance Comparison

Below is a graph illustrating the projected year end reserve fund balance using both the current (2019) budgeted annual contribution and the recommended starting (2020) contribution.



We recommend that Northshore Fire Department adopt a policy regarding their reserve funding which would address the level of funding that the Organization would strive to maintain, as well as methods of investing reserve funds to best match risk with return and investment length with expected.

Five Year Funding Plan Comparison

Below is a comparison of the fully funded balance and year end reserve fund balance using the budgeted reserve funding for the current 2019 fiscal year and the three funding plans presented in the report. The calculations include inflated values, interest, and special assessments (if applicable) through Year 5 (2024).

Northshore Fire Department
Five Year Funding Plan Comparison

Including Inflated Values, Interest and Special Assessments

$30,000 Current Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	$30,000	$0	$49,645	6%	High Risk
2 (2021)	$30,900	$0	$75,685	7%	High Risk
3 (2022)	$31,827	$0	($20,412)	-2%	High Risk
4 (2023)	$32,782	$0	($2,846)	0%	High Risk
5 (2024)	$33,765	$0	($143,541)	-11%	High Risk

$153,900 Baseline Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	$153,900	$0	$174,784	19%	High Risk
2 (2021)	$158,517	$0	$332,220	31%	Moderate Risk
3 (2022)	$163,273	$0	$374,013	33%	Moderate Risk
4 (2023)	$168,171	$0	$515,390	40%	Moderate Risk
5 (2024)	$173,216	$0	$523,002	39%	Moderate Risk

$162,300 Recommended (Threshold) Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	$162,300	$0	$183,268	20%	High Risk
2 (2021)	$167,169	$0	$349,613	33%	Moderate Risk
3 (2022)	$172,184	$0	$400,754	35%	Moderate Risk
4 (2023)	$177,350	$0	$551,936	42%	Moderate Risk
5 (2024)	$182,670	$0	$569,828	43%	Moderate Risk

$185,300 Full Funding Plan

Year	Annual Reserve Contribution	Special Assessment	Year End Reserve Balance	% Funded	Special Assessment Risk Level
1 (2020)	$185,300	$0	$206,498	23%	High Risk
2 (2021)	$190,859	$0	$397,234	37%	Moderate Risk
3 (2022)	$196,585	$0	$473,973	42%	Moderate Risk
4 (2023)	$202,482	$0	$652,004	50%	Moderate Risk
5 (2024)	$208,557	$0	$698,042	52%	Moderate Risk

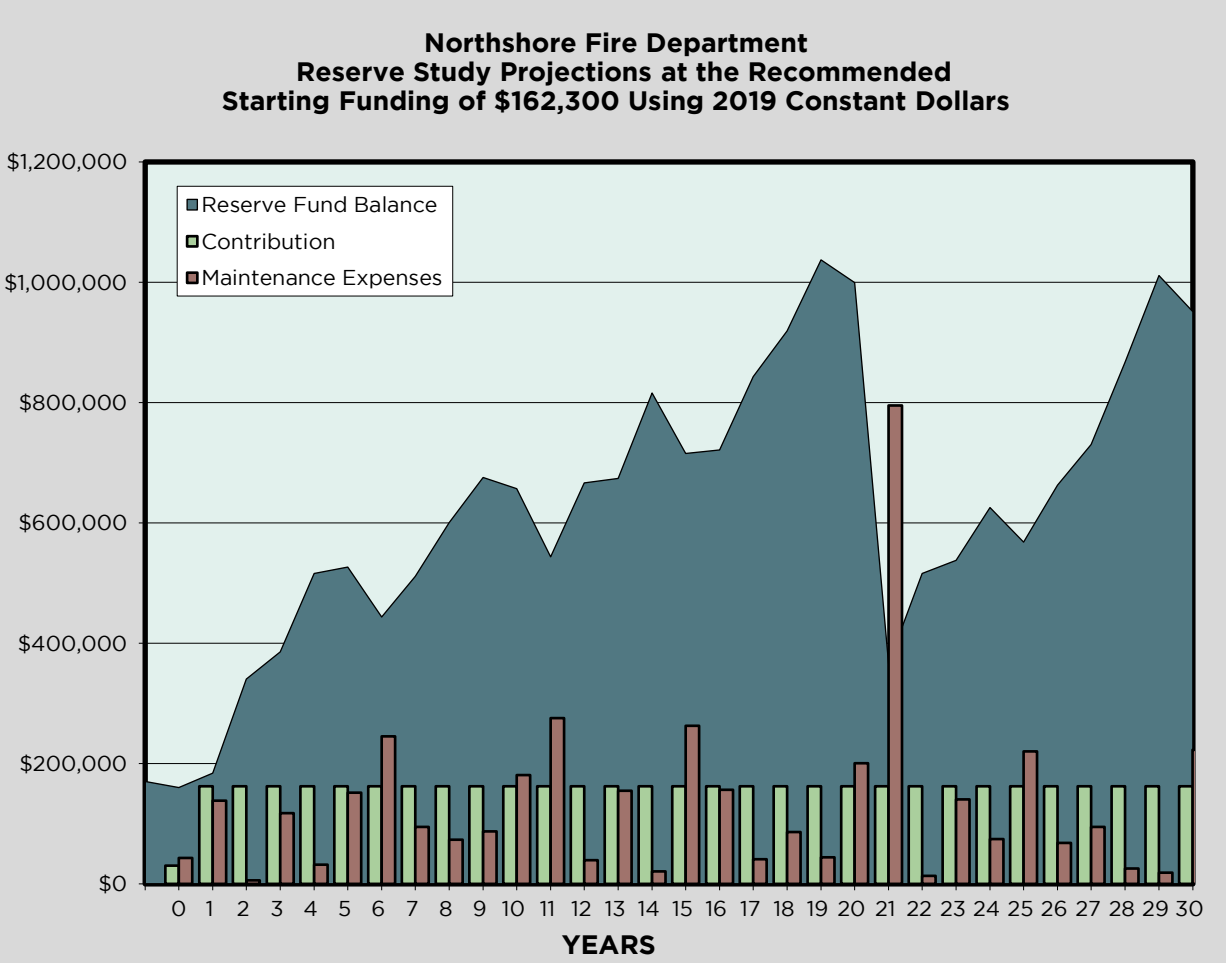
Reserve Study Projections using Constant Dollar Values

Teal Line Graph: The year-end running reserve fund balance is shown as a line graph in teal. Our recommended funding plan is a threshold funding plan which ensures that the reserve account balance does not dip below a designated "threshold", which is set to one year's contribution to reserves.

Mint Green Bars: The annual reserve fund contributions are shown as mint green bars. This chart depicts the annual contribution in constant dollars, so the contributions are constantly $162,300 over the 30 year timeline of the study.

Brick Red Bars: The anticipated yearly maintenance expenses are shown as brick red bars, depicting the anticipated expenses over the next 30 years.

Below is a graph depicting the projected fiscal year end running reserve fund balance over 30 years, the annual contribution and the anticipated yearly maintenance expenses using constant dollar values.



Reserve Study Projections at the Starting Recommended Funding of $162,300
Using Constant Dollar Values

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2020	2 2021	3 2022	4 2023	5 2024
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$18,190				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$1,670				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$7,300
Stn.51	2.7.3	Gate Operator - Maintenance	3	3			$1,650		
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$2,200
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3			$5,450		
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$6,140				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3			$21,880		
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3			$5,060		
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6					
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1	$21,190				
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$2,500				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3			$8,800		
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3			$11,000		
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$8,000
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3			$15,000		
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$24,750
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$10,000				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$2,000				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$16,500				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3			$15,150		
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3			$5,000		
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2020	2 2021	3 2022	4 2023	5 2024
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6					
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1	$10,000				
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1	$10,000				
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1	$16,000				
Stn.57	2.6.1	Asphalt Paving - Repair	6	1	$4,040				
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1	$5,050				
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4				$3,200	
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					$3,320
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4				$2,250	
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8					
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					$13,500
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					$7,000
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3			$25,000		
Stn.57	12.3.5	Kitchen - Remodel	10	5					$10,000
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					$15,000
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					
Stn.57	15.2.3	Plumbing System - Contingency	10	6					
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					
Stn.57	15.5.2	Water Heater - Replace	15	4				$7,920	
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6					
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2		$2,750			
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1	$15,000				
		TOTAL EXPENDED BY YEAR			**$138,280**	**$5,750**	**$117,570**	**$31,630**	**$151,720**
		CARRY OVER RESERVES			$159,998	$184,018	$340,568	$385,298	$515,968
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$138,280	$5,750	$117,570	$31,630	$151,720
		ACCUMULATED RESERVES			$184,018	$340,568	$385,298	$515,968	$526,548
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$184,018**	**$340,568**	**$385,298**	**$515,968**	**$526,548**
		STUDY YEAR			1 (2020)	2 (2021)	3 (2022)	4 (2023)	5 (2024)

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2025	7 2026	8 2027	9 2028	10 2029
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3	$1,650			$1,650	
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8			$15,000		
Stn.51	3.3.1	Concrete Walkways - Repair	6	3				$5,450	
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6	$15,870				
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6	$2,500				
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6	$22,440				
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6	$7,670				
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3				$21,880	
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6	$8,000				
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1				$21,190	
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					$22,000
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$5,000		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6	$8,800				
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7		$17,320			
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7		$25,000			
Stn.51	12.1.6	Lobby - Refurbish	15	8			$20,000		
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9				$13,770	
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6	$6,000				
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7		$24,540			
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6	$2,710				
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6	$41,420				
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$10,300
Stn.51	15.3.2	Storm Water System - Contingency	3	3	$5,000			$5,000	
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2025	7 2026	8 2027	9 2028	10 2029
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6	$8,000				
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6	$19,330				
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					$5,000
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6	$77,000				
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1		$4,040			
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1		$5,050			
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					$6,070
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8			$5,000		
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4					$3,200
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					$12,830
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					$5,700
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$19,250
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$13,750		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7		$8,800			
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					$5,000
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7		$2,000			
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$10,000
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$5,000				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7		$5,000			
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$5,500
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8			$11,000		
Stn.57	15.6.8	Furnace - Replace	10	6	$13,750				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$5,000
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					$6,600
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					$3,850
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$245,140**	**$94,750**	**$73,330**	**$87,200**	**$180,950**
		CARRY OVER RESERVES			$526,548	$443,708	$511,258	$600,228	$675,328
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$245,140	$94,750	$73,330	$87,200	$180,950
		ACCUMULATED RESERVES			$443,708	$511,258	$600,228	$675,328	$656,678
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$443,708**	**$511,258**	**$600,228**	**$675,328**	**$656,678**
		STUDY YEAR			6 (2025)	7 (2026)	8 (2027)	9 (2028)	10 (2029)

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Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 2030	12 2031	13 2032	14 2033	15 2034
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$18,190				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$1,670				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$7,300
Stn.51	2.7.3	Gate Operator - Maintenance	3	3		$1,650			$1,650
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$2,200
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3					$5,450
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11	$9,640				
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11	$53,750				
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$6,140				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3					$21,880
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					$5,060
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6		$8,000			
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$2,500				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					$8,800
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					$11,000
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11	$3,000				
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$8,000
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					$15,000
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11	$19,250				
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$24,750
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$10,000				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$2,000				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$16,500				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					$34,080
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11	$2,310				
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11	$32,180				
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					$15,150
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3		$5,000			$5,000
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 2030	12 2031	13 2032	14 2033	15 2034
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11	$16,280				
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11	$9,900				
Stn.51	15.6.3	Furnace - Replace	20	11	$2,200				
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6		$19,330			
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11	$15,180				
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1	$10,000				
Stn.51	16.8.1	Fire Control Panel - Replace	20	11	$3,740				
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1	$10,000				
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1	$16,000				
Stn.57	2.6.1	Asphalt Paving - Repair	6	1			$4,040		
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1			$5,050		
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					$10,000
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4					
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13			$3,160		
Stn.57	7.4.7	Metal Roof - Replace	40	13			$60,060		
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					$3,320
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4				$2,250	
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12		$2,500			
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$13,750		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13			$40,040		
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					$13,500
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3			$25,000		
Stn.57	12.3.5	Kitchen - Remodel	10	5					$10,000
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					
Stn.57	15.2.3	Plumbing System - Contingency	10	6					
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6					
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1	$15,000				
		TOTAL EXPENDED BY YEAR			**$275,430**	**$39,480**	**$154,680**	**$20,510**	**$262,790**
		CARRY OVER RESERVES			$656,678	$543,548	$666,368	$673,988	$815,778
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$275,430	$39,480	$154,680	$20,510	$262,790
		ACCUMULATED RESERVES			$543,548	$666,368	$673,988	$815,778	$715,288
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$543,548**	**$666,368**	**$673,988**	**$815,778**	**$715,288**
		STUDY YEAR			11 (2030)	12 (2031)	13 (2032)	14 (2033)	15 (2034)

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2035	17 2036	18 2037	19 2038	20 2039
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3			$1,650		
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8	$15,000				
Stn.51	3.3.1	Concrete Walkways - Repair	6	3					
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3					
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6			$8,000		
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1		$21,190			
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16	$2,200				
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$5,000		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16	$68,890				
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17		$13,770			
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$10,300
Stn.51	15.3.2	Storm Water System - Contingency	3	3			$5,000		
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2035	17 2036	18 2037	19 2038	20 2039
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16	$13,200				
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6			$19,330		
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					$5,000
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1				$4,040	
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1				$5,050	
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					$4,280
Stn.57	2.9.2	Landscaping - Maintenance	8	8	$5,000				
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4	$3,200				
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					$1,500
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					$55,000
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$19,250
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18			$30,000		
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$13,750		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7				$8,800	
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					$15,000
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16	$30,000				
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$10,000
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$5,000				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$5,500
Stn.57	15.5.2	Water Heater - Replace	15	4				$7,920	
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6	$13,750				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$5,000
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					$8,800
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2		$2,750			
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$156,240**	**$40,710**	**$86,310**	**$44,070**	**$200,280**
		CARRY OVER RESERVES			$715,288	$721,348	$842,938	$918,928	$1,037,158
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$156,240	$40,710	$86,310	$44,070	$200,280
		ACCUMULATED RESERVES			$721,348	$842,938	$918,928	$1,037,158	$999,178
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$721,348**	**$842,938**	**$918,928**	**$1,037,158**	**$999,178**
		STUDY YEAR			16 (2035)	17 (2036)	18 (2037)	19 (2038)	20 (2039)

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 2040	22 2041	23 2042	24 2043	25 2044
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$18,190				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$1,670				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21	$73,010				
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$7,300
Stn.51	2.7.3	Gate Operator - Maintenance	3	3	$1,650			$1,650	
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$2,200
Stn.51	2.9.1	Landscaping - Maintenance	8	8				$15,000	
Stn.51	3.3.1	Concrete Walkways - Repair	6	3	$5,450				
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6	$15,870				
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6	$2,500				
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21	$1,830				
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21	$3,960				
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$6,140				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6	$22,440				
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21	$3,570				
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21	$189,430				
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21	$124,820				
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21	$1,210				
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21	$24,200				
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21	$9,900				
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6	$7,670				
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3	$21,880				
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6				$8,000	
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					$21,190
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$2,500				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6	$8,800				
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7			$17,320		
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$8,000
Stn.51	12.1.5	Admin Offices - Refurbish	16	7			$25,000		
Stn.51	12.1.6	Lobby - Refurbish	15	8			$20,000		
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					$13,770
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$24,750
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$10,000				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$2,000				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6	$6,000				
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$16,500				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7			$24,540		
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6	$2,710				
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6	$41,420				
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3	$5,000			$5,000	
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 2040	22 2041	23 2042	24 2043	25 2044
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6	$8,000				
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6				$19,330	
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					
Stn.51	16.5.1	Emergency Generator - Replace	30	21	$19,800				
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21	$8,800				
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1	$10,000				
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6	$77,000				
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1	$10,000				
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1	$16,000				
Stn.57	2.6.1	Asphalt Paving - Repair	6	1					$4,040
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1					$5,050
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					$6,070
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8				$5,000	
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4		$3,200			
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					$3,320
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4				$2,250	
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$13,750		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13					$40,040
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					$13,500
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3			$25,000		
Stn.57	12.3.5	Kitchen - Remodel	10	5					$10,000
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7		$2,000			
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					
Stn.57	15.2.3	Plumbing System - Contingency	10	6					
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7		$5,000			
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8			$11,000		
Stn.57	15.6.8	Furnace - Replace	10	6					
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1	$15,000				
		TOTAL EXPENDED BY YEAR			**$794,920**	**$13,200**	**$140,190**	**$74,490**	**$219,880**
		CARRY OVER RESERVES			$999,178	$366,558	$515,658	$537,768	$625,578
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$794,920	$13,200	$140,190	$74,490	$219,880
		ACCUMULATED RESERVES			$366,558	$515,658	$537,768	$625,578	$567,998
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$366,558**	**$515,658**	**$537,768**	**$625,578**	**$567,998**
		STUDY YEAR			21 (2040)	22 (2041)	23 (2042)	24 (2043)	25 (2044)

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Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 2045	27 2046	28 2047	29 2048	30 2049
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3		$1,650			$1,650
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3		$5,450			
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26	$41,180				
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$6,130
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$5,500	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$12,760	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,580		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3		$21,880			
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3		$5,060			
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6					$8,000
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					$22,000
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$5,000		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$15,000
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$3,740
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3		$8,800			
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3		$11,000			
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3		$15,000			
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3		$15,150			
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$5,500
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,000
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$10,300
Stn.51	15.3.2	Storm Water System - Contingency	3	3		$5,000			$5,000
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,500

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH CONSTANT DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

07-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 2045	27 2046	28 2047	29 2048	30 2049
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6					$19,330
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,000
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$7,620
Stn.51	16.3.1	Electrical System - Contingency	10	10					$5,000
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1					
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1					
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					$10,000
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4			$3,200		
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					$12,830
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,000			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					$5,700
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$19,250
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12		$2,500			
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$13,750		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,300
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26	$7,900				
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					$7,000
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					$5,000
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$10,000
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$5,000				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,500
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$5,500
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6	$13,750				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$5,000
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$4,360
Stn.57	16.3.2	Electrical System - Contingency	20	10					$6,600
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					$3,850
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$67,830**	**$94,490**	**$25,530**	**$18,260**	**$222,660**
		CARRY OVER RESERVES			$567,998	$662,468	$730,278	$867,048	$1,011,088
		ANNUAL RESERVE CONTRIB			$162,300	$162,300	$162,300	$162,300	$162,300
		RESERVE EXPENDITURES			$67,830	$94,490	$25,530	$18,260	$222,660
		ACCUMULATED RESERVES			$662,468	$730,278	$867,048	$1,011,088	$950,728
		INTEREST EARNED			$0	$0	$0	$0	$0
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$662,468**	**$730,278**	**$867,048**	**$1,011,088**	**$950,728**
		STUDY YEAR			26 (2045)	27 (2046)	28 (2047)	29 (2048)	30 (2049)

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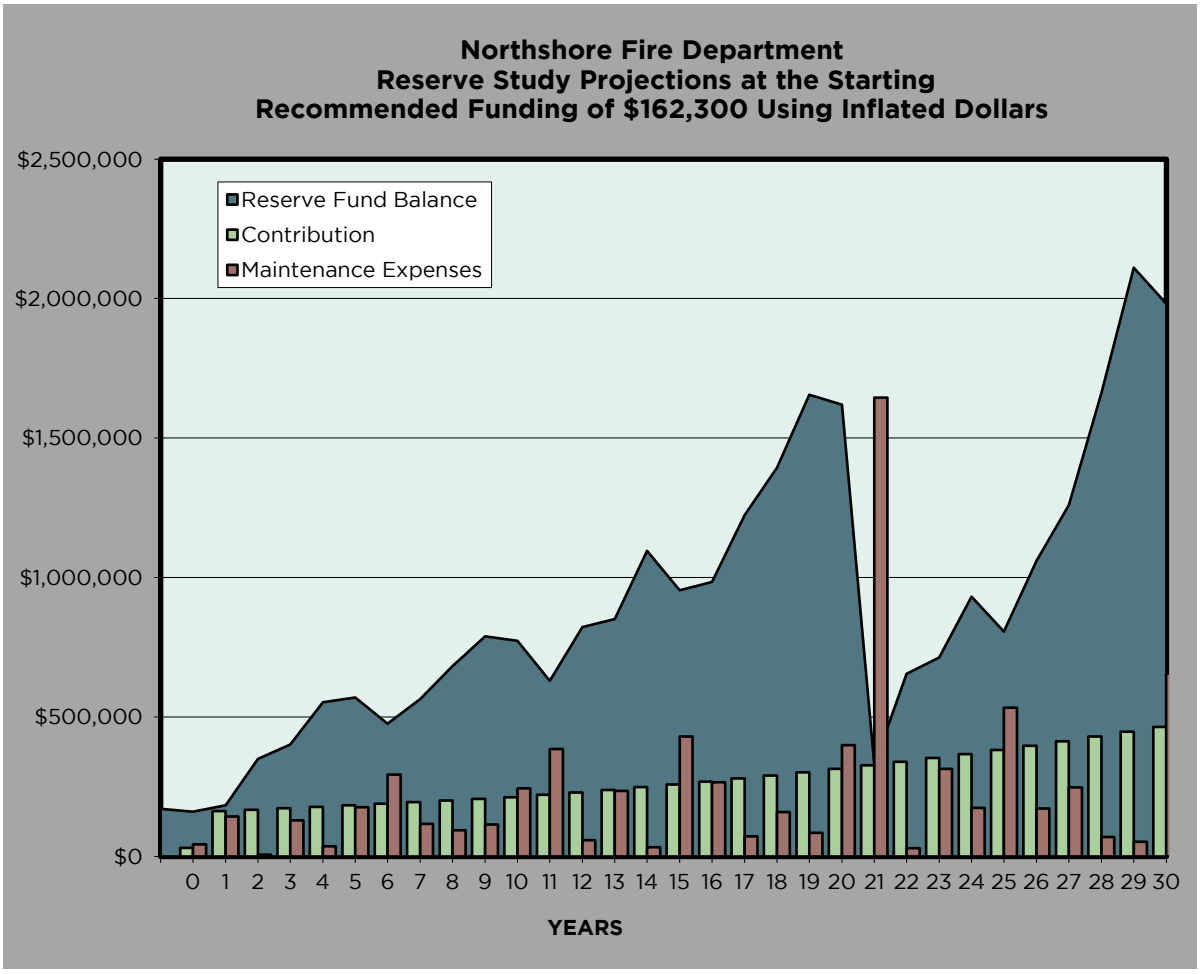
Reserve Study Projections using Inflated Dollar Values

Teal Line Graph: The year-end running reserve fund balance is shown as a line graph in teal and includes compound interest. Our recommended funding plan is a threshold funding plan which ensures that the reserve account balance does not dip below a designated "threshold", which is set to one year's contribution to reserves.

Mint Green Bars: The annual reserve fund contributions are shown as mint green bars. This chart depicts the annual contribution in inflated dollars, so the contributions are increasing over the 30 year timeline of the study.

Brick Red Bars: The anticipated yearly maintenance expenses are shown as brick red bars, depicting the anticipated inflated expenses over the next 30 years.

Below is a graph depicting the projected fiscal year end running reserve fund balance over 30 years with interest, the annual inflated contribution and the anticipated yearly maintenance expenses using inflated dollar values.



Reserve Study Projections at the Starting Recommended Funding of $162,300
Using Inflated Dollar Values

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2020	2 2021	3 2022	4 2023	5 2024
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$18,736				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$1,720				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$8,463
Stn.51	2.7.3	Gate Operator - Maintenance	3	3			$1,803		
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$2,550
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3			$5,955		
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$6,324				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$7,106
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$6,190	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$14,361	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$3,912		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3			$23,909		
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3			$5,529		
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6					
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1	$21,826				
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$2,575				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$17,389
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$4,336
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3			$9,616		
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3			$12,020		
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$9,274
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3			$16,391		
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$28,692
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$10,300				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$2,060				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$16,995				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3			$16,555		
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$6,376
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$5,796
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3			$5,464		
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$2,898

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	1 2020	2 2021	3 2022	4 2023	5 2024
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6					
Stn.51	15.6.5	HVAC System - Contingency	5	5					$5,796
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$8,834
Stn.51	16.3.1	Electrical System - Contingency	10	10					
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1	$10,300				
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1	$10,300				
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1	$16,480				
Stn.57	2.6.1	Asphalt Paving - Repair	6	1	$4,161				
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1	$5,202				
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4				$3,602	
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,183			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					$3,849
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4				$2,532	
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8					
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$3,826
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					$15,650
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					$8,115
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3			$27,318		
Stn.57	12.3.5	Kitchen - Remodel	10	5					$11,593
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					$17,389
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					
Stn.57	15.2.3	Plumbing System - Contingency	10	6					
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$2,898
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					
Stn.57	15.5.2	Water Heater - Replace	15	4				$8,914	
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6					
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$5,054
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2		$2,917			
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1	$15,450				
		TOTAL EXPENDED BY YEAR			**$142,428**	**$6,100**	**$128,472**	**$35,600**	**$175,885**
		CARRY OVER RESERVES			$159,998	$183,268	$349,613	$400,754	$551,936
		ANNUAL RESERVE CONTRIB			$162,300	$167,169	$172,184	$177,350	$182,670
		RESERVE EXPENDITURES			$142,428	$6,100	$128,472	$35,600	$175,885
		ACCUMULATED RESERVES			$179,869	$344,337	$393,325	$542,504	$558,722
		INTEREST EARNED			$3,399	$5,276	$7,429	$9,433	$11,107
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$183,268**	**$349,613**	**$400,754**	**$551,936**	**$569,828**

	0-1	2-10	11-30	1 (2020)	2 (2021)	3 (2022)	4 (2023)	5 (2024)
YEARS								
CONTRIBUTION INFLATION	0%	3%	4%	0%	3%	3%	3%	3%
COMPONENT COMPOUND INFLATION	3%	3%	4%	103%	106%	109%	113%	116%
INTEREST RATE MULTIPLIER	2%	2%	3%	2%	2%	2%	2%	2%

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Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2025	7 2026	8 2027	9 2028	10 2029
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3	$1,970			$2,153	
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8			$19,002		
Stn.51	3.3.1	Concrete Walkways - Repair	6	3				$7,111	
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6	$18,950				
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6	$2,985				
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6	$26,795				
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$8,238
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$7,176	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$16,649	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$4,535		
Stn.51	8.3.1	Storefront System - Maintenance	15	6	$9,158				
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3				$28,548	
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6	$9,552				
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1				$27,648	
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					$29,566
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$6,334		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$20,159
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$5,026
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6	$10,508				
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7		$21,301			
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7		$30,747			
Stn.51	12.1.6	Lobby - Refurbish	15	8			$25,335		
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9				$17,967	
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6	$7,164				
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7		$30,181			
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6	$3,236				
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6	$49,458				
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$7,392
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$6,720
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$13,842
Stn.51	15.3.2	Storm Water System - Contingency	3	3	$5,970			$6,524	
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$3,360

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	6 2025	7 2026	8 2027	9 2028	10 2029
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6	$9,552				
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6	$23,081				
Stn.51	15.6.5	HVAC System - Contingency	5	5					$6,720
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$10,241
Stn.51	16.3.1	Electrical System - Contingency	10	10					$6,720
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6	$91,942				
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1		$4,969			
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1		$6,211			
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					$8,158
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8			$6,334		
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4					$4,301
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					$17,242
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$3,690			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					$7,660
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$25,870
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$17,418		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$4,435
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7		$10,823			
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					$6,720
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7		$2,460			
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$13,439
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$5,970				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$3,360
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7		$6,149			
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$7,392
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8			$13,934		
Stn.57	15.6.8	Furnace - Replace	10	6	$16,418				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$6,720
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$5,859
Stn.57	16.3.2	Electrical System - Contingency	20	10					$8,870
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					$5,174
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$292,710**	**$116,531**	**$92,892**	**$113,776**	**$243,182**
		CARRY OVER RESERVES			$569,828	$475,619	$563,168	$682,215	$788,598
		ANNUAL RESERVE CONTRIB			$188,150	$193,795	$199,609	$205,597	$211,765
		RESERVE EXPENDITURES			$292,710	$116,531	$92,892	$113,776	$243,182
		ACCUMULATED RESERVES			$465,268	$552,883	$669,885	$774,036	$757,181
		INTEREST EARNED			$10,351	$10,285	$12,331	$14,563	$15,458
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$475,619**	**$563,168**	**$682,215**	**$788,598**	**$772,639**

YEARS	0-1	2-10	11-30	6 (2025)	7 (2026)	8 (2027)	9 (2028)	10 (2029)
CONTRIBUTION INFLATION	0%	3%	4%	3%	3%	3%	3%	3%
COMPONENT COMPOUND INFLATION	3%	3%	4%	119%	123%	127%	130%	134%
INTEREST RATE MULTIPLIER	2%	2%	3%	2%	2%	2%	2%	2%

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 2030	12 2031	13 2032	14 2033	15 2034
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$25,424				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$2,334				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$11,936
Stn.51	2.7.3	Gate Operator - Maintenance	3	3		$2,398			$2,698
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$3,597
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3					$8,911
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11	$13,474				
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11	$75,125				
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$8,582				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$10,023
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$8,647	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$20,061	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$5,412		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3					$35,776
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					$8,274
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6		$11,629			
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$3,494				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$24,526
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$6,115
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					$14,389
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					$17,986
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11	$4,193				
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$13,081
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					$24,526
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11	$26,905				
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$40,468
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$13,977				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$2,795				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$23,062				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					$55,724
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11	$3,229				
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11	$44,977				
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					$24,771
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$8,993
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$8,175
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3		$7,268			$8,175
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$4,088

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	11 **2030**	12 **2031**	13 **2032**	14 **2033**	15 **2034**
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11	$22,754				
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11	$13,837				
Stn.51	15.6.3	Furnace - Replace	20	11	$3,075				
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6		$28,098			
Stn.51	15.6.5	HVAC System - Contingency	5	5					$8,175
Stn.51	15.6.6	Infrared Heaters - Replace	20	11	$21,217				
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$12,459
Stn.51	16.3.1	Electrical System - Contingency	10	10					
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1	$13,977				
Stn.51	16.8.1	Fire Control Panel - Replace	20	11	$5,227				
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1	$13,977				
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1	$22,363				
Stn.57	2.6.1	Asphalt Paving - Repair	6	1			$6,107		
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1			$7,634		
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					$16,351
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4					
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13			$4,777		
Stn.57	7.4.7	Metal Roof - Replace	40	13			$90,794		
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$4,361			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					$5,428
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4				$3,537	
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12		$3,634			
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$20,786		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$5,396
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13			$60,529		
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					$22,074
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3			$37,793		
Stn.57	12.3.5	Kitchen - Remodel	10	5					$16,351
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					
Stn.57	15.2.3	Plumbing System - Contingency	10	6					
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$4,088
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6					
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$7,129
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1	$20,965				
		TOTAL EXPENDED BY YEAR			**$384,961**	**$57,387**	**$233,833**	**$32,246**	**$429,683**
		CARRY OVER RESERVES			$772,639	$628,622	$821,712	$850,803	$1,095,048
		ANNUAL RESERVE CONTRIB			$220,235	$229,045	$238,206	$247,735	$257,644
		RESERVE EXPENDITURES			$384,961	$57,387	$233,833	$32,246	$429,683
		ACCUMULATED RESERVES			$607,913	$800,279	$826,086	$1,066,292	$923,010
		INTEREST EARNED			$20,708	$21,434	$24,717	$28,756	$30,271
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$628,622**	**$821,712**	**$850,803**	**$1,095,048**	**$953,280**

	0-1	**2-10**	**11-30**					
YEARS				11 (2030)	12 (2031)	13 (2032)	14 (2033)	15 (2034)
CONTRIBUTION INFLATION	0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION	3%	3%	4%	140%	145%	151%	157%	164%
INTEREST RATE MULTIPLIER	2%	2%	3%	3%	3%	3%	3%	3%

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2035	17 2036	18 2037	19 2038	20 2039
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3			$3,035		
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8	$25,507				
Stn.51	3.3.1	Concrete Walkways - Repair	6	3					
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$12,195
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$10,520	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$24,407	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$6,584		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3					
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6			$14,714		
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1		$37,475			
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16	$3,741				
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$9,196		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$29,840
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$7,440
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16	$117,146				
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17		$24,352			
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$10,941
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$9,947
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$20,490
Stn.51	15.3.2	Storm Water System - Contingency	3	3			$9,196		
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$4,973

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	16 2035	17 2036	18 2037	19 2038	20 2039
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16	$22,446				
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6			$35,553		
Stn.51	15.6.5	HVAC System - Contingency	5	5					$9,947
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$15,159
Stn.51	16.3.1	Electrical System - Contingency	10	10					$9,947
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1				$7,728	
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1				$9,660	
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					$8,514
Stn.57	2.9.2	Landscaping - Maintenance	8	8	$8,502				
Stn.57	2.9.3	Wetland - Maintenance	15	15					
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4	$5,442				
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					$2,984
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$5,306			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					$109,413
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$38,294
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18			$55,177		
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12					
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$25,290		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$6,565
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7				$16,833	
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26					
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					$29,840
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					
Stn.57	12.3.8	Exercise Room - Refurbish	15	16	$51,014				
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$19,893
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$8,502				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$4,973
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$10,941
Stn.57	15.5.2	Water Heater - Replace	15	4				$15,149	
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6	$23,382				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$9,947
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$8,673
Stn.57	16.3.2	Electrical System - Contingency	20	10					
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					$17,506
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2		$4,863			
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$265,683**	**$71,996**	**$158,745**	**$84,298**	**$398,422**
		CARRY OVER RESERVES			$953,280	$984,179	$1,223,477	$1,393,217	$1,655,380
		ANNUAL RESERVE CONTRIB			$267,950	$278,668	$289,815	$301,407	$313,463
		RESERVE EXPENDITURES			$265,683	$71,996	$158,745	$84,298	$398,422
		ACCUMULATED RESERVES			$955,547	$1,190,851	$1,354,546	$1,610,326	$1,570,421
		INTEREST EARNED			$28,632	$32,625	$38,670	$45,053	$48,387
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$984,179**	**$1,223,477**	**$1,393,217**	**$1,655,380**	**$1,618,808**

	0-1	2-10	11-30	16 (2035)	17 (2036)	18 (2037)	19 (2038)	20 (2039)
YEARS								
CONTRIBUTION INFLATION	0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION	3%	3%	4%	170%	177%	184%	191%	199%
INTEREST RATE MULTIPLIER	2%	2%	3%	3%	3%	3%	3%	3%

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Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 2040	22 2041	23 2042	24 2043	25 2044
Stn.51	2.4.1	Concrete - Paving Repairs	10	1	$37,633				
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1	$3,455				
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21	$151,050				
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					$17,668
Stn.51	2.7.3	Gate Operator - Maintenance	3	3	$3,414			$3,840	
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					$5,325
Stn.51	2.9.1	Landscaping - Maintenance	8	8				$34,908	
Stn.51	3.3.1	Concrete Walkways - Repair	6	3	$11,275				
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6	$32,833				
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6	$5,172				
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21	$3,786				
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21	$8,193				
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1	$12,703				
Stn.51	6.4.4	Metal Siding - Replace	35	26					
Stn.51	7.1.1	Sealant Joints - Replace	15	6	$46,426				
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21	$7,386				
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21	$391,911				
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21	$258,240				
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21	$2,503				
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$14,837
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$12,800	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21	$50,067				
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$29,695	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21	$20,482				
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$8,011		
Stn.51	8.3.1	Storefront System - Maintenance	15	6	$15,868				
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3	$45,267				
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3					
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6				$18,618	
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					$51,287
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1	$5,172				
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8					
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$36,305
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$9,052
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3					
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3					
Stn.51	11.8.1	Air Compressor System - Replace	15	6	$18,206				
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7			$38,757		
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					$19,363
Stn.51	12.1.5	Admin Offices - Refurbish	16	7			$55,943		
Stn.51	12.1.6	Lobby - Refurbish	15	8			$44,754		
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3					
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					$33,328
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					$59,903
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1	$20,689				
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1	$4,138				
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6	$12,413				
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1	$34,137				
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7			$54,914		
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6	$5,607				
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6	$85,694				
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3					
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$13,312
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$12,102
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					
Stn.51	15.3.2	Storm Water System - Contingency	3	3	$10,344			$11,636	
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$6,051

Northshore Fire Department

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Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	21 **2040**	22 **2041**	23 **2042**	24 **2043**	25 **2044**
Stn.51	15.4.2	**Fire Sprinkler System - Maintenance**	15	6	$16,551				
Stn.51	15.5.1	**Water Heater - Contingency**	20	11					
Stn.51	15.6.1	**Heat Recovery Unit - Replace**	25	16					
Stn.51	15.6.2	**Indirect Makeup AHU - Replace**	20	11					
Stn.51	15.6.3	**Furnace - Replace**	20	11					
Stn.51	15.6.4	**VRF Heat Pump - Contingency**	6	6				$44,985	
Stn.51	15.6.5	**HVAC System - Contingency**	5	5					$12,102
Stn.51	15.6.6	**Infrared Heaters - Replace**	20	11					
Stn.51	15.7.1	**Exhaust Fans - Contingency**	5	5					$18,443
Stn.51	16.3.1	**Electrical System - Contingency**	10	10					
Stn.51	16.5.1	**Emergency Generator - Replace**	30	21	$40,964				
Stn.51	16.5.2	**Generator Fuel Tank - Replace**	30	21	$18,206				
Stn.51	16.6.1	**Exterior Light Fixtures - Replace**	10	1	$20,689				
Stn.51	16.8.1	**Fire Control Panel - Replace**	20	11					
Stn.51	16.9.1	**Audio/Visual Equipment - Upgrades**	15	6	$159,305				
Stn.51	17.1.1	**Fireblast 451 - Maintenance**	10	1	$20,689				
Stn.51	18.1.1	**Security / Surveillance System - Replace**	10	1	$33,102				
Stn.57	2.6.1	**Asphalt Paving - Repair**	6	1					$9,778
Stn.57	2.6.2	**Asphalt Pavement- Seal Coat & Restripe**	6	1					$12,223
Stn.57	2.7.4	**Privacy Wood Fence - Replace**	15	10					$14,691
Stn.57	2.7.5	**Chain-link Fence - Repair**	40	20					
Stn.57	2.9.2	**Landscaping - Maintenance**	8	8				$11,636	
Stn.57	2.9.3	**Wetland - Maintenance**	15	15					
Stn.57	3.3.3	**Exterior Concrete Paving - Repair**	6	4		$6,885			
Stn.57	6.1.2	**Garbage Bin Enclosure - Contingency**	20	20					
Stn.57	6.4.5	**Brick Siding - Maintenance**	20	10					
Stn.57	7.3.2	**Gutters & Downspouts - Replace**	20	13					
Stn.57	7.4.7	**Metal Roof - Replace**	40	13					
Stn.57	7.4.8	**Roof Inspection & Minor Repair**	5	2		$6,455			
Stn.57	8.2.8	**Common Doors & Hardware - Maintenance**	10	5					$8,035
Stn.57	8.2.6	**Overhead Bay Door - Replace**	20	10					
Stn.57	8.2.7	**Bay Door Operator - Contingency**	20	20					
Stn.57	8.3.3	**Storefront System - Maintenance**	10	10					
Stn.57	8.5.2	**Aluminum Framed Windows - Replace**	45	18					
Stn.57	9.8.5	**Front Entry Steel Framed Structure - Paint**	10	4				$5,236	
Stn.57	10.4.2	**Exterior Signage - Refurbish**	15	12					
Stn.57	11.4.3	**Kitchen Equipment - Contingency**	5	8			$30,769		
Stn.57	11.6.4	**Laundry Equipment - Contingency**	5	5					$7,987
Stn.57	11.6.5	**Station Extractor - Bunker Gear Washer**	12	7					
Stn.57	11.8.2	**Air Compressor - Replace**	12	13					$96,910
Stn.57	12.3.1	**Interior Concrete Floor - Refurbish**	25	26					
Stn.57	12.3.2	**Apparatus Bay - Refurbish**	10	5					$32,674
Stn.57	12.3.3	**Hallway & Stairwell Walls & Ceiling - Paint**	25	5					
Stn.57	12.3.4	**Front Reception Desk & Office - Remodel**	10	3			$55,943		
Stn.57	12.3.5	**Kitchen - Remodel**	10	5					$24,203
Stn.57	12.3.6	**Day / Dining Room - Remodel**	15	5					
Stn.57	12.3.7	**Duty Crew Sleep Rooms - Refurbish**	20	10					
Stn.57	12.3.8	**Exercise Room - Refurbish**	15	16					
Stn.57	12.3.9	**Locker & Restroom - Refurbish**	15	7		$4,303			
Stn.57	12.3.10	**Laundry & Utility Room - Refurbish**	10	10					
Stn.57	15.2.3	**Plumbing System - Contingency**	10	6					
Stn.57	15.3.3	**Irrigation System - Contingency**	5	5					$6,051
Stn.57	15.4.3	**Fire Detection System - Maintenance**	15	7		$10,758			
Stn.57	15.4.4	**Wet & Dry Fire Sprinkler System - Contingency**	10	10					
Stn.57	15.5.2	**Water Heater - Replace**	15	4					
Stn.57	15.6.7	**HVAC Units - Replace**	15	8			$24,615		
Stn.57	15.6.8	**Furnace - Replace**	10	6					
Stn.57	15.6.9	**Infrared Overhead Heaters - Replace**	10	10					
Stn.57	15.7.2	**Exhaust Fans - Contingency**	5	5					$10,553
Stn.57	16.3.2	**Electrical System - Contingency**	20	10					
Stn.57	16.5.3	**Emergency Generator - Contingency**	20	20					
Stn.57	16.6.2	**Exterior Light Fixtures - Replace**	15	2					
Stn.57	16.8.2	**Fire Control Panel - Replace**	20	10					
Stn.57	18.1.2	**Security / Surveillance System - Upgrade**	10	1	$31,033				
		TOTAL EXPENDED BY YEAR			**$1,644,608**	**$28,402**	**$313,706**	**$173,355**	**$532,179**
		CARRY OVER RESERVES			$1,618,808	$328,987	$654,157	$713,263	$930,914
		ANNUAL RESERVE CONTRIB			$326,002	$339,042	$352,604	$366,708	$381,376
		RESERVE EXPENDITURES			$1,644,608	$28,402	$313,706	$173,355	$532,179
		ACCUMULATED RESERVES			$300,202	$639,627	$693,055	$906,615	$780,110
		INTEREST EARNED			$28,785	$14,529	$20,208	$24,298	$25,665
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$328,987**	**$654,157**	**$713,263**	**$930,914**	**$805,776**

YEARS	**0-1**	**2-10**	**11-30**	21 (2040)	22 (2041)	23 (2042)	24 (2043)	25 (2044)
CONTRIBUTION INFLATION	0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION	3%	3%	4%	207%	215%	224%	233%	242%
INTEREST RATE MULTIPLIER	2%	2%	3%	3%	3%	3%	3%	3%

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PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 2045	27 2046	28 2047	29 2048	30 2049
Stn.51	2.4.1	Concrete - Paving Repairs	10	1					
Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	10	1					
Stn.51	2.7.1	Prefinished Metal Fence - Replace	30	21					
Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	10	5					
Stn.51	2.7.3	Gate Operator - Maintenance	3	3		$4,319			$4,859
Stn.51	2.8.1	Wood Benches - Maintenance	10	5					
Stn.51	2.9.1	Landscaping - Maintenance	8	8					
Stn.51	3.3.1	Concrete Walkways - Repair	6	3		$14,267			
Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	15	6					
Stn.51	6.1.1	Garbage Bin Enclosure - Repair	15	6					
Stn.51	6.2.1	Pedestal Paver - Maintenance	30	21					
Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	30	21					
Stn.51	6.4.1	Brick Siding - Maintenance	20	11					
Stn.51	6.4.2	CMU Wall - Tuck Point	20	11					
Stn.51	6.4.3	Fiber Cement Board Siding - Repair	10	1					
Stn.51	6.4.4	Metal Siding - Replace	35	26	$103,655				
Stn.51	7.1.1	Sealant Joints - Replace	15	6					
Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	30	21					
Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	30	21					
Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	30	21					
Stn.51	7.4.3	Tower Composition Shingles - Replace	30	21					
Stn.51	7.4.4	Tower Metal Roof - Replace	50	41					
Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	40	31					
Stn.51	7.4.6	Roof Inspection & Minor Repair	5	5					$18,051
Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	4				$15,573	
Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	30	21					
Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	5	4				$36,129	
Stn.51	8.2.4	Coiling Door - Maintenance	30	21					
Stn.51	8.2.5	Doors & Hardware - Maintenance	5	3			$9,747		
Stn.51	8.3.1	Storefront System - Maintenance	15	6					
Stn.51	8.3.2	Storefront System - Replace	60	52					
Stn.51	8.5.1	Aluminum Windows - Replace	40	31					
Stn.51	9.8.1	Cedar Wood Siding - Maintenance	6	3		$57,278			
Stn.51	9.8.2	Concrete Siding - Maintenance	12	3		$13,246			
Stn.51	9.8.3	Exterior Steel - Maintenance	6	6					$23,557
Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	8	1					
Stn.51	10.4.1	Exterior Signage - Refurbish	10	1					
Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	25	16					
Stn.51	11.1.1	Propane Forklift - Replace	20	10					$64,783
Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	10	8			$13,613		
Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	5	5					$44,170
Stn.51	11.6.1	Laundry Equipment - Contingency	5	5					$11,013
Stn.51	11.6.2	Unimac Gear Extractor - Replace	12	3		$23,037			
Stn.51	11.6.3	Ramair Gear Dryer - Replace	12	3		$28,796			
Stn.51	11.8.1	Air Compressor System - Replace	15	6					
Stn.51	12.1.1	Apparatus Bay - Refurbish	25	16					
Stn.51	12.1.2	Admin Common Areas - Repaint	16	7					
Stn.51	12.1.3	Exercise Room - Refurbish	20	11					
Stn.51	12.1.4	Bunk Gear Storage - Refurbish	10	5					
Stn.51	12.1.5	Admin Offices - Refurbish	16	7					
Stn.51	12.1.6	Lobby - Refurbish	15	8					
Stn.51	12.1.7	Public Meeting Room - Refurbish	12	3		$39,267			
Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	20	11					
Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	16	9					
Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	16	17					
Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	10	5					
Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	10	1					
Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	10	1					
Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	15	6					
Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	10	1					
Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	24	15					
Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	16	7					
Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	20	11					
Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	15	6					
Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	20	11					
Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	15	6					
Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	12	3		$39,660			
Stn.51	12.6.1	Elevator Cab Interior - Remodel	40	31					
Stn.51	14.1.1	Elevator - Major Upgrades	40	31					
Stn.51	14.1.2	Elevators - 5 Year Load Test	5	5					$16,196
Stn.51	15.2.1	Plumbing System - Contingency	5	5					$14,723
Stn.51	15.2.2	Plumbing Supply Lines - Replace	60	51					
Stn.51	15.3.1	Irrigation System - Contingency	10	10					$30,330
Stn.51	15.3.2	Storm Water System - Contingency	3	3		$13,089			$14,723
Stn.51	15.4.1	Fire Detection System - Maintenance	5	5					$7,362

Northshore Fire Department

Reserve Study Projections at Recommended Funding of $162,300

Reserve Consultants LLC

30-YEAR SPREADSHEET WITH INFLATED DOLLARS

PER YEAR EXPENSES IN 2019 DOLLARS

08-Jan-20

	#	COMPONENT NAME	MAINT. CYCLE	NEXT MAINT.	26 **2045**	27 **2046**	28 **2047**	29 **2048**	30 **2049**
Stn.51	15.4.2	Fire Sprinkler System - Maintenance	15	6					
Stn.51	15.5.1	Water Heater - Contingency	20	11					
Stn.51	15.6.1	Heat Recovery Unit - Replace	25	16					
Stn.51	15.6.2	Indirect Makeup AHU - Replace	20	11					
Stn.51	15.6.3	Furnace - Replace	20	11					
Stn.51	15.6.4	VRF Heat Pump - Contingency	6	6					$56,921
Stn.51	15.6.5	HVAC System - Contingency	5	5					$14,723
Stn.51	15.6.6	Infrared Heaters - Replace	20	11					
Stn.51	15.7.1	Exhaust Fans - Contingency	5	5					$22,439
Stn.51	16.3.1	Electrical System - Contingency	10	10					$14,723
Stn.51	16.5.1	Emergency Generator - Replace	30	21					
Stn.51	16.5.2	Generator Fuel Tank - Replace	30	21					
Stn.51	16.6.1	Exterior Light Fixtures - Replace	10	1					
Stn.51	16.8.1	Fire Control Panel - Replace	20	11					
Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	15	6					
Stn.51	17.1.1	Fireblast 451 - Maintenance	10	1					
Stn.51	18.1.1	Security / Surveillance System - Replace	10	1					
Stn.57	2.6.1	Asphalt Paving - Repair	6	1					
Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	6	1					
Stn.57	2.7.4	Privacy Wood Fence - Replace	15	10					
Stn.57	2.7.5	Chain-link Fence - Repair	40	20					
Stn.57	2.9.2	Landscaping - Maintenance	8	8					
Stn.57	2.9.3	Wetland - Maintenance	15	15					$29,447
Stn.57	3.3.3	Exterior Concrete Paving - Repair	6	4			$8,712		
Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	20	20					
Stn.57	6.4.5	Brick Siding - Maintenance	20	10					$37,780
Stn.57	7.3.2	Gutters & Downspouts - Replace	20	13					
Stn.57	7.4.7	Metal Roof - Replace	40	13					
Stn.57	7.4.8	Roof Inspection & Minor Repair	5	2		$7,853			
Stn.57	8.2.8	Common Doors & Hardware - Maintenance	10	5					
Stn.57	8.2.6	Overhead Bay Door - Replace	20	10					$16,785
Stn.57	8.2.7	Bay Door Operator - Contingency	20	20					
Stn.57	8.3.3	Storefront System - Maintenance	10	10					$56,685
Stn.57	8.5.2	Aluminum Framed Windows - Replace	45	18					
Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	10	4					
Stn.57	10.4.2	Exterior Signage - Refurbish	15	12		$6,545			
Stn.57	11.4.3	Kitchen Equipment - Contingency	5	8			$37,435		
Stn.57	11.6.4	Laundry Equipment - Contingency	5	5					$9,717
Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	12	7					
Stn.57	11.8.2	Air Compressor - Replace	12	13					
Stn.57	12.3.1	Interior Concrete Floor - Refurbish	25	26	$19,885				
Stn.57	12.3.2	Apparatus Bay - Refurbish	10	5					
Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	25	5					$20,613
Stn.57	12.3.4	Front Reception Desk & Office - Remodel	10	3					
Stn.57	12.3.5	Kitchen - Remodel	10	5					
Stn.57	12.3.6	Day / Dining Room - Remodel	15	5					
Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	20	10					$14,723
Stn.57	12.3.8	Exercise Room - Refurbish	15	16					
Stn.57	12.3.9	Locker & Restroom - Refurbish	15	7					
Stn.57	12.3.10	Laundry & Utility Room - Refurbish	10	10					$29,447
Stn.57	15.2.3	Plumbing System - Contingency	10	6	$12,586				
Stn.57	15.3.3	Irrigation System - Contingency	5	5					$7,362
Stn.57	15.4.3	Fire Detection System - Maintenance	15	7					
Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	10	10					$16,196
Stn.57	15.5.2	Water Heater - Replace	15	4					
Stn.57	15.6.7	HVAC Units - Replace	15	8					
Stn.57	15.6.8	Furnace - Replace	10	6	$34,611				
Stn.57	15.6.9	Infrared Overhead Heaters - Replace	10	10					$14,723
Stn.57	15.7.2	Exhaust Fans - Contingency	5	5					$12,839
Stn.57	16.3.2	Electrical System - Contingency	20	10					$19,435
Stn.57	16.5.3	Emergency Generator - Contingency	20	20					
Stn.57	16.6.2	Exterior Light Fixtures - Replace	15	2					
Stn.57	16.8.2	Fire Control Panel - Replace	20	10					$11,337
Stn.57	18.1.2	Security / Surveillance System - Upgrade	10	1					
		TOTAL EXPENDED BY YEAR			**$170,737**	**$247,357**	**$69,506**	**$51,702**	**$655,664**
		CARRY OVER RESERVES			$805,776	$1,059,232	$1,258,625	$1,661,266	$2,111,476
		ANNUAL RESERVE CONTRIB			$396,631	$412,497	$428,996	$446,156	$464,003
		RESERVE EXPENDITURES			$170,737	$247,357	$69,506	$51,702	$655,664
		ACCUMULATED RESERVES			$1,031,670	$1,224,371	$1,618,115	$2,055,721	$1,919,814
		INTEREST EARNED			$27,562	$34,254	$43,151	$55,755	$60,469
		SPECIAL ASSESSMENT							
		YEAR-END BALANCE			**$1,059,232**	**$1,258,625**	**$1,661,266**	**$2,111,476**	**$1,980,284**

	0-1	**2-10**	**11-30**					
YEARS				26 (2045)	27 (2046)	28 (2047)	29 (2048)	30 (2049)
CONTRIBUTION INFLATION	0%	3%	4%	4%	4%	4%	4%	4%
COMPONENT COMPOUND INFLATION	3%	3%	4%	252%	262%	272%	283%	294%
INTEREST RATE MULTIPLIER	2%	2%	3%	3%	3%	3%	3%	3%

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30 Year Summary at the Recommended Starting Funding of $162,300
Using Inflated Dollar Values

Inflation & Interest Assumptions

	Inflation	Interest
Years 0-1	0%	2%
Years 2-10	3%	2%
Years 11-30	4%	3%

Risk of Special Assessment

Nominal Risk	100% and above
Low Risk	70% 99%
Moderate Risk	25% to 69%
Highest Risk	0% to 24%

Fiscal Year End	Fiscal Year Beginning Reserve Balance	Recommended Annual Reserve Contribution	Average Contribution per Unit per Month	Projected Reserve Expenditures	Projected Interest Earned	Fiscal Year End Reserve Balance	Projected Fully Funded Balance	% Funded
1 (2020)	$159,998	$162,300	$13,525	($142,428)	$3,399	$183,268	$901,953	20%
2 (2021)	$183,268	$167,169	$13,931	($6,100)	$5,276	$349,613	$1,074,839	33%
3 (2022)	$349,613	$172,184	$14,349	($128,472)	$7,429	$400,754	$1,138,656	35%
4 (2023)	$400,754	$177,350	$14,779	($35,600)	$9,433	$551,936	$1,302,248	42%
5 (2024)	$551,936	$182,670	$15,223	($175,885)	$11,107	$569,828	$1,339,469	43%
6 (2025)	$569,828	$188,150	$15,679	($292,710)	$10,351	$475,619	$1,269,452	37%
7 (2026)	$475,619	$193,795	$16,150	($116,531)	$10,285	$563,168	$1,373,602	41%
8 (2027)	$563,168	$199,609	$16,634	($92,892)	$12,331	$682,215	$1,509,202	45%
9 (2028)	$682,215	$205,597	$17,133	($113,776)	$14,563	$788,598	$1,634,132	48%
10 (2029)	$788,598	$211,765	$17,647	($243,182)	$15,458	$772,639	$1,642,877	47%
11 (2030)	$772,639	$220,235	$18,353	($384,961)	$20,708	$628,622	$1,538,496	41%
12 (2031)	$628,622	$229,045	$19,087	($57,387)	$21,434	$821,712	$1,756,118	47%
13 (2032)	$821,712	$238,206	$19,851	($233,833)	$24,717	$850,803	$1,819,610	47%
14 (2033)	$850,803	$247,735	$20,645	($32,246)	$28,756	$1,095,048	$2,090,170	52%
15 (2034)	$1,095,048	$257,644	$21,470	($429,683)	$30,271	$953,280	$1,994,853	48%
16 (2035)	$953,280	$267,950	$22,329	($265,683)	$28,632	$984,179	$2,064,477	48%
17 (2036)	$984,179	$278,668	$23,222	($71,996)	$32,625	$1,223,477	$2,334,842	52%
18 (2037)	$1,223,477	$289,815	$24,151	($158,745)	$38,670	$1,393,217	$2,542,107	55%
19 (2038)	$1,393,217	$301,407	$25,117	($84,298)	$45,053	$1,655,380	$2,840,661	58%
20 (2039)	$1,655,380	$313,463	$26,122	($398,422)	$48,387	$1,618,808	$2,857,331	57%
21 (2040)	$1,618,808	$326,002	$27,167	($1,644,608)	$28,785	$328,987	$1,676,373	20%
22 (2041)	$328,987	$339,042	$28,254	($28,402)	$14,529	$654,157	$2,029,367	32%
23 (2042)	$654,157	$352,604	$29,384	($313,706)	$20,208	$713,263	$2,132,027	33%
24 (2043)	$713,263	$366,708	$30,559	($173,355)	$24,298	$930,914	$2,388,098	39%
25 (2044)	$930,914	$381,376	$31,781	($532,179)	$25,665	$805,776	$2,319,603	35%
26 (2045)	$805,776	$396,631	$33,053	($170,737)	$27,562	$1,059,232	$2,613,389	41%
27 (2046)	$1,059,232	$412,497	$34,375	($247,357)	$34,254	$1,258,625	$2,859,209	44%
28 (2047)	$1,258,625	$428,996	$35,750	($69,506)	$43,151	$1,661,266	$3,302,791	50%
29 (2048)	$1,661,266	$446,156	$37,180	($51,702)	$55,755	$2,111,476	$3,797,269	56%
30 (2049)	$2,111,476	$464,003	$38,667	($655,664)	$60,469	$1,980,284	$3,741,657	53%

Note: The long term nature of this study requires that certain assumptions and predictions be made about future events. Since there can be no guarantee that these future events will occur as assumed, this analysis must be viewed in light of the circumstances under which it was conducted. Reasonable effort has been made to ensure that the conclusions of this report are based on reliable information and sound reasoning.

FULLY FUNDED BALANCE CALCULATIONS

RCW 64.90.550 (2)(j) states that a reserve study shall include: "A projected reserve account balance for thirty years based on each funding plan presented in the reserve study". Furthermore, RCW 64.90.550 (2)(e) the reserve study shall include "The percentage of the fully funded balance to which the reserve account is funded".

"Fully funded balance" means the current value of the deteriorated portion, not the total replacement value, of all the reserve components. The fully funded balance for each reserve component is calculated by multiplying the current replacement cost of that reserve component by its effective age, then dividing the result by that reserve component's useful life.

The sum total of all reserve components' fully funded balances is the organization's fully funded balance, as defined by RCW 64.90.010 (26).

$$FFB = \text{the sum of } \frac{\text{replacement cost} * \text{effective age}}{\text{useful life}} \text{ for all reserve components}$$

The **percent fully funded** relates to how much the building has deteriorated, or been used up, compared to the cost of making it new again. Another way of thinking of this is the percent fully funded illustrates how much you should have saved thus far to pay for the future replacement of a component, based on the replacement cost and how many years you have to save.

Example of how it works: A Roof Replacement

SCENARIO

If you have a roof that will last 10 years and cost $100,000 to replace:

- To pay for the future replacement in 10 years, you should save $10,000 each year to have enough money to cover the replacement cost.
- When it is 2 years old, it is 20% used up, and the Fully Funded Balance for its future replacement is $20,000. If you have saved $10,000 for the future replacement in 2 years, you are 50% fully funded. If you have saved $20,000, you are 100% fully funded.
- When the roof is 8 years old it will be 80% deteriorated, and its Fully Funded Balance would be $80,000. If you have saved only $10,000 by Year 8 you are 13% fully funded. If you have saved $20,000, you are at 25%, and at $80,000 you are at 100% fully funded.

ANALYSIS

A. In effect, the percent fully funded is a measure of how well an organization can withstand the risk of unexpected expenses. Such unexpected expenses include: emergency expenses not covered by insurance, expenses that are higher than predicted, and expenses that are required earlier than anticipated.

B. A higher percent funded means more money is in the bank, and that lowers the risk of special assessment when unexpected expenses occur. A poorly funded organization would have less money available for unexpected expenses, and a higher risk of a special assessment to generate the needed funds.

C. By looking at cash flow demands we are able to determine how much money is needed to fund anticipated replacement and maintenance of the reserve components and recommend a steady contribution over the 30 year span of the study. Budgeting to maintain a minimum balance, or threshold, helps to ensure that a special assessment will not be required if an unexpected expense arises.

We typically recommend that an organization select a minimum reserve account balance (or Threshold) it wants to maintain and select a contribution rate to maintain that minimum rather than try to build their account to 100% fully funded.

We usually recommend that an organization consider a threshold equal to the recommended annual reserve contribution because this is the average maintenance expense over the thirty years. However, each organization must judge their unique risk tolerance.

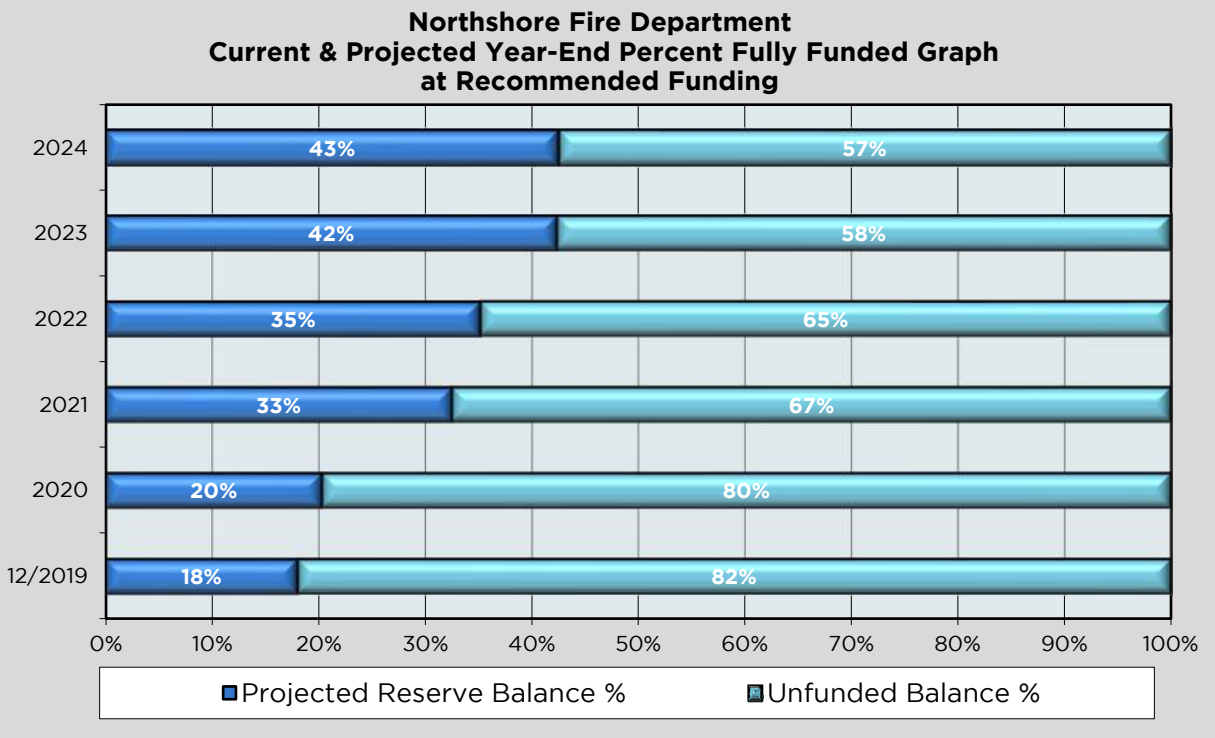
The Fully Funded Balance for Northshore Fire Department is $942,417. The actual current funding is $170,000. The Organization is approximately 18% funded.

This means that based on a straight line savings for each reserve component, the Organization saved 18% of the accumulated depreciation of the reserve components.

At 18%, Northshore Fire Department is considered to be at **high risk for a special assessment**.

% Funded	Special Assessment Risk Level
100% +	Nominal Risk
70% to 99%	Low Risk
25% to 69%	Moderate Risk
24% or less	High Risk

Below is a graph with the current and projected year-end percent fully funded calculated at the recommended starting annual reserve contribution of $162,300.



Deficit or Surplus in Reserve Funding

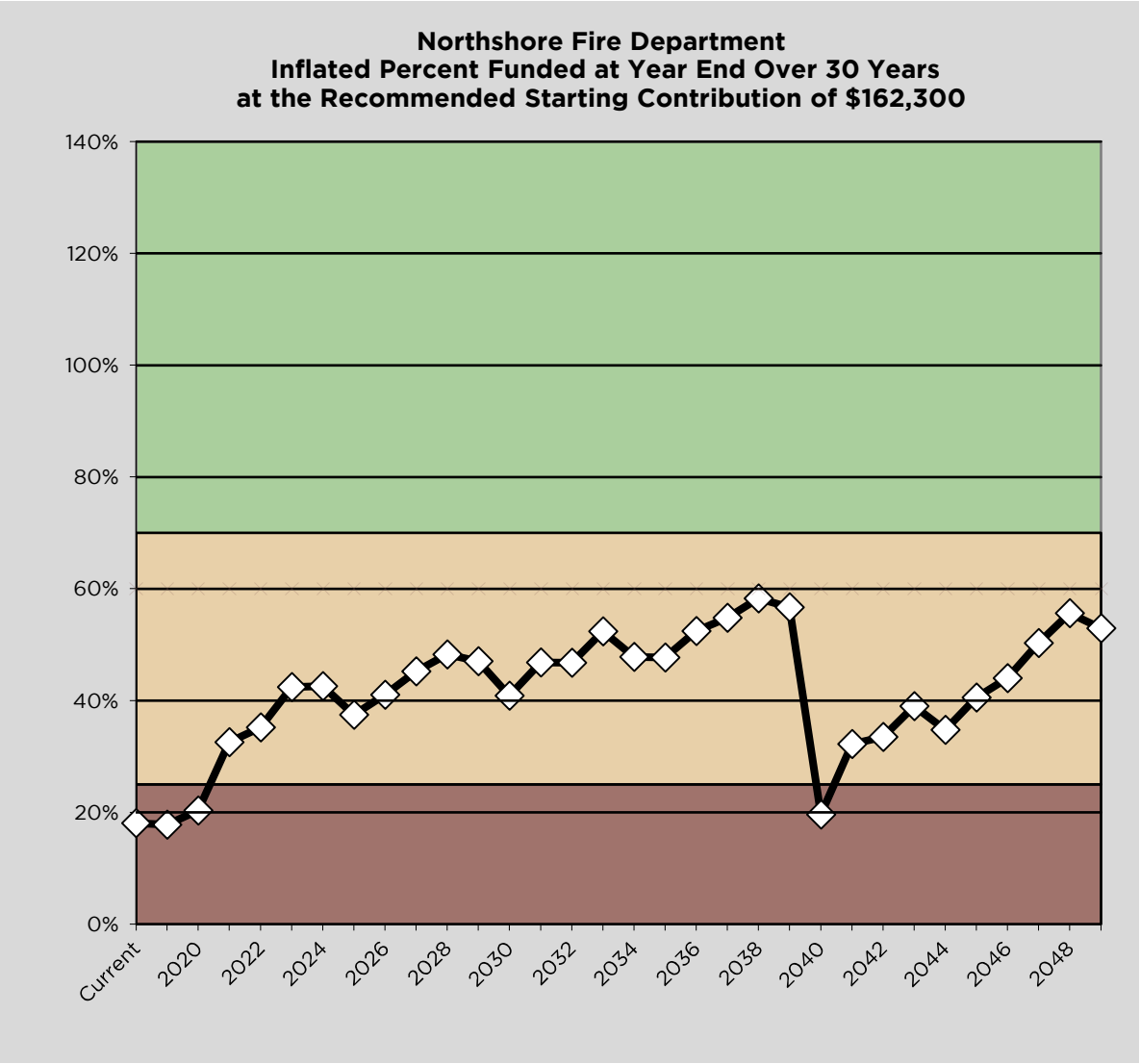
RCW 64.90.550 §2(l) requires that the reserve study include the amount of any current deficit or surplus in reserve funding expressed on a dollars per unit basis. This is calculated by subtracting the association's reserve account balance as of the date of the study from the fully funded balance, and then multiplying the result by the fraction or percentage of the common expenses of the association allocable to each unit.

Since Northshore Fire Department is a single entity, we simply show the difference between the reserve account balance and the current fully funded balance.

Reserve Account Balance as of January 1, 2019	$170,000
Current Fully Funded Balance	$942,417
Reserve Fund (Deficit)	($772,417)

Inflated Percent Funded at Year End Over 30 Years

The following graph illustrates the projected percent funded at year end over the next 30 years at the recommended starting contribution rate of $162,300. The chart includes inflated values, interest, and special assessments (if applicable).



FULLY FUNDED BALANCE CALCULATION TABLE

Fully Funded Balance Calculations

Northshore Fire Department

$$FFB = the\ sum\ of\ \frac{replacement\ cost\ *\ effective\ age}{useful\ life}\ for\ all\ reserve\ components$$

			Component Description	Quantity	Unit	Maintenance Cycle (Useful Life)	Remaining Useful Life	Effective Age	Current Replacement Cost	Fully Funded Balance
3%	Stn.51	2.4.1	Concrete - Paving Repairs	65610	SF	10	1	9	$18,190	$16,371
100%	Stn.51	2.4.2	Concrete - Repaint Stalls & Curbs	76	EA	10	1	9	$1,670	$1,503
100%	Stn.51	2.7.1	Prefinished Metal Fence - Replace	885	LF	30	21	9	$73,010	$21,903
10%	Stn.51	2.7.2	Prefinished Metal Fence & Gates - Maintenance	885	LF	10	5	5	$7,300	$3,650
100%	Stn.51	2.7.3	Gate Operator - Maintenance	1	EA	3	3	-	$1,650	$0
100%	Stn.51	2.8.1	Wood Benches - Maintenance	4	EA	10	5	5	$2,200	$1,100
100%	Stn.51	2.9.1	Landscaping - Maintenance	1	LS	8	8	-	$15,000	$0
10%	Stn.51	3.3.1	Concrete Walkways - Repair	5700	SF	6	3	3	$5,450	$2,725
5%	Stn.51	3.3.2	Cast Concrete Retaining Walls - Repair	740	LF	15	6	9	$15,870	$9,522
100%	Stn.51	6.1.1	Garbage Bin Enclosure - Repair	1	EA	15	6	9	$2,500	$1,500
25%	Stn.51	6.2.1	Pedestal Paver - Maintenance	180	SF	30	21	9	$1,830	$549
100%	Stn.51	6.2.2	PVC Thermoplastic Membrane - Replace	180	SF	30	21	9	$3,960	$1,188
5%	Stn.51	6.4.1	Brick Siding - Maintenance	7010	SF	20	11	9	$9,640	$4,338
100%	Stn.51	6.4.2	CMU Wall - Tuck Point	6515	SF	20	11	9	$53,750	$24,188
3%	Stn.51	6.4.3	Fiber Cement Board Siding - Repair	6420	SF	10	1	9	$6,140	$5,526
100%	Stn.51	6.4.4	Metal Siding - Replace	2340	SF	35	26	9	$41,180	$10,589
100%	Stn.51	7.1.1	Sealant Joints - Replace	1700	LF	15	6	9	$22,440	$13,464
100%	Stn.51	7.3.1	Scuppers, Gutters & Downspouts - Replace	560	LF	30	21	9	$3,570	$1,071
100%	Stn.51	7.4.1	Low Sloped Ribbed Roof - Replace	101	SQ	30	21	9	$189,430	$56,829
100%	Stn.51	7.4.2	Low Sloped Smooth Roof - Replace	95	SQ	30	21	9	$124,820	$37,446
100%	Stn.51	7.4.3	Tower Composition Shingles - Replace	2	SQ	30	21	9	$1,210	$363
100%	Stn.51	7.4.4	Tower Metal Roof - Replace	6	SQ	50	41	9	$5,150	$927
100%	Stn.51	7.4.5	Apparatus Bay Metal Roof - Replace	19	SQ	40	31	9	$16,300	$3,668
5%	Stn.51	7.4.6	Roof Inspection & Minor Repair	223	SQ	5	5	-	$6,130	$0
10%	Stn.51	8.2.1	Folding Bay Doors & Hardware - Maintenance	5	EA	5	4	1	$5,500	$1,100
100%	Stn.51	8.2.2	Overhead Bay Doors & Hardware - Replace	4	EA	30	21	9	$24,200	$7,260
100%	Stn.51	8.2.3	Overhead Bay Door Operator - Contingency	4	EA	5	4	1	$12,760	$2,552
100%	Stn.51	8.2.4	Coiling Door - Maintenance	2	EA	30	21	9	$9,900	$2,970
100%	Stn.51	8.2.5	Doors & Hardware - Maintenance	5	EA	5	3	2	$3,580	$1,432
20%	Stn.51	8.3.1	Storefront System - Maintenance	420	SF	15	6	9	$7,670	$4,602
100%	Stn.51	8.3.2	Storefront System - Replace	420	SF	60	52	8	$38,350	$5,113
100%	Stn.51	8.5.1	Aluminum Windows - Replace	2620	SF	40	31	9	$172,920	$38,907
100%	Stn.51	9.8.1	Cedar Wood Siding - Maintenance	1530	SF	6	3	3	$21,880	$10,940
100%	Stn.51	9.8.2	Concrete Siding - Maintenance	920	SF	12	3	9	$5,060	$3,795
100%	Stn.51	9.8.3	Exterior Steel - Maintenance	1	LS	6	6	-	$8,000	$0
100%	Stn.51	9.8.4	Fiber Cement Board Siding - Caulk & Paint	6420	SF	8	1	7	$21,190	$18,541
100%	Stn.51	10.4.1	Exterior Signage - Refurbish	1	LS	10	1	9	$2,500	$2,250
100%	Stn.51	10.5.1	Exterior Mail Pedestal Unit - Replace	1	EA	25	16	9	$2,200	$792
100%	Stn.51	11.1.1	Propane Forklift - Replace	1	EA	20	10	10	$22,000	$11,000
100%	Stn.51	11.4.1	Admin Kitchen Equipment - Contingency	1	LS	10	8	2	$5,000	$1,000
100%	Stn.51	11.4.2	Duty Crew Kitchen Equipment - Contingency	1	LS	5	5	-	$15,000	$0
100%	Stn.51	11.6.1	Laundry Equipment - Contingency	4	EA	5	5	-	$3,740	$0
100%	Stn.51	11.6.2	Unimac Gear Extractor - Replace	1	EA	12	3	9	$8,800	$6,600
100%	Stn.51	11.6.3	Ramair Gear Dryer - Replace	1	EA	12	3	9	$11,000	$8,250
100%	Stn.51	11.8.1	Air Compressor System - Replace	1	EA	15	6	9	$8,800	$5,280
100%	Stn.51	12.1.1	Apparatus Bay - Refurbish	12525	SF	25	16	9	$68,890	$24,800
100%	Stn.51	12.1.2	Admin Common Areas - Repaint	12115	SF	16	7	9	$17,320	$9,743
100%	Stn.51	12.1.3	Exercise Room - Refurbish	1	LS	20	11	9	$3,000	$1,350
100%	Stn.51	12.1.4	Bunk Gear Storage - Refurbish	1	LS	10	5	5	$8,000	$4,000
100%	Stn.51	12.1.5	Admin Offices - Refurbish	1	LS	16	7	9	$25,000	$14,063
100%	Stn.51	12.1.6	Lobby - Refurbish	1	LS	15	8	7	$20,000	$9,333
100%	Stn.51	12.1.7	Public Meeting Room - Refurbish	1	LS	12	3	9	$15,000	$11,250
100%	Stn.51	12.1.8	Public & Admin Restrooms - Refurbish	7	EA	20	11	9	$19,250	$8,663
100%	Stn.51	12.2.1	Duty Crew Common Areas - Full Repaint	9630	SF	16	9	7	$13,770	$6,024
100%	Stn.51	12.2.2	Duty Crew Common Areas - Touchup Paint	9630	SF	16	17	-	$13,770	$0

Continued

			Component Description	Quantity	Unit	Maintenance Cycle (Useful Life)	Remaining Useful Life	Effective Age	Current Replacement Cost	Fully Funded Balance
100%	Stn.51	12.2.3	Duty Crew Sleep Room Interiors - Refurbish	9	EA	10	5	5	$24,750	$12,375
100%	Stn.51	12.2.4	Duty Crew Kitchen Interiors - Refurbish	1	LS	10	1	9	$10,000	$9,000
100%	Stn.51	12.2.5	Duty Crew Laundry Interiors - Refurbish	1	LS	10	1	9	$2,000	$1,800
100%	Stn.51	12.2.6	Duty Crew Office/Training Areas - Refurbish	1	LS	15	6	9	$6,000	$3,600
100%	Stn.51	12.2.7	Duty Crew Restrooms - Refurbish	6	EA	10	1	9	$16,500	$14,850
100%	Stn.51	12.4.1	1st Floor Interior Carpet Flooring - Replace	704	SY	24	15	9	$34,080	$12,780
100%	Stn.51	12.4.2	2nd Floor Interior Carpet Flooring - Replace	507	SY	16	7	9	$24,540	$13,804
100%	Stn.51	12.4.3	1st Floor Resilient Flooring - Replace	655	SF	20	11	9	$2,310	$1,040
100%	Stn.51	12.4.4	2nd Floor Resilient Flooring - Replace	770	SF	15	6	9	$2,710	$1,626
100%	Stn.51	12.4.5	1st Floor Sheet Flooring - Replace	1950	SF	20	11	9	$32,180	$14,481
100%	Stn.51	12.4.6	2nd Floor Sheet Flooring - Replace	2510	SF	15	6	9	$41,420	$24,852
100%	Stn.51	12.4.7	1st Floor Stained Concrete - Refurbish	510	SF	12	3	9	$15,150	$11,363
100%	Stn.51	12.6.1	Elevator Cab Interior - Remodel	1	LS	40	31	9	$6,000	$1,350
100%	Stn.51	14.1.1	Elevator - Major Upgrades	1	EA	40	31	9	$125,000	$28,125
100%	Stn.51	14.1.2	Elevators - 5 Year Load Test	1	LS	5	5	-	$5,500	$0
100%	Stn.51	15.2.1	Plumbing System - Contingency	1	LS	5	5	-	$5,000	$0
100%	Stn.51	15.2.2	Plumbing Supply Lines - Replace	1	LS	60	51	9	$60,000	$9,000
100%	Stn.51	15.3.1	Irrigation System - Contingency	12	ZN	10	10	-	$10,300	$0
100%	Stn.51	15.3.2	Storm Water System - Contingency	1	LS	3	3	-	$5,000	$0
100%	Stn.51	15.4.1	Fire Detection System - Maintenance	1	LS	5	5	-	$2,500	$0
100%	Stn.51	15.4.2	Fire Sprinkler System - Maintenance	1	LS	15	6	9	$8,000	$4,800
100%	Stn.51	15.5.1	Water Heater - Contingency	2	EA	20	11	9	$16,280	$7,326
100%	Stn.51	15.6.1	Heat Recovery Unit - Replace	1	EA	25	16	9	$13,200	$4,752
100%	Stn.51	15.6.2	Indirect Makeup AHU - Replace	1	EA	20	11	9	$9,900	$4,455
100%	Stn.51	15.6.3	Furnace - Replace	1	EA	20	11	9	$2,200	$990
33%	Stn.51	15.6.4	VRF Heat Pump - Contingency	40	EA	6	6	-	$19,330	$0
100%	Stn.51	15.6.5	HVAC System - Contingency	1	LS	5	5	-	$5,000	$0
100%	Stn.51	15.6.6	Infrared Heaters - Replace	6	EA	20	11	9	$15,180	$6,831
33%	Stn.51	15.7.1	Exhaust Fans - Contingency	14	EA	5	5	-	$7,620	$0
100%	Stn.51	16.3.1	Electrical System - Contingency	1	LS	10	10	-	$5,000	$0
100%	Stn.51	16.5.1	Emergency Generator - Replace	1	EA	30	21	9	$19,800	$5,940
100%	Stn.51	16.5.2	Generator Fuel Tank - Replace	1	EA	30	21	9	$8,800	$2,640
100%	Stn.51	16.6.1	Exterior Light Fixtures - Replace	1	LS	10	1	9	$10,000	$9,000
100%	Stn.51	16.8.1	Fire Control Panel - Replace	1	EA	20	11	9	$3,740	$1,683
100%	Stn.51	16.9.1	Audio/Visual Equipment - Upgrades	1	LS	15	6	9	$77,000	$46,200
100%	Stn.51	17.1.1	Fireblast 451 - Maintenance	1	EA	10	1	9	$10,000	$9,000
100%	Stn.51	18.1.1	Security / Surveillance System - Replace	1	LS	10	1	9	$16,000	$14,400
5%	Stn.57	2.6.1	Asphalt Paving - Repair	9180	SF	6	1	5	$4,040	$3,367
100%	Stn.57	2.6.2	Asphalt Pavement- Seal Coat & Restripe	9180	SF	6	1	5	$5,050	$4,208
100%	Stn.57	2.7.4	Privacy Wood Fence - Replace	120	LF	15	10	5	$6,070	$2,023
100%	Stn.57	2.7.5	Chain-link Fence - Repair	205	LF	40	20	20	$4,280	$2,140
100%	Stn.57	2.9.2	Landscaping - Maintenance	1	LS	8	8	-	$5,000	$0
100%	Stn.57	2.9.3	Wetland - Maintenance	1	LS	15	15	-	$10,000	$0
20%	Stn.57	3.3.3	Exterior Concrete Paving - Repair	1730	SF	6	4	2	$3,200	$1,067
100%	Stn.57	6.1.2	Garbage Bin Enclosure - Contingency	1	LS	20	20	-	$1,500	$0
10%	Stn.57	6.4.5	Brick Siding - Maintenance	4860	SF	20	10	10	$12,830	$6,415
100%	Stn.57	7.3.2	Gutters & Downspouts - Replace	511	LF	20	13	7	$3,160	$1,106
100%	Stn.57	7.4.7	Metal Roof - Replace	70	SQ	40	13	27	$60,060	$40,541
5%	Stn.57	7.4.8	Roof Inspection & Minor Repair	70	SQ	5	2	3	$3,000	$1,800
15%	Stn.57	8.2.8	Common Doors & Hardware - Maintenance	31	EA	10	5	5	$3,320	$1,660
100%	Stn.57	8.2.6	Overhead Bay Door - Replace	5	EA	20	10	10	$5,700	$2,850
100%	Stn.57	8.2.7	Bay Door Operator - Contingency	5	EA	20	20	-	$55,000	$0
100%	Stn.57	8.3.3	Storefront System - Maintenance	5	EA	10	10	-	$19,250	$0
100%	Stn.57	8.5.2	Aluminum Framed Windows - Replace	1	LS	45	18	27	$30,000	$18,000
100%	Stn.57	9.8.5	Front Entry Steel Framed Structure - Paint	128	LF	10	4	6	$2,250	$1,350

Continued

			Component Description	Quantity	Unit	Maintenance Cycle (Useful Life)	Remaining Useful Life	Effective Age	Current Replacement Cost	Fully Funded Balance
100%	Stn.57	10.4.2	Exterior Signage - Refurbish	1	LS	15	12	3	$2,500	$500
50%	Stn.57	11.4.3	Kitchen Equipment - Contingency	5	EA	5	8	-	$13,750	$0
100%	Stn.57	11.6.4	Laundry Equipment - Contingency	2	EA	5	5	-	$3,300	$0
100%	Stn.57	11.6.5	Station Extractor - Bunker Gear Washer	1	EA	12	7	5	$8,800	$3,667
100%	Stn.57	11.8.2	Air Compressor - Replace	3640	SF	12	13	-	$40,040	$0
25%	Stn.57	12.3.1	Interior Concrete Floor - Refurbish	5748	SF	25	26	-	$7,900	$0
100%	Stn.57	12.3.2	Apparatus Bay - Refurbish	5844	SF	10	5	5	$13,500	$6,750
100%	Stn.57	12.3.3	Hallway & Stairwell Walls & Ceiling - Paint	1	LS	25	5	20	$7,000	$5,600
100%	Stn.57	12.3.4	Front Reception Desk & Office - Remodel	1	LS	10	3	7	$25,000	$17,500
100%	Stn.57	12.3.5	Kitchen - Remodel	1	LS	10	5	5	$10,000	$5,000
100%	Stn.57	12.3.6	Day / Dining Room - Remodel	1	LS	15	5	10	$15,000	$10,000
100%	Stn.57	12.3.7	Duty Crew Sleep Rooms - Refurbish	1	LS	20	10	10	$5,000	$2,500
100%	Stn.57	12.3.8	Exercise Room - Refurbish	1	LS	15	16	-	$30,000	$0
100%	Stn.57	12.3.9	Locker & Restroom - Refurbish	1	LS	15	7	8	$2,000	$1,067
100%	Stn.57	12.3.10	Laundry & Utility Room - Refurbish	1	LS	10	10	-	$10,000	$0
100%	Stn.57	15.2.3	Plumbing System - Contingency	1	LS	10	6	4	$5,000	$2,000
100%	Stn.57	15.3.3	Irrigation System - Contingency	1	LS	5	5	-	$2,500	$0
100%	Stn.57	15.4.3	Fire Detection System - Maintenance	1	LS	15	7	8	$5,000	$2,667
100%	Stn.57	15.4.4	Wet & Dry Fire Sprinkler System - Contingency	1	LS	10	10	-	$5,500	$0
100%	Stn.57	15.5.2	Water Heater - Replace	3	EA	15	4	11	$7,920	$5,808
100%	Stn.57	15.6.7	HVAC Units - Replace	1	EA	15	8	7	$11,000	$5,133
100%	Stn.57	15.6.8	Furnace - Replace	5	EA	10	6	4	$13,750	$5,500
100%	Stn.57	15.6.9	Infrared Overhead Heaters - Replace	1	LS	10	10	-	$5,000	$0
33%	Stn.57	15.7.2	Exhaust Fans - Contingency	8	EA	5	5	-	$4,360	$0
100%	Stn.57	16.3.2	Electrical System - Contingency	1	EA	20	10	10	$6,600	$3,300
100%	Stn.57	16.5.3	Emergency Generator - Contingency	1	EA	20	20	-	$8,800	$0
100%	Stn.57	16.6.2	Exterior Light Fixtures - Replace	5	EA	15	2	13	$2,750	$2,383
100%	Stn.57	16.8.2	Fire Control Panel - Replace	1	EA	20	10	10	$3,850	$1,925
100%	Stn.57	18.1.2	Security / Surveillance System - Upgrade	1	LS	10	1	9	$15,000	$13,500
							FULLY FUNDED BALANCE		Total	$942,417

CURRENT RESERVE BALANCE = $170,000

PERCENT FULLY FUNDED = 18%

January 8, 2020

ABBREVIATION KEY

EA each	LF linear foot	SQ roofing square
BLDG building(s)	LS lump sum	SY square yard
FIXT fixture(s)	SF square feet	ZN zone

SUPPLEMENTAL BUDGET INFORMATION (SBI)

RCW 64.90.525 §2 of the WUCIOA requires that the budget disclosure include:

(d) The current amount of regular assessments budgeted for contribution to the reserve account;

(e) A statement of whether the association has a reserve study that meets the requirements of RCW 64.90.550 of this act and, if so, the extent to which the budget meets or deviates from the recommendations of that reserve study; and

(f) The current deficiency or surplus in reserve funding expressed on a per unit basis

Below is a sample of the SBI we will compile when the association is ready to provide a summary of the budget to the unit owners. Please contact RCL one week before the Association plans on sending the budget summary to unit owners and we will issue a completed WUCIOA SBI at no additional charge within one year of issuing the draft of the reserve study report.

Supplemental Budget Information on Reserves for Sample Association

In Compliance with RCW 64.90.525 (Washington Uniform Common Interest Owners Act - WUCIOA) Sections 2(d) through 2(f)

September 18, 2018

Funding Information

✓ Sample Association does have a current reserve study that complies with RCW 64.90.550 (WUCIOA).

✓ Sample Association does have a reserve study that complies with RCW 64.34.382 (Condominium Act).

$17,800	The current regular reserve assessments budgeted for annual contribtion to the reserve account.
$19,700	The Recommended annual contribution to reserves for the fiscal year ending in 2019.
$19,500	The Proposed annual contribution to reserves for the fiscal year ending in 2019 per the budget.

× **The proposed budget does not meet or exceed the reserve study recommendations.**

($200)	Difference between the Proposed and Recommended annual contribution to reserves.

Current (Deficiency) In Reserve Funds Compared to the Fully Funded Balance on a per Unit Basis

$102,000	The projected fiscal year end 2018 reserve balance per the budget.
$117,106	The projected fiscal year end 2018 Fully Funded Balance per the reserve study.
($15,106)	The total (deficiency) in reserves, compared to the Fully Funded Balance.

Unit Number	Allocated Interest	(Deficiency) per Unit	Unit Number	Allocated Interest	(Deficiency) per Unit	Unit Number	Allocated Interest	(Deficiency) per Unit
101	6.00%	($906.35)	201	6.00%	($906.35)	301	6.00%	($906.35)
102	7.00%	($1,057.40)	202	7.00%	($1,057.40)	302	7.00%	($1,057.40)
103	9.00%	($1,359.52)	203	9.00%	($1,359.52)	303	9.00%	($1,359.52)
104	11.30%	($1,706.95)	204	11.30%	($1,706.95)	304	11.40%	($1,722.06)
Column Total	33.30%	($5,030.22)	**Column Total**	33.30%	($5,030.22)	**Column Total**	33.40%	($5,045.33)

Sample

DISCLOSURES

1. Reserve Consultants LLC also provides construction inspection services for condominiums and does design and construction oversight for major repair projects, including roofing, decks and building envelope replacement.
2. No shareholder or employee of Reserve Consultants LLC has any interest in, or obligation to, any construction company, management company, or development entity that creates condominiums; nor is there any involvement with Northshore Fire Department which could result in a conflict of interest.
3. Reserve Consultants LLC has been a member of the Community Associations Institute since about 1993, and has worked with a variety of management companies, associations and other types of clients in Washington State.
4. This report and analysis is based upon observations of the visible and apparent condition of the building and its major components on the date of the inspection. Although care has been taken in the performance of this inspection, Reserve Consultants LLC (and/or its representatives) make no representations regarding latent or concealed defects which may exist and no warranty or guarantee is expressed or implied. This report is made only in the best exercise of our ability and judgment. Conclusions in this report are based on estimates of the age and normal working life of various items of equipment and appliances. Predictions of life expectancy and the balance of useful life are necessarily based on industry and/or statistical comparisons. It is essential to understand that actual conditions can alter the useful life of any item. The previous use or misuse, irregularity of servicing, faulty manufacture, unfavorable conditions, acts of god, and unforeseen circumstances make it impossible to state precisely when each item would require replacement. The client herein should be aware that certain components within the above referenced property may function consistent with their purpose at the time of inspection, but due to their nature, are subject to deterioration without notice.
5. Unless otherwise noted, all reserve components are assumed to meet the building code requirements in force at the time of construction. Any on-site inspection should not be considered a project audit or quality inspection.
6. Conclusions reached in this report assume responsible ownership and competent management of the property. Information provided by others is believed to be reliable. Information provided by others was not audited; we assume no responsibility for accuracy thereof. Any on-site inspection should not be considered a project audit or quality inspection.
7. The reserve study is a reflection of information provided to the consultant and assembled for the organization's use, not for the purpose of performing an audit, quality/forensic analyses or background checks of historical record.

APPENDIX - GLOSSARY OF TERMS

Allocated Interests - the following interests allocated to each unit: (a) In a condominium, the undivided interest in the common elements, the common expense liability, and votes in the association; (b) In a cooperative, the common expense liability, the ownership interest, and votes in the association; and (c) In a plat community and miscellaneous community, the common expense liability and the votes in the association, and also the undivided interest in the common elements if owned in common by the unit owners rather than an association. RCW 64.90.010 §2.

Assessment - all sums chargeable by the association against a unit, including any assessments levied pursuant to RCW 64.90.480, fines or fees levied or imposed by the association pursuant to this chapter or the governing documents, interest and late charges on any delinquent account, and all costs of collection incurred by the association in connection with the collection of a delinquent owner's account, including reasonable attorneys' fees. RCW 64.90.010 §3.

Association or **Unit Owners Association** - the unit owners association organized under RCW 64.90.400 of WUCIOA and, to the extent necessary to construe sections of this chapter made applicable to common interest communities pursuant to RCW64.90.085, 64.90.095, or 64.90.100of WUCIOA, the association organized or created to administer such common interest communities. RCW §64.90.010 §4)

Baseline Funding Plan – A reserve contribution rate that is constant, increasing with inflation, to provide funds for all anticipated reserve expenses so that no special assessments are required for 30 years, but with no excess funds some years.

Board - the body, regardless of name, designated in the declaration, map, or organizational documents, with primary authority to manage the affairs of the association. RCW §64.90.010 §6.

Building Codes - Nationally recognized standards used to gauge the acceptability of a particular material or building procedure. Typically, if something is built to "code," it is acceptable to all concerned. Some often used codes are International Building Code (IBC) (applicable to most multifamily housing), International Residential Code (IRC) (applicable to one and two family structures), Washington Energy Code, National Electric Code (NEC), Uniform Plumbing Code (UPC), and the National Fire Protection Association Standards (NFPA). These are usually amended slightly by each city or county.

Building Component – see "Reserve Component".

Component Number - A number assigned to each building component that allows grouping of like components. The numbers are based roughly on the Construction Specification Institute system.

Common Elements - (a) In a condominium or cooperative, all portions of the common interest community other than the units; (b) In a plat community or miscellaneous community, any real estate other than a unit within a plat community or miscellaneous community that is owned or leased either by the association or in common by the unit owners rather than an association; and (c) In all common interest communities, any other interests in real estate for the benefit of any unit owners that are subject to the declaration. RCW §64.90.010 §7.

Common Expense - any expense of the association, including allocations to reserves, allocated to all of the unit owners in accordance with common expense liability. RCW §64.90.010 §8.

Common Expense Liability - the liability for common expenses allocated to each unit pursuant to RCW64.90.040of RCW. RCW §64.90.010 §9.

Common Interest Community - real estate described in a declaration with respect to which a person, by virtue of the person's ownership of a unit, is obligated to pay for a share of real estate taxes, insurance premiums, maintenance, or improvement of, or services or other expenses related to, common elements, other units, or other real estate described in the declaration. "Common interest community" does not include an arrangement described in RCW 64.90.110 or RCW 64.90.115. A common interest community may be a part of another common interest community. RCW §64.90.010 §10.

Contribution Rate - in a Reserve Study as described in RCW 64.34, the amount contributed to the reserve account so that the association will have cash reserves to pay major maintenance, repair, or replacement

costs without the need of a special assessment. RCW 64.34.020 (10)

Constant Dollars - costs and contributions are provided in today's dollars, no matter how far in the future they occur. Inflation and interest are not factored in.

Effective Age - the difference between the useful life and the remaining useful life. RCW 64.34.020 §19 & RCW §64.90.010 §21.

Full Funding Plan - a reserve funding goal of achieving one hundred percent fully funded reserves by the end of the thirty-year study period described under RCW64.90.550 of WUCIOA, in which the reserve account balance equals the sum of the estimated costs required to maintain, repair, or replace the deteriorated portions of all reserve components. RCW §64.90.010 §25.

Fully Funded Balance - the current value of the deteriorated portion, not the total replacement value, of all the reserve components. The fully funded balance for each reserve component is calculated by multiplying the current replacement cost of that reserve component by its effective age, then dividing the result by that reserve component's useful life. The sum total of all reserve components' fully funded balances is the association's fully funded balance. RCW 64.34.020 §22 & RCW §64.90.010 §26.

Inflated Dollars - as opposed to constant dollars, inflated dollars recognize that costs in the future will probably be higher than today because each dollar will buy fewer goods and services. A rate of inflation must be assumed and applied to all future costs. Also referred to as future cost.

Inflation Multiplier - 100% plus the assumed rate of inflation. Thus, for an assumed yearly inflation rate of 5%, the "multiplier" would be 105% or 1.05 if expressed as a decimal number rather than as a percentage. Each successive year the previous year's "multiplier" is multiplied by this number to arrive at the next year's "multiplier."

Interest Rate Multiplier - The assumed rate of interest earned on the average annual reserve bank account balance. Thus, 4% interest would be 0.04 expressed as a decimal number. A rate of interest earned must be assumed for all future years. Typically this is lower than the rate of inflation.

Limited Common Element - a portion of the common elements allocated by the declaration or by operation of RCW 64.90.210 §1(b) or §2 for the exclusive use of one or more, but fewer than all, of the unit owners. RCW §64.90.010 §30.

Unit owners may be responsible for the cost to repair and maintain limited common elements, so those costs may not appear in a Reserve Study.

Maintenance Cycle – the frequency of maintenance on a component to reach or extend its Useful Life. Often shorter than the full "Useful Life" for repairs that occur in lieu of complete replacement.

Next Repair – the next time the "Repair Cycle" starts with work on a component.

Nominal Reserve Costs – the current estimated total replacement costs of the reserve components are less than fifty percent of the annual budgeted expense of the association, excluding contributions to the reserve funds, for a condominium or cooperative containing horizontal unit boundaries and less than seventy five percent of the annual budgeted expenses of the association, excluding contributions to the reserve fund for all other common interest communities. RCW §64.90.010 §34.

Percent Fully Funded – The percentage of the "Fully Funded Balance" which the current condominium Reserve Account actually has in it.

RCW – the **R**evised **C**ode of **W**ashington. RCW 64.34 is the **Washington Condominium Act**, the statute that governs 'New Act' condominiums formed between July 1, 1990 and June 30, 2018.

RCW 64.90 is the Uniform Common Interest Ownership Act (**WUCIOA**) and governs common interest properties formed after July 1, 2018 and requires all common interest properties in Washington State to comply with RCW 64.90.525.

Remaining useful life - the estimated time, in years, that a reserve component can be expected to continue to serve its intended function. RCW 64.34.020 §31.

Or the estimated time before a reserve component will require major maintenance, repair or replacement to perform its intended function. RCW §64.90.010 §44.

Replacement Cost - the current cost of replacing, repairing, or restoring a reserve component to its original functional condition. RCW 64.34.020 §32.

Or the estimated total cost to maintain, repair, or replace a reserve component to its original functional condition. RCW §64.90.010 §45.

Reserve Account - Money set aside for future repair and replacement projects. For condominiums, the RCW requires a separate Reserve Account be maintained to hold reserves to fund repair or replacement of Reserve Components.

Reserve Component - common elements whose cost of maintenance, repair, or replacement is infrequent, significant, and impractical to include in an annual budget. RCW 64.34.020 §34.

Or a physical component of the common interest community which the association is obligated to maintain, repair, or replace, which has an estimated useful life of less than thirty years, and for which the cost of such maintenance, repair or replacement is infrequent, significant, and impractical to include in an annual budget. RCW §64.90.010 §46.

Reserve Contribution Rate - The amount of money saved to fund replacement costs for maintenance and repairs of common elements. See "Contribution Rate". Current contributions and Recommended contributions may be different.

Reserve Specialist – A designation for those professionals who have met the standards established by Community Associations Institute (www.caionline.org) for Reserve Study providers.

Reserve Study - A physical assessment of a building and a subsequent report which estimates the anticipated major maintenance, repair, and replacement costs, whose infrequent and significant nature make them impractical to be included in an annual budget, which will need to be repaired or replaced over the next 30 years. It provides estimates of these replacement costs and details expected annual expenditures. It is used to calculate the Reserve Contribution Rate required to maintain a facility in good condition both functionally and cosmetically. The Washington Condominium Act sets out requirements for annual reserve studies.

Reserve Study Professional means an independent person suitably qualified by knowledge, skill, experience, training, or education to prepare a reserve study in accordance with RCW 64.34, RCW 64.34.020 §35, RCW 64.90.545 and RCW 64.90.550. For the purposes of WUCIOA, "independent" means a person who is not an employee, officer, or director, and has no pecuniary interest in the declarant, association, or any other party for whom the reserve study is prepared. RCW §64.90.010 §47.

Special Assessment - A levy against all unit owners that is necessary when a needed repair/replacement/upgrade has not been planned for, and for which insufficient money has been saved.

Threshold Funding (contribution rate) – A Reserve Contribution Rate that is constant, increasing with inflation, to provide funds for all anticipated Reserve Expenses for the life of the study, but leaving a minimum level of Reserves (the "threshold") at all times. Our default minimum threshold is one year's contribution.

Typ. - Abbreviation for 'typical'; used on photographs and in text to refer to a problem that is shown or described once, but applies to many locations.

Typical Life - An average expected life for an average building component. As in any statistical average, there is a range of years over which each individual item might fall. This is the same as "Useful life".

Useful life means the estimated time, in years, that a reserve component can be expected to serve its intended function. RCW 64.34.020 §40 or the estimated time during which a reserve component is expected to perform its intended function without major maintenance, repair or replacement. RCW §64.90.010 §59.

Year End Reserve Balance or Reserve Fund Balance - What is projected to be left in the reserve account after the expected yearly expenses and contributions are added to the prior year's carryover balance. Assumes that the reserve contributions and expenses occur as predicted.

Yearly Expenses - The total labor and material costs associated with all of the repairs/maintenance that are scheduled in that particular year.

30 Year Spreadsheet - A summary listing each building component and its yearly cost to maintain/repair over the next 30 years. It also lists the annual reserve fund balance, reserve contributions, reserve expenses and bank interest earned on any reserve fund balance.

APPENDIX – EVALUATORS' CREDENTIALS

Denise Dana

Principal
Reserve Consultants LLC

B.S. Education,
M. Architecture

Washington Registered Architect, #8702

LEED Accredited Professional

Reserve Specialist, #291

Denise Dana first obtained licensure as an Architect and became a LEED accredited professional in 2003. She is currently a licensed Architect in the State of Washington and is certified by the National Council of Architectural Registration Boards. With over fifteen years of experience in architecture, her resume includes a variety of project types ranging from residential to corporate. She has worked through all phases of construction including design development, construction documentation and construction administration with project budgets varying from a few thousand dollars to over sixty million dollars. Denise has been conducting reserve studies since joining Reserve Consultants in 2008; in 2011 she was recognized as a "Reserve Specialist" by the Community Associations Institute.

Mahria Sooter

Principal
Reserve Consultants LLC

B.A. Springfield College, MA

Reserve Specialist, #380

Mahria joined Reserve Consultants in 2016. Mahria holds a Bachelor of Science degree from Springfield College, MA. In 2019, the Condominium Associations Institute recognized Mahria as a "Reserve Specialist." She has over 20 years of experience with marketing and various aspects of integrated communication in the construction industry. In 2018, Mahria received a certificate of completion from the King County Dispute Resolution Center for Basic Mediation Training providing her with skills to assist Associations with identifying and effectively communicating interests and goals. Mahria's attention to detail lends well to providing clear and concise recommendations that clients can utilize to make informed decisions.

KING COUNTY FIRE PROTECTION DISTRICT NO.16
7220 NE 181st Street
KENMORE, WA 98028

BUSINESS: 425-354-1780 FAX: 425-354-1781

RESOLUTION NO. 20-10

SUPERSEDING RESOLUTION 17-02
RESOLUTION DEFINING FUND POLICIES

WHEREAS, on June 6, 2017, the Board of Fire Commissioners ("Board") of King County Fire Protection District No. 16 (the "District") approved Resolution 17-02 Defining Fund Policies; and

WHEREAS, the Board desires to redefine the District's fund policies by approving this Resolution 20-10 which shall supersede Resolution 17-02; and

WHEREAS, the financial affairs of the District are managed by the Board; and

WHEREAS, pursuant to RCW 52.14.100 the Board has the power to adopt reasonable rules to govern the District and to generally perform all such acts as may be necessary to carry out the objects of the creation of the District; and

WHEREAS, an integral part of financial planning is establishing General Expense and Reserve Funds to cover the costs of general operating expenses, facility maintenance and improvements, apparatus and equipment financing, employee benefits, and insurance obligations; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Fire Commissioners of King County Fire Protection District No. 16 that a General Expense and Reserve Fund Plan is established as follows:

I. GENERAL EXPENSE FUND

The General Expense Fund balance at year end shall be a minimum of four months of expenses excluding reserve fund contributions. This shall be calculated by determining the average monthly expense for as many full months available of the current year and multiplying that number by four. For example: In November, there are ten full months of the year and expenses total $8,150,000. The average monthly expense is $815,000. The minimum amount required in the General Expense Fund at the end of the year is $3,260,000 ($815,000 x 4 months). This balance in the General Expense Fund is meant to pay expenses incurred by the District during the first four to five months of the following year before the first revenue is received in late April/early May.

II. RESERVE FUND

A. Reserve Fund Categories, Purpose, and Funding Levels

The Reserve Fund shall be organized into six main sub-categories to facilitate clear intent and accurate accounting. The level of funding of each category shall be no less than a minimum of the values stated below. Utilization of reserve funding shall be consistent with the associated purpose statements provided for each category.

1. Natural Disaster

   Purpose: To provide funding for overtime costs, casual labor, temporary facilities, food and equipment for extended emergency operations lasting a minimum of 14 days.

   Fund Level: $250,000

2. Insurance Contingency

   Purpose: To provide funding for losses normally covered by insurance but exceeding coverage, such as: deductibles, non-insured loss, loss greater than insurance coverage, fines or uninsured litigation costs, labor relations litigation costs, unplanned attorney or consultant fees, court costs, penalties, judgments, and unemployment claims.

   Fund Level: $200,000

3. Loss of Revenue

   Purpose: To provide funding to allow for the continuation of services in the event of an unanticipated and immediate loss of revenue.

   Fund Level: Three months of expenses based on the most recent available calculation of average monthly expenses.

4. Employee Benefit

   Purpose:

   A. To provide funding for LEOFF 1 medical insurance premiums, long-term healthcare premiums, and other approved medical and dental expenses.

B. To provide funding for post-employment benefits such as sick leave and vacation payouts. Replenishment of this fund may be spread out over several years or pre-funded if a significant number of retirements were known in advance.

Fund Level:

A. Funded at 100 percent of the GASB recommendation for LEOFF 1 retirees.

B. Funded at 50 percent of the maximum potential sick leave and vacation payouts as determined annually on the District's financial statement.

5. Apparatus and Equipment Replacement

Purpose: To provide funding for the replacement of apparatus, vehicles, and equipment that are designated for replacement at specific intervals and have a calculated replacement cost that would be difficult to fund through the annual budgeting process.

Fund Level: Funded at 100 percent of the recommended amount shown in the capital asset replacement plan for vehicles, apparatus, and equipment.

6. Facilities Improvement

Purpose: To provide funding for the maintenance and improvement of District facilities. This fund would be used for capital improvement items such as roof repairs, HVAC replacement, etc. and not a substitution for annual budgeting of normal facility maintenance.

Fund Level: Funded at 100 percent of the recommended annual contributions shown in the facility reserve study conducted in 2019 by Reserve Consultants LLC.

B. Transactions expensed from the General Expense and Reserve Funds shall comply with the accounting principles established by King County Finance and Business Operations, the Washington State Auditor, and the RCW.

C. The Fire Chief shall provide quarterly reports reflecting Reserve Fund activity in the BARS format as required by the Washington State Auditor and the RCW.

D. The Fire Chief shall submit Reserve Fund allocation recommendations to the Board of Fire Commissioners each year as required to maintain funding levels as established by this Resolution.

BE IT FURTHER RESOLVED, that Resolution 17-02 is hereby repealed.

ADOPTED at a regular meeting of the Board of Fire Commissioners of King County Fire Protection District No. 16 on this 3rd day of November 2020.

BOARD OF FIRE COMMISSIONERS

Electronically Signed - David Maehren

DAVID MAEHREN, Chair

Electronically Signed - Rick Verlinda

RICK VERLINDA, Member

Electronically Signed - Josh Pratt

JOSH PRATT, Member

DON ELLIS, Member

Electronically Signed - Rick Webster

RICK WEBSTER, Vice-Chair

ATTEST:

DAWN KILLION, Interim Secretary
Board of Fire Commissioners

From: Dave Maehren
To: Dawn Killion
Subject: RE: Electronic Signatures - Documents Approved 11/3/2020
Date: Wednesday, November 4, 2020 1:08:43 PM
Attachments: image005.png
image006.png
image007.png
image008.png
image009.png

The following documents are Approved and Electronically Signed this 4th day of November, 2020, by Commissioner David C. Maehren.

- **AP_NOSHRFIR_APSUPINV_20201103161040 RES Fund**
- **AP_NOSHRFIR_APSUPINV_20201103161359 GEN Fund**
- **Resolution 20-10 Defining Fund Policies**
- **Resolution 20-08 Benefit Charge Resolution**
- **Resolution 20-09 Annual Property Tax Levy**
- **Resolution 20-07 Limit Factor Increase**
- **Minutes 2020-10-20**
- **GEN to RES Fun – Facilities Reserve Fund Transfer Approval Document**
- **HRA Funds Transfer Approval Document**
- **October Payroll Approval Document**
- **October Payroll DRS Approval Document**
- **October Payroll Taxes Approval Document**
- **September Commissioner Payroll Approval Document**
- **September Commissioner Payroll Taxes Approval Document**

David Maehren
Fire Commissioer – Board Chair
Northshore Fire Department
Business Office 425.354.1780
Cell 206 604-3683

Proudly Serving the Citizens of Kenmore and Lake Forest Park

Electronic Privacy Notice. This e-mail, and any attachments, contains information that is, or may be, covered by electronic communications privacy laws, and is also confidential and proprietary in nature. If you are not the intended recipient, please be advised that you are legally prohibited from retaining, using, copying, distributing, or otherwise disclosing this information in any manner. Instead, please reply to the sender that you have received this communication in error, and then immediately delete it. Thank you in advance for your cooperation.

From: Dawn Killion
Sent: Wednesday, November 4, 2020 9:06 AM
To: Commissioners <e-mailcommissioners@northshorefire.com>
Subject: Electronic Signatures - Documents Approved 11/3/2020

Good morning Commissioners,

Attached please find the documents approved at last night's regular meeting. Also included are payroll approval documents (regular October monthly, September Commissioner Compensation Claims approved @ 10/6 meeting) and a couple of transfers done (Term Payout to HRA and Facility Reserve Monies Transfer).

At your earliest availability today, please respond with your electronic signature using the following verbiage:

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Thank you,

Dawn Killion

Finance Specialist / Interim Board Secretary
Public Records Officer
Northshore Fire Department
7220 NE 181st ST, Kenmore, WA 98028
DIRECT: 425.354.1778
FAX: 425.354.1781
MAIN: 425.354.1780
www.northshorefire.com
dkillion@northshorefire.com

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From: Rick Verlinda
To: Dawn Killion
Subject: RE: Electronic Signatures - Documents Approved 11/3/2020
Date: Wednesday, November 4, 2020 11:10:18 AM
Attachments: image001.png
image002.png
image003.png
image004.png

The following documents are Approved and Electronically Signed this 4th day of November, 2020, by Commissioner Verlinda.

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Rick Verlinda

From: Dawn Killion <dkillion@northshorefire.com>
Sent: Wednesday, November 4, 2020 9:06 AM
To: Commissioners <e-mailcommissioners@northshorefire.com>
Subject: Electronic Signatures - Documents Approved 11/3/2020

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Thank you,

Dawn Killion

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From: Josh Pratt
To: Dawn Killion
Subject: RE: Electronic Signatures - Documents Approved 11/3/2020
Date: Wednesday, November 4, 2020 6:27:05 PM
Attachments: image001.png
image002.png
image003.png
image004.png

The following documents are Approved and Electronically Signed this 4th day of November, 2020, by Commissioner Josh Pratt.

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From: Richard Webster
To: Dawn Killion
Subject: RE: Electronic Signatures - Documents Approved 11/3/2020
Date: Thursday, November 5, 2020 12:43:04 PM
Attachments: image001.png
image002.png
image003.png
image004.png

The following documents are Approved and Electronically Signed this 5th day of November, 2020, by Commissioner Rick Webster.

- **AP_NOSHRFIR_APSUPINV_20201103161040 RES Fund**
- **AP_NOSHRFIR_APSUPINV_20201103161359 GEN Fund**
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From: Dawn Killion <dkillion@northshorefire.com>
Sent: Wednesday, November 4, 2020 9:06 AM
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AMENDMENT #4

INTERLOCAL AGREEMENT
BETWEEN
KING COUNTY FIRE PROTECTION DISTRICT NO. 16
AND
THE CITY OF BOTHELL
FOR
FIRE MARSHAL SERVICES

The Interlocal Agreement effective June 8, 2020, by and between the City of Bothell and King County Fire Protection District No. 16 (Northshore Fire Department) shall be amended as follows:

1. The contract term listed in Paragraph II.3 is extended from October 1, 2021, to December 31, 2021.
2. Northshore Fire Department will compensate the City of Bothell 80 hours of Fire Marshal time off equal to $6,494.30.

IN WITNESS WHEREOF this Amendment has been executed by each party on the date set forth below:

CITY OF BOTHELL

By: _____
Erin Leonhart, Interim City Manager

Date: _____

KING COUNTY FIRE PROTECTION DISTRICT NO. 16

By: _____
Rick Webster, Chair
Board of Fire Commissioners

Date: _____

APPROVED AS TO FORM:

_____
Paul Byrne, City Attorney

Date: _____

To: Chief Jeff Clark, Eastside Fire and Rescue
From: Northshore Fire Department Board of Commissioners
RE: Contract for Services Clarification
Date: October 25, 2021

Chief, thank you for the hard work on the proposal you have submitted. As you are aware, the Northshore Board of Commissioners voted to postpone our contract decision into 2022. In the meantime, the existing board is working to clarify cost estimates and options, so the incoming board will more easily be able to compare the contracts.

Since RCW 43.09.210(3) requires service provided from one public agency to be paid for at its true and full value, Northshore Fire will be obligated to reconcile and pay for any cost overruns beyond the contract amounts. For that reason, the Northshore Board is seeking to assure the proposed costs are reasonable, realistic, and reliable over time.

The following table identifies some areas where we would like more information. We would also like you to verify we have identified the correct totals as shown. The table is followed by a list of clarifying questions / comments.

It would be ideal for our discussion purposes if you were able to have responses to our questions by November 1.

Contract cost area	**EFR - 2022**
Operations staffing - E151, A151, B151, E157	$7,393,174.00
Option - A151 peak only	$(673,734.76)
Operations Costs (AKA General Expenses)	$1,046,946.00 (provide supporting detail)
Administration wages and benefits	$0, not taking any admin staff
Shared BC option	$(460,089.00)
Keep BC in Northshore (no reduction in BC's)	Included in proposal
Increase tech rescue capability	$116,486.00
Increase hazmat capability	$116,486.00
CRR (Fire Marshal, Pub Ed, PIO)	Included
Startup costs	$412,936.00 (Share of liability reserve fund – please clarify components/what is paid)
Contract administration charge	$829,012.00 (Please specify what is included in this category and how the NFD proportional share was calculated)
Annual equipment replacement charge	$135,189.00
Annual vehicle replacement fund contribution	Northshore handles and pays all per NFD replacement plan or per the ESF&R plan?
Vehicle maintenance	Included? Separate fee, or NUD?
Annual capital facilities maintenance	$50,000.00
Capital facilities replacement / remodel	Northshore handles and pays all per NFD replacement plan. ESF&R manages the projects.

Clarifying questions/comments

1. Please identify the components for 'Operational Costs'. What is included in these costs and how was the Northshore proportional share of these costs determined?

2. Please identify the components for 'Contract Administration Charge'. What is included in these costs and how was the Northshore proportional share of these costs determined?

3. Please identify the components for 'Startup Costs'. What is included in these costs and how was the Northshore proportional share of these costs determined? What is paid out of the Eastside Liability Reserve Fund? What does it cover?

4. Please clarify item 4.5, Charges Under RCW 52.30.020. Will revenue collected be credited to Northshore or will these fees be retained by Eastside Fire and Rescue? Will Eastside Fire and Rescue charge a fee for managing this effort?

5. The Northshore Board has decided to fund a water rescue program beginning in 2022. This effort funds 12 rescue swimmers, training, equipment and two rescue watercrafts. Please include the Eastside Fire and Rescue costs to maintain this program.

6. Does EFR charge for transport in other contract jurisdictions? Is it possible to charge for transport under EFR in one jurisdiction and not in another? Should NFD decide to implement a fee for transport program, is it possible for you to estimate the net annual receipts?

7. How will operational overtime costs be allocated between agencies?

To: Chief Matt Cowan, Shoreline Fire Department
From: Northshore Fire Department Board of Commissioners
RE: Contract for Services Clarification
Date: October 25, 2021

Chief, thank you for the hard work on the proposal you have submitted. As you are aware, the Northshore Board of Commissioners voted to postpone our contract decision into 2022. In the meantime, the existing board is working to clarify cost estimates and options, so the incoming board will more easily be able to compare the contracts.

Since RCW 43.09.210(3) requires service provided from one public agency to be paid for at its true and full value, Northshore Fire will be obligated to reconcile and pay for any cost overruns beyond the contract amounts. For that reason, the Northshore Board is seeking to assure the proposed costs are reasonable, realistic, and reliable over time.

We also want to make sure you have all the information needed to make your proposal as accurate as possible. The RCL consultant assessment for Capital Facilities inventory and replacement will be provided to you. NFD uses this assessment to identify reserve fund requirements. We are in the process of updating this assessment for our 2022 budget effort.

Clarifying assumptions:

- NFD wants to retain all reserves reimbursing the contact agency for direct costs.
- NFD wants to retain ownership of property, apparatus, and equipment.

The following table identifies some areas where we would like more information. We would also like you to verify we have identified the correct totals as shown. The table is followed by a list of clarifying questions / comments.

It would be ideal for our discussion purposes if you were able to have responses to our questions by November 1.

Contract cost area	**Shoreline - 2022**
Salary & benefits - E151, A151, B151, E157, A157 peak hour unit, administration	$7,568,068.00
Option - A157 peak hour	Included in proposal
Cost without A157 peak	Need number for comparison
Transport revenue	$245,178.00 net revenue
Operations Costs (AKA General Expenses)	$1,137,309.00 (detail in Appendix E)
Administration wages and benefits	Included above
Shared BC option	Included in proposal
Keep BC in Northshore (no reduction in BC's)	Need number for comparison purposes
Increase tech rescue capability (EFR option)	Not proposed
Increase hazmat capability (EFR option)	Not proposed
CRR (Fire Marshal, Pub Ed, PIO)	Included in proposal

Startup costs (what are components?)	Please clarify startup costs & transfers, given NFD preference of retaining reserves.
Contract administration charge	Not proposed
Annual equipment replacement charge	NFP pays 40% of shared expenses (need number)
Annual vehicle replacement fund contribution	$220,000
Vehicle maintenance	Included in proposal – provided by SFD
Annual capital facilities maintenance	TBD – need number
Capital facilities replacement / remodel	Northshore handles and pays from reserves per NFD replacement plan

Clarifying Questions/Comments

1. Please delete the transfer of Northshore Reserve Funds from Northshore to the Shoreline Fire Department. The Northshore Fire Department will reimburse the Shoreline Fire Department for expenses related to the purchase of equipment, apparatus, facilities improvements and LEOFF1 medical expenses.
2. Please provide the costs for staffing stations 51 and 57 and support services at the current NFD level and identify options for improved service separately from the basic staffing requirements. Your current proposal identifies cost / savings for combining Battalion Chiefs, adding a peak hour's aid car, charging for patient transport. Please cost these options separately so the Northshore board can assess the value.
3. Please identify the startup costs for your proposal.
    a. Clarify the transfer of funds to cover employee vacation and sick leave accounts. We realize calculation for the exact cost will be made to coincide with the commencement date of the contract. Your estimate for the transfer of funds from Northshore to Shoreline is $631,545, yet the total Northshore liability is estimated at $1,362,503. Please verify your cost requirements given the RCW 43.09.210(3) requirement.
    b. Provide startup funding for building maintenance if needed.
    c. Please clarify your request for operational Reserves. ($1,250,781, Page 27). Are these start-up costs or an ongoing reserve fund? Please identify how these funds will be used.
    d. Provide a cost reimbursement method for managing the LEOFFI medical reimbursement expenses.
4. The Northshore Board has decided to fund a water rescue program beginning in 2022. This effort funds 12 rescue swimmers, training, equipment and two rescue watercrafts. Please include the Shoreline Fire Department costs to maintain this program.
5. Please provide a specific cost for annual capital equipment replacement.
6. Please identify the annual / general facility maintenance costs. These costs include routine maintenance. As the contracting agency we would expect to use the Shoreline facility maintenance matrix. Large capital expenditures will be funded through the Northshore Building Facility Reserve Fund. The RCL Consultant Study identifies the current funding strategy for the NFD facilities. We are in the process of updating this study and will provide that information when it is available.
7. The Shoreline Fire Department administration costs presented in Appendix B; page 44 uses two tables. Is the total NFD administrative total cost share $845,390? (Table 1 plus table 2).

8. Please estimate the Battalion Chief reduction savings by year and the expected timeline to complete the consolidation. What will the Northshore share be during this transition and Northshore's share of the costs once the Battalion Chief positions have been reduced to four?
9. The Northshore Board understands that the Shoreline Fire Department's post-retirement medical benefits are funded from annual revenues instead of a dedicated reserve fund. Would Northshore share in these costs going forward? How would that impact our contract for service costs?
10. Please provide a process for reconciliation of contract costs, estimated to actuals, for the end of each year or end of each quarter. The proposed contract (3.1 (d) (ii)) does not provide a reconciliation to actual costs or a process to for adjustments. If you have a strategy for assuring cost controls year over year that would be helpful as well.
11. How will operational overtime costs be allocated between agencies?

Eastside Fire & Rescue

Proudly Serving Issaquah, North Bend, Sammamish, Woodinville, and Fire Districts 38 & 10, which includes Carnation

November 1, 2021

Via Email
eadman@northshorefire.com
boardsecretary@northshorefire.com

RE: Request for Clarification on Proposal

Commissioners,

Please find attached Eastside Fire & Rescue's response to the questions compiled by Commissioners Adman and Maehren and sent to us via email on October 25, 2021.

Please feel free to reach out to me if you would like any further explanation.

Sincerely,

Jeff Clark
Fire Chief, Eastside Fire & Rescue
jclark@esf-r.org
(c)480.748.3764

Attachment

Clarifying questions/comments

1. Please identify the components for 'Operational Costs'. What is included in these costs and how was the Northshore proportional share of these costs determined?

These costs are broken down in Exhibit 1 below. These are line-item budgets that were either budgeted at NFD actual cost, per employee based on EF&R current cost, or per station based on EF&R current costs.

2. Please identify the components for 'Contract Administration Charge'. What is included in these costs and how was the Northshore proportional share of these costs determined?

Contract Administration is a charge that covers NFD's share of managing the overall fire department operations to include overseeing the 41 new personnel, $1,046,946 in line items, equipment replacement, and capital facilities.

This is calculated at 10% of the combined personnel and operations costs. This covers the cost to manage and administer services provided to NFD by the Fire Chief, Assistant Fire Chief, Deputy Chief/Directors, administrative staff, Finance, Training, Facilities, Mechanical maintenance, Community Programs, Fire Prevention, Technical Rescue, Hazmat, Wildland and all other service categories that come up as a result of providing comprehensive professional fire services to NFD.

3. Please identify the components for 'Startup Costs'. What is included in these costs and how was the Northshore proportional share of these costs determined? What is paid out of the Eastside Liability Reserve Fund? What does it cover?

Start up costs consist solely of NFD's projected share of funding the Liability Reserve Fund. Below is the EF&R Board requirement for maintaining the fund:

5.5 Liability Reserve Fund: It shall be the policy of the Board that a segregated fund, referred to as the "Liability Reserve Fund" be established. The Fund shall maintain a minimum annual balance of 20% of long-term liabilities (cash value of vacation liability banks (100%), sick leave banks (25%), and retirement eligible employee replacement cost).

NFD's share of the fund was determined at the per capita cost of EF&R's existing employees times 41 new contract employees. The Liability Fund is intended to provide Reserve funds for costs associated with unanticipated departures from EF&R.

4. Please clarify item 4.5, Charges Under RCW 52.30.020. Will revenue collected be credited to Northshore or will these fees be retained by Eastside Fire and Rescue? Will Eastside Fire and Rescue charge a fee for managing this effort?

This is boiler plate language intended not to prohibit EF&R from exercising its power to enter into contracts within NFD's service area. EF&R is not currently aware of any opportunities to enter into a separate contract. If an opportunity were to come up, the NFD Board of Commissioners would be consulted, and a joint determination would be made on where and how the terms of any contract would be applied.

5. The Northshore Board has decided to fund a water rescue program beginning in 2022. This effort funds 12 rescue swimmers, training, equipment and two rescue watercrafts. Please include the Eastside Fire and Rescue costs to maintain this program.

EF&R's current proposal already includes a rescue swimmer program, so there will be no additional costs for maintaining training. NFD would be responsible for purchasing the watercraft and associated lifts. Additionally, I would encourage NFD to maintain funds in their Equipment Replacement Fund for future replacement. If NFD budgets internally for equipment replacement, there will be no additional charges from EF&R for this program.

6. Does EFR charge for transport in other contract jurisdictions? Is it possible to charge for transport under EFR in one jurisdiction and not in another? Should NFD decide to implement a fee for transport program, is it possible for you to estimate the net annual receipts?

EFR charges for transports in all areas except for Woodinville Fire & Rescue, at their request. NFD has the discretion to choose whether or not to charge for transports as long the relationship with EF&R is via contract. If NFD were to join EF&R as a non-profit partner, billing for transport would be required.

Based on 919 AMR and 71 A151 transports in 2020 I would conservatively project revenue of $750,000 in annual transport collections. A more accurate projection can be made once we learn the actual payer mix, meaning what type of insurance coverage your transports utilize (Medicaid, Medicare, Private insurance, or private pay). With this kind of transport volume $1,000,000 a year in revenue is not out of the question.

7. How will operational overtime costs be allocated between agencies?

As part of the annual reconciliation process operational overtime per capita will be determined across all EF&R operations. The average per capita will then be assessed to each contract position. In NFD's case, there are 40 operational positions being proposed in the contract.

EF&R maintains detailed electronic overtime records that indicate the root cause for all overtime.

Questions contained in Table not addressed in Clarifying questions/comments

As Requested, all portions of the table from your letter dated 10-25-21 are correct. Below are answers from within the table that were not otherwise asked and answered above.

Operational Staffing – E151, A151, B151, E157

The amount proposed was $7,393,174. I can now revise this number down $459,956 as we have received all 2022 insurance rates and settled all outstanding CBA items that were all being forecasted as worst case. I believe that NFD has also experienced further attrition since this proposal was made which will cause more adjustments in the future. See Exhibit 2 for the current breakdown.

Updated Projected Personnel Costs: $6,933,218

Contract Administration would also reduce by $45,996

Annual vehicle replacement fund contribution – Northshore retains and pays all per NFD replacement plan or per the EF&R plan?

NFD will budget, and keep separate, all funds for replacement of vehicles. The replacement of vehicles will occur as prescribed by the EF&R equipment replacement schedule. For example, EF&R replaces engines on a schedule of every 20 years and Aid units every 10 years. There will be years of notice provided to NFD unless something extraordinary were to occur to a vehicle that was not covered by warranty or insurance.

Vehicle Maintenance

Vehicle maintenance is included in the current proposal at EF&R's maintenance facility. If NFD would rather utilize NUD we would simply need to negotiate the terms and assure that NUD maintains EF&R's published service standard.

Capital Facilities replacement/remodel

NFD would budget, and keep separate, all funds for facility replacement and remodel. EF&R funds would be utilized for all routine maintenance and minor remodels (per Board Policy 0005 Capital Facilities Maintenance Fund). NFD would be required to maintain a facility standard that meets Board Policy 0005.

Exhibit 1 - Operational Cost Breakdown

Department	**10**	**Administration**			
		Legal, professional services	$57,777.78	EF&R per station cost times 2	
		Liability Insurance	$82,000.00	NFD Actual $81,900	
		Office Supplies	$4,177.78	EF&R per station cost times 2	
		Fuel, Postage, Travel, Education, Awards etc.	$24,555.56	EF&R per station cost times 2	
Sub-Total	$168,511.11				
Department	**20**	**Suppression**			
		Fuel	$32,222.22	EF&R per station cost times 2	
		Supplies	$4,711.11	EF&R per station cost times 2	
Sub-Total	$36,933.33				
Department	**22**	**SCBA**			
		Repair	$4,888.89	EF&R per station cost times 2	
Sub-Total	$4,888.89				
Department	**25**	**TRT**			
		Training, OT, Supplies, and Services	$10,000.00	EF&R per station cost times 2	
Sub-Total	$10,000.00				
Department	**26**	**Wildland**			
		Training, Supplies and Services	$12,814.78	EF&R per sworn employee cost times 41	
Sub-Total	$12,814.78				
Department	**27**	**Haz-Mat**			
		Consortium fees and supplies	$10,401.56	EF&R per station cost times 2	
Sub-Total	$10,401.56				
Department	**30**	**Pub-Ed**			
		Supplies and OT	$29,957.78	EF&R per station cost times 2	
Sub-Total	$29,957.78				
Department	**35**	**Fire Prevention**			
		OT, Supplies, Services	$4,333.33	EF&R per FPB employee cost times 1	
Sub-Total	$4,333.33				
Department	**40**	**Training**			
		OT -trng Admin, Suppression & EMS trng	$67,238.48	EF&R per sworn employee cost times 41	
		Supplies, Travel, Equip Rental, Education	$26,591.69	EF&R per sworn employee cost times 41	
		Consortium Fees - LT Credit	$45,900.00	$4,900 per employee minus LT Credit of $15,000	
Sub-Total	$139,730.17				
Department	**42**	**Uniforms**			
		Uniforms and Supplies	$23,705.14	EF&R per sworn employee cost times 41	
		Protective Clothing	$13,362.96	EF&R per sworn employee cost times 41	
Sub-Total	$37,068.10				
Department	**13**	**Wellness**			
		Supplies, chaplain program	$18,065.21	EF&R per sworn employee cost times 41	
Sub-Total	$18,065.21	New Add - Rebound Physicals	$0.00	Lifescan now included in insurance coverage	
Department	**50**	**Facilities**			
		Utilities, Services, and Supplies	$154,869.33	EF&R per station cost times 2	
Sub-Total	$154,869.33				
Department	**60**	**Shop**			
		Services and Supplies	$78,211.11	EF&R per station cost times 2	
Sub-Total	$78,211.11				
Department	**75**	**Volunteer**			
		Supplies and Services	$0.00	Chaplains included in Wellness	
Sub-Total	$0.00				
Department	**80**	**EMS**			
		Supplies	$12,588.89	EF&R per station cost times 2	
		Services	$3,222.22	EF&R per station cost times 2	
		EMS Fuel	$5,777.78	EF&R per station cost times 2	
Sub-Total	$21,588.89				
Department	**97**	**IT/Radio**			
		MDC Conversion, Radios and Pagers	$0.00	Covered in Equipment Replacement	
		IT Services	$43,000.00	EF&R per station cost times 2	
		NORCOM and Radios	$222,346.67	EF&R per station cost + actual NFD NORCOM cost	
		Licenses	$54,225.81	EF&R per sworn employee cost times 41	
Sub-Total	$319,572.47				
Overall Operations Cost Total:	**$1,046,946.07**				

Exhibit 2 - Personnel Costs

Rank	Last Name	First Name	Hire Date	Salary	ED pay	Education	Longevity	Ret. 5.33%	L&I 1.87	WPFML.00147	Def Comp	MERP	Medicare 1.45%	HRA	Med/Dental	TCC
BC	Knight	Douglas	8/2/1981	$ 152,051.56	$2,126.60	BS	$13,822.87	$8,954.45	$3,592.00	$246.96	$3,721.54	$3,000.00	$2,436.01	$4,000.00	$ 18,516	$ 212,468.00
Captain - ?	Loutsis	Steve	11/10/1987	$ 131,848.91			$13,822.87	$7,764.31	$3,592.00	$214.14	$3,721.54	$3,000.00	$2,112.24	$4,000.00	$ 26,172	$ 196,248.00
Engineer - ?	Williams	Tyler	8/15/1992	$ 111,646.25			$13,822.87	$6,687.50	$3,592.00	$184.44	$3,721.54	$3,000.00	$1,819.30	$2,000.00	$ 9,408	$ 155,881.91
BC	Tagart	Jeff	4/12/1993	$ 152,051.56	$2,126.60	BS	$11,696.27	$8,841.11	$3,592.00	$243.84	$3,721.54	$3,000.00	$2,405.18	$4,000.00	$ 18,516	$ 210,194.10
Engineer - ?	McInturff	Todd	4/4/1994	$ 111,646.25			$11,696.27	$6,574.16	$3,592.00	$181.31	$3,721.54	$3,000.00	$1,788.47	$2,000.00	$ 9,408	$ 153,608.00
LT	Schwartz	Timothy	3/4/1996	$ 121,215.93	$2,126.60	BS	$11,696.27	$7,197.57	$3,592.00	$198.51	$3,721.54	$3,000.00	$1,958.06	$4,000.00	$ 26,172	$ 184,878.48
BC	Morris	Michael	9/9/1996	$ 152,051.56	$2,126.60	BS	$11,696.27	$8,841.11	$3,592.00	$243.84	$3,721.54	$3,000.00	$2,405.18	$4,000.00	$ 26,172	$ 217,850.10
BC	Hochstein	Matthew	9/9/1996	$ 152,051.56	$2,126.60	BS	$11,696.27	$8,841.11	$3,592.00	$243.84	$3,721.54	$3,000.00	$2,405.18	$4,000.00	$ 17,064	$ 208,742.10
Engineer - ?	Holmes	Russell	3/17/1997	$ 111,646.25			$11,696.27	$6,574.16	$3,592.00	$181.31	$3,721.54	$3,000.00	$1,788.47	$4,000.00	$ 26,172	$ 172,372.00
Captain - ?	Ford	Brian	3/17/1997	$ 131,848.91			$11,696.27	$7,650.96	$3,592.00	$211.01	$3,721.54	$3,000.00	$2,081.41	$4,000.00	$ 26,172	$ 193,974.10
LT	Hansson	Anders	7/17/1998	$ 121,215.93			$8,506.38	$6,914.20	$3,592.00	$190.69	$3,721.54	$3,000.00	$1,880.97	$4,000.00	$ 23,536	$ 176,557.44
LT	Ingersoll	Jeremiah	1/14/2002	$ 121,215.93	$1,860.77	AA	$8,506.38	$7,013.38	$3,592.00	$193.43	$3,721.54	$3,000.00	$1,907.95	$4,000.00	$ 26,172	$ 181,183.38
LT	Davis	Ryan	1/14/2002	$ 121,215.93			$8,506.38	$6,914.20	$3,592.00	$190.69	$3,721.54	$3,000.00	$1,880.97	$4,000.00	$ 26,172	$ 179,193.72
Engineer - ?	Gilbert	Brian	1/14/2002	$ 111,646.25			$8,506.38	$6,404.14	$3,592.00	$176.62	$3,721.54	$3,000.00	$1,742.21	$4,000.00	$ 18,516	$ 161,305.15
LT	Burrow	John	6/24/2002	$ 121,215.93	$1,860.77	AA	$8,506.38	$7,013.38	$3,592.00	$193.43	$3,721.54	$3,000.00	$1,907.95	$4,000.00	$ 26,172	$ 181,183.38
LT	Jamerson	Jeremy	3/1/2006	$ 121,215.93	$1,860.77	AA	$6,379.79	$6,900.03	$3,592.00	$190.30	$3,721.54	$3,000.00	$1,877.12	$4,000.00	$ 26,172	$ 178,909.48
Engineer - ?	Hofschulte	Ken	9/11/2006	$ 111,646.25			$6,379.79	$6,290.79	$3,592.00	$173.50	$3,721.54	$3,000.00	$1,711.38	$4,000.00	$ 26,172	$ 166,687.24
Engineer - ?	Heilman	Joe	12/1/2006	$ 111,646.25			$6,379.79	$6,290.79	$3,592.00	$173.50	$3,721.54	$3,000.00	$1,711.38	$4,000.00	$ 18,516	$ 159,031.24
LT - Assigned to Training	Pritchett	Blake	5/10/2010	$ 121,215.93			$4,253.19	$6,687.50	$3,592.00	$184.44	$3,721.54	$3,000.00	$1,819.30	$4,000.00	$ 26,172	$ 174,645.91
Engineer - ?	Brackett	Kevin	3/4/2013	$ 111,646.25			$2,126.60	$6,064.09	$3,592.00	$167.25	$3,721.54	$3,000.00	$1,649.71	$4,000.00	$ 14,424	$ 150,391.43
Engineer - ?	Livingston	Brian	1/6/2014	$ 111,646.25			$2,126.60	$6,064.09	$3,592.00	$167.25	$3,721.54	$3,000.00	$1,649.71	$4,000.00	$ 26,172	$ 162,139.43
Firefighter	Hoffman	Chris	9/1/2015	$ 106,329.76	$1,860.77	AA	$2,126.60	$5,879.90	$3,592.00	$162.17	$3,721.54	$3,000.00	$1,599.60	$2,000.00	$ 9,408	$ 139,680.34
Firefighter	Colletti	Kyle	9/1/2015	$ 106,329.76			$2,126.60	$5,780.72	$3,592.00	$159.43	$3,721.54	$3,000.00	$1,572.62	$4,000.00	$ 17,064	$ 147,346.67
Firefighter	Ross	Travis	1/4/2016	$ 106,329.76	$2,126.60	BS	$2,126.60	$5,894.07	$3,592.00	$162.56	$3,721.54	$3,000.00	$1,603.45	$4,000.00	$ 26,172	$ 158,728.58
Firefighter	Kuykendall	Brandon	1/4/2016	$ 106,329.76	$2,126.60	BS	$2,126.60	$5,894.07	$3,592.00	$162.56	$3,721.54	$3,000.00	$1,603.45	$2,000.00	$ 9,408	$ 139,964.58
Firefighter	Peterson	Lauren	1/4/2016	$ 106,329.76	$2,126.60	BS	$2,126.60	$5,894.07	$3,592.00	$162.56	$3,721.54	$3,000.00	$1,603.45	$4,000.00	$ 18,516	$ 151,072.58
Firefighter	Seefeld	Gunnar	1/17/2017	$ 106,329.76			$2,126.60	$5,780.72	$3,592.00	$159.43	$3,721.54	$3,000.00	$1,572.62	$2,000.00	$ 9,408	$ 137,690.67
Firefighter	Carrasquillo	Robert	1/17/2017	$ 106,329.76	$2,126.60	BS	$2,126.60	$5,894.07	$3,592.00	$162.56	$3,721.54	$3,000.00	$1,603.45	$2,000.00	$ 9,408	$ 139,964.58
Firefighter	Lengbehn	Matthew	1/4/2018	$ 106,329.76	$2,126.60	BS	$0.00	$5,780.72	$3,592.00	$159.43	$3,721.54	$3,000.00	$1,572.62	$4,000.00	$ 18,516	$ 148,798.67
Firefighter	Petro	Jayden	9/11/2018	$ 106,329.76			$0.00	$5,667.38	$3,592.00	$156.30	$3,721.54	$3,000.00	$1,541.78	$2,000.00	$ 9,408	$ 135,416.77
Firefighter	Hurn	Hans	9/11/2018	$ 106,329.76	$2,126.60	BS	$0.00	$5,780.72	$3,592.00	$159.43	$3,721.54	$3,000.00	$1,572.62	$4,000.00	$ 26,172	$ 156,454.67
Firefighter	Gillis	Jacob	9/9/2019	$ 106,329.76			$0.00	$5,667.38	$3,592.00	$156.30	$3,721.54	$3,000.00	$1,541.78	$2,000.00	$ 9,408	$ 135,416.77
Firefighter	Wilkinson	Lydon	1/8/2020	$ 95,696.79	$2,126.60	BS	$0.00	$5,213.99	$3,592.00	$143.80	$3,721.54	$3,000.00	$1,418.44	$4,000.00	$ 23,536	$ 142,448.87
Firefighter	Schneider	Kevin	1/8/2020	$ 95,696.79			$0.00	$5,100.64	$3,592.00	$140.67	$3,721.54	$3,000.00	$1,387.60	$4,000.00	$ 23,536	$ 140,174.97
Firefighter	Taiwo	Jeremy	8/24/2020	$ 85,063.81	$2,126.60	BS	$0.00	$4,647.25	$3,592.00	$128.17	$3,721.54	$3,000.00	$1,264.26	$2,000.00	$ 9,408	$ 114,951.63
Firefighter	Blake	Sky	8/24/2020	$ 85,063.81	$2,126.60	BS	$0.00	$4,647.25	$3,592.00	$128.17	$3,721.54	$3,000.00	$1,264.26	$4,000.00	$ 26,172	$ 133,715.63
Firefighter	Sharp	Ethan	8/24/2020	$ 85,063.81			$0.00	$4,533.90	$3,592.00	$125.04	$3,721.54	$3,000.00	$1,233.43	$4,000.00	$ 26,172	$ 131,441.72
Firefighter (Floater)	Kroon	Jonathan	8/24/2020	$ 85,063.81	$2,126.60	BS	$0.00	$4,647.25	$3,592.00	$128.17	$3,721.54	$3,000.00	$1,264.26	$2,000.00	$ 9,408	$ 114,951.63
Firefighter (Floater)	Creger-Zier	Ricki	8/24/2020	$ 85,063.81	$2,126.60	BA	$0.00	$4,647.25	$3,592.00	$128.17	$3,721.54	$3,000.00	$1,264.26	$2,000.00	$ 9,408	$ 114,951.63
Firefighter (Floater)	Park	Kent	8/24/2020	$ 85,063.81			$0.00	$4,533.90	$3,592.00	$125.04	$3,721.54	$3,000.00	$1,233.43	$2,000.00	$ 9,408	$ 112,677.72
Firefighter (Floater)	O'Dougherty	Chris	8/1/2021	$ 85,063.81			$0.00	$4,533.90	$3,592.00	$125.04	$3,721.54	$3,000.00	$1,233.43	$4,000.00	$ 23,536	$ 128,805.44
Assistant Fire Marshal																$165,000.00
Training Officer - COSTED ABOVE																$0.00
Assistant Fire Marshal Cashouts and OT																$10,687.02
Operations OT and cashouts																$255,432.27
Total																$ 6,933,218.02

Shoreline Contract Proposal Clarifying Questions Response

The following document should provide more details clarifying our proposal and is in response to the questions posed by the sub-committee of the Northshore Board of Commissioners. We believed that providing thorough details and thought process in our initial proposal was warranted for such a significant decision. I apologize that it made the evaluation of the proposal more difficult.

First, we thought it would be good to summarize the larger points in our initial proposal, but clearly these can be discussed further depending on direction of the Board:

- All Operational and identified Administrative personnel will remain employed in the larger organization.
- Through attrition reduce the number of operational BC's on duty from two to one.
- Initiate a BLS transport program.
- Add a peak-hour aid car at Station 57.
- Create an interim Division or District Chief position to assist with the transition.
- Promote eight NFD Firefighters to Driver/Engineers.
- Assume IT, fleet, and facility maintenance responsibilities.
- Remain in NEMCO

All of these can be negotiated, and some are the subjects of requests for further clarification as posed in the document we received. The following is a list of the clarifying questions that were submitted to us. We answered them in the order that they were asked, but also tried to group the answers by subject whenever possible. The following are the general questions and answers related to the first portion of the document that was sent, and include the questions in the table.

1. **Reconciliation** – We did not provide for full reconciliation in our proposal because it is not absolutely necessary. You cannot give away services, but it does not need to be dollar for dollar. The following is a legal opinion from Brian Snure on RCW 43.09.210:

   > *Under most interlocal agreements the funding portion is part art and part science. While the cited statute certainly applies, the true and full value language has been interpreted by the State Attorney General (and therefore the Auditor) as a general concept and goal that can factor in many types of consideration and does not have to include a dollar for dollar accounting.*
   >
   > *Accordingly, while a completely one-sided agreement, i.e. Shoreline provides service to Northshore at no cost would clearly violate the statute, most consolidation and service ILAs I work on are geared toward full and fair consideration but often do not include reconciliation provisions because a decision is made that the cost of reconciling outweighs the benefits. I have not heard of the Auditor challenging service contracts like this on an absence of reconciliation language provided the payment formula is reasonable.*

However, we are completely fine with reconciliation as it will eliminate the risk of being off-budget. Reconciliation language can be collaboratively developed by NFD and SFD for the ILA, but our initial thoughts are below.

- Reconciliation would be part of the annual budget process in October and an estimate of the year-end actuals would be developed. This would allow both parties to properly develop budgets for the following year.
- At the end of the year a reconciliation of actual costs would occur and be presented to the NFD and SFD Boards by the end of January.
- If money was owed it would be transferred to SFD by April 1. If there was a credit then there would be a transfer from SFD to NFD by April 1.

2. **Reserves** – Our initial proposal included a transfer of reserves for the different liabilities that SFD would incur. However, after further discussion we believe that a transfer is not necessary for most items. The following items are our new proposal for addressing these liabilities:
    a. LEOFF I – We will manage the LEOFF I retiree liabilities and bill the NFD for these costs. Our Finance Manager has evaluated the scope of this work and has developed a list of duties, see the addendum at end of this document for specific details. We have been advised that there would also be a requirement for the retirees to join the SFD insurance plan, because with only LEOFF I retirees remaining with the NFD, they would become uninsurable. This would require NFD to pay SFD for these insurance costs on a quarterly basis. The direct costs of LEOFF I expenses will vary from month to month and will be billed accordingly, also on a quarterly basis. The management of this liability for SFD is estimated at an average of six hours per month.
        - Estimated cost of managing LEOFF I liabilities is **$3,979 annually**, with varying direct monthly costs. No transfer of reserve funds is needed.

    b. Accrued Benefits – Due to the reconciliation aspect as posed by the NFD, we accept the NFD offer of reconciling this liability at whatever the cost is at the time of ratification of the contract, currently estimated at $1.362 million. Please let us know if you would like to discuss this further.
        - Transfer of reserve funds to be determined upon ratification of contract.

    c. Operating Reserves – NFD labels this as “Unanticipated Loss of Revenue”. As previously discussed the need for these funds is to cover the increased operational costs at SFD. Similar to NFD, we retain funds to cover adverse economic shifts, etc. We never plan on using these funds, but need them “just in case” and to ensure that we continue demonstrating sound financial management. The reserve fund ratio also affects our bond rating and we could get downgraded if we don’t have proper reserves. NFD will not need to transfer these funds as long as there is a contractual clause that would allow the SFD to access those funds if needed. Furthermore, the NFD also needs to agree to increase their reserve fund commensurate with the operating budget increases. The SFD currently has approximately 23% of annual operating expenses set aside in a dedicated reserve fund and unallocated general funds. However, we propose that both the NFD and SFD Boards meet and decide on an appropriate level for these funds in 2022. After reviewing other agencies we believe that between 15 and 20 percent might be a better target reserve amount.
        - No transfer of reserve funds is needed, but contract language would need to allow for access to reserves, if the need arises.

d. Capital Apparatus Replacement – It is our understanding that the NFD wishes to continue funding apparatus purchases out of their own replacement program. The SFD will provide a rolling, six-year, major, apparatus purchasing plan as part of our 20-year Capital Plan. This should allow the NFD to properly prepare for upcoming expenditures. The NFD portion of apparatus replacement will equal 40% of the cost, currently estimated at about $220,000 per year starting in 2022. Future years will need to be increased to keep up with inflation.
    - No transfer of reserve funds is needed.

e. Capital IT – Our initial proposal included a large amount of needed capital IT purchases due to the state of repair at the NFD. It is our understanding that this will not be necessary due to ongoing purchases currently in process.
    - No transfer of reserve funds is needed.

3. **Staffing** – Our initial proposal for total personnel costs in 2022 was $7,568,068, which included salary and benefits, shared personnel costs, overtime, and credit of transport revenue, see page 23 or our proposal for the specific details.

   The salary and benefits portion of that amount is $6,850,420. This includes all staff in all divisions; Administration, Training & Development, Community Risk Reduction, and Response Operations. It also includes the reduction of two Battalion Chiefs by the middle of the year. The following is a breakdown of our salary and benefits proposal for 2022, see Appendix B of our proposal for specific details, and the figures below do not include the reduction of BC credit:

Administration		$578,005
Training & Development		$208,372
Community Risk Reduction		$173,028
Response Operations		$6,107,427
	Total S&B	**$7,066,832**

   It is challenging to separate out the different costs as some are tied together, but the following sections are to address the different questions that were posed.

   a. S&B - The cost of providing current level of services at stations 51 and 57 including all administrative positions, support services, and operational personnel including a NFD Battalion Chief is **$7,066,832.** However, due to changes in 2022 staffing due to unplanned attrition and adjustments in step raises, additional savings are anticipated in the overall salary and benefits. These adjustments will also extend into subsequent years with additional savings as well.
       - Changes in 2022 staffing and compensation will **reduce S&B by $174,721**.

   b. Admin - The SFD proposal was to absorb the NFD administrative employees as we believe that it is the right thing to do and that there will be a need for some of the positions depending on the desire of the NFD Board. For example, we believe that there should be a front desk presence at station 51 to answer phones, greet the public, receive deliveries, etc. It is not our recommendation to eliminate the administrative personnel from our proposal, but to make it easier to compare proposals we have identified the cost savings if there was not a transfer of administrative personnel.

- No transfer of Administrative personnel, **reduce S&B by $578,005.**

c. BC - We have proposed reducing the eight combined operational Battalion Chiefs to four and splitting the savings 50/50. This would not be possible if we were not contiguous, and five stations is within a proper span of control. We are anticipating between three and five BC positions becoming vacant between the two agencies, prior to the middle of 2022. If the Board wants details on this upcoming vacancies please ask and they will be provided. Some of these positions will be vacated earlier in the year, and if this were to occur as projected, the savings would be increased to $316,615. However, to be conservative we are identifying savings for only half the year. Please note that there are additional savings in 2023 due to the full savings occurring of approximately $445,809, including a 3% COLA.
    - Reduction to one operational BC on duty by the middle of 2022, **reduce 2022 S&B by $216,412**
    - Reduction to one operational BC on duty, **reduce 2023 S&B by $445,809**

d. BLS Transports and Aid 157 - As previously discussed we believe that the NFD performing BLS transports is the right decision, for many reasons, from a level of service standpoint. It may also be difficult from a legal standpoint to not charge for these transports as a consistent approach is required. However, there are financial components to this as well. DC McDonald provided SFD with transport data that shows a projection of about 1,194 BLS transport will be completed in 2021, or an average of about 3.3 transports per day. This equates to an average of 4.3 hours of out-of-service time on a daily basis. Our proposal includes adding a peak-hour unit because we felt that taking one third of the current in-service resources to perform transports was not acceptable. However, this is a fundamental decision that the NFD will need to determine. If NFD decides to not perform BLS transport then there is no justification for a peak-hour aid unit.

   We do not have the hourly breakdown of transports over a 24 hour period, but typically a peak-hour aid car will capture over 80% of those transports. When not doing transports it would be an additional in-service unit to increase staffing levels and to minimize out-of-service time for the fire engines running aid calls. Our proposal was to staff a peak-hour aid car at 57 with either on-duty staffing when it was sufficient, or with overtime. It will be difficult to determine the exact financial impacts on this program until we are actually doing it. However, the increased cost of the overtime for this unit was estimated at about $284,700. The net revenue from performing the transports, with the new data from Chief McDonald, is projected to be about $292,742, a spreadsheet can be provided for specific details. This would result in around a neutral cost or even a net revenue of about $8,042.
    - Not staffing peak-hour Aid 157, **reduce overtime in total personnel costs by $284,700**
    - Not billing for BLS transports, **remove the $292,742 credit for transport revenue.**

e. Division/District Chief – Our proposal included an interim Division or District Chief to help with transition work and to ensure that the culture of the NFD is included in the overall organization. This position would either be filled by Interim Chief McDonald or

one of the current NFD BCs. We felt that this role was important to ensure that this was a collaborative transition and not a "take-over".

- Remove Division/District Chief specific position, **reduce 2022 S&B by $222,929**.

f. Tech Rescue – The question was what is the cost of increasing technical rescue capability? It is unclear what the scope of this really entails. If looking for dedicated staff on Rescue 151 as a stand-alone apparatus, then that could be developed. However, a plan would be needed for the staffing, i.e. would it be two Firefighters or a Lieutenant and a Firefighter? This option would likely cost around $900,000 for a 24-hour unit. However, looking at the ESFR proposal and trying to make a similar comparison it appears that the scope is in assigning Firefighters to Engine 151 with Technical Rescue Training (TRT). At SFD we already have TRT personnel spread out among our apparatus and all staff dedicated to the ladder truck are TRT. To co-locate the TRT that aren't assigned to Ladder 161 onto Engine 151 would be more of a logistical challenge and not a financial one. Even if there weren't existing TRT available to re-assign, we could train eight more Firefighters as staff for Engine 151. Our TRT personnel get a 1.5% specialty pay, so this would equate to an increase of about $18,503.

- Two TRT Firefighters assigned to Engine 151, **increase S&B by about $18,503.**

g. Hazardous Materials – The SFD does not have a hazardous materials team as our fire department responds on about one, true hazardous materials call every three or four years. Our personnel are trained to an operations level, but not technician. Even though we are in Zone 1 and have access to that hazardous materials team, we have an agreement to use the Seattle Fire Department hazardous materials team for our responses. This team is excellent and has responded well on the very few occasions that we have needed them. We can use the South Snohomish County regional hazardous materials team as well. The cost of equipping and training a proper team is expensive and not a good business decision for the very few calls that occur. Training personnel to staff Engine 157 above the hazardous materials operations level is not recommended and not offered at this time by the SFD.

- No proposed plan to increase capabilities for hazardous materials response.

4. **Startup Costs** – There were no, significant, startup costs in our proposal. We included some minor supplies and uniform costs in the general expense budget, but there shouldn't be much else outside of increased transition workload.

5. **Contract Administrative Charge** – Our proposal does not have a specific contract administrative charge. Instead, we identified increased workload and assigned duties with an associated cost, see Appendix B of our proposal for specific details. For 2022 that equates to about $366,817, or about 4.8% of the current personnel costs as identified in our proposal. If the NFD Board would prefer for it to be a percentage of the overall budget instead, then let us know and that can be calculated.

The remaining questions are listed as they are identified in the clarifying questions document that was sent to the SFD.

1. We have removed most of the transfers and identified the impacts to the reserve funds above.

2. The staffing costs are identified above.

3. The startup costs are identified above.

4. **Water Rescue Program** – The SFD has a nearly identical program to the NFD. We are budgeting $12,000 in 2022 for training costs, so a similar amount should be expected for the NFD.

5. **Capital Equipment** – Staff has provided the SFD with enough information to forecast equipment replacement costs for the next ten years. We would still need more information and spend time in 2022 for a fully developed replacement program. Fortunately, the NFD has made many purchases in 2021 to address ongoing equipment needs, which prepares the organization well for the future. We used the SFD life-cycle replacement plan, as listed on page 27 of our proposal, to develop a cost forecast of the listed equipment provided to SFD.
    a. Equipment costs, including 3% inflation, **is $56,231 annually for the next ten years**.

6. **General Facility Maintenance** – The SFD has a dedicated Facility Technician. Our proposal was to utilize him to perform appropriate maintenance work at stations 51 and 57. This will provide an improved level of service over current operations and, over time, lower overall costs. We would continue to sub-contract out work as appropriate for projects he was not able to complete. Therefore, we identified different costs included in the general expense budget that we proposed, to address this work as well as a portion of his salary and benefits, see Appendix C of our proposal for specific details. Also, this area is one that would need to be re-evaluated in 2022 to ensure that the work load and the type of work was appropriate. Using the NFD budget under "Facilities", and including the Facility Technician salary and benefits, this cost is estimated at $139,733 for 2022.

7. If the question is referring to the Administrative Cost Loading in Appendix B, then the answer is no. The two tables are from two different years, the first is 2022 and the second is for 2023. The reason for the two tables is that the full savings of our contract will not be realized until 2023, so two tables are needed. The resulting "Difference in Cost Sharing" for each year is reflected in the overall contract cost for 2022 and 2023 in the Personnel Costs Table on page 23 of our proposal.

8. This is identified above. BC reduction should occur by middle of next year, likely in the first third of the year. Due to the current equal sharing of eight operational BC's by both NFD and SFD, the savings would be split 50/50.

9. The SFD does have a dedicated benefits reserve fund, but the funds for the Post-Employment Medical Benefits (PEMB) program is replaced on an annual basis to ensure that the impact doesn't deplete the reserve funds. However, the cost of this program is offset by the savings in salary and benefits of Firefighters throughout the first six-years of employment. The SFD has a slower rate for step raises that results in savings that are re-invested at the end of an employee's career. For example, a Firefighter starting in 2022 will result in about $50,000 in savings for the SFD. We currently have seven new Firefighters in the academy, which will equate to about $350,000 in savings for just those seven new hires. For 2022 we have budgeted

a total of $82,509 for this program. The NFD would not incur the cost of covering any of the existing personnel that are enrolled in this program, but would cover 26% of future personnel. This would be included in the annual expense budget. There are many other benefits to this program that we can discuss further.

10. Reconciliation is identified above, but language would need to be developed for the ILA.

11. Operational overtime costs are a personnel cost, so the NFD would cover 26% of this on an annual basis.

We hope that this provides the details for a more direct comparison between the proposals, but please let us know if further clarification is needed. We can also develop an updated spreadsheet if that would help. Thank you for your consideration.

Chief Matt Cowan

Addendum

Accounting system setup (Finance Manager)

- Setup budget lines
- Setup vendor accounts

Collecting LEOFF 1 member paperwork (Executive Assistant)

- Collect requests for reimbursements
- Ensure invoice is valid for payment
- Assign vendor number and budget line

Accounts Payable (Admin. Assistant)

- Enter invoices in BIAS accounting system
- Prepare voucher batches for review and signatures
- Scan, email vouchers to King County finance for warrants processing
- Mail warrants

Review and Sign Vouchers

- Review, sign vouchers by Admin. Director
- Review, sign special district blanket vouchers by Fire Chief
- Review, sign special district blanket vouchers by Fire Commissioners

Interfund Billings (Finance Manager)

- Monthly invoice to Northshore Fire for LEOFF 1 reimbursements
- Make deposits
- Monthly reconciliation

Record Keeping

- Record keeping of vouchers/invoices processed
- Record keeping of LEOFF 1 payment history, etc.