City of Valdez

212 Chenega Ave.
Valdez, AK 99686

Meeting Agenda - Final

Ports and Harbor Commission

Monday, March 1, 2021 | **6:00 PM** | **Council Chambers**

Work Session (South Harbor Basin Fuel Dock Feasibility Study Draft Review)

WORK SESSION AGENDA - 6:00 pm

Transcribed minutes are not taken for Work Sessions. Audio is available upon request.

1. South Harbor Basin Fuel Dock Feasibility Study - Draft Review

Attachments: Updated DRAFT Return on Investment Analysis of a New Valdez Fuel Dock 2.2

Dynamic ROI Valdez Tool Feb 1

File #: 21-0143, **Version:** 1

ITEM TITLE:
South Harbor Basin Fuel Dock Feasibility Study - Draft Review

SUBMITTED BY: Jeremy Talbott, Ports & Harbors Director

FISCAL NOTES:

Expenditure Required: N/A
Unencumbered Balance: N/A
Funding Source: N/A

RECOMMENDATION:

Discussion Item Only: South Harbor Basin Fuel Dock Feasibility Study - Draft Review

SUMMARY STATEMENT:

During the 2020 capital projects, approval and budgeting process the City Council approved funding for a study on a potential fueling facility in the Commercial Boat Harbor.

In November of 2020, City staff selected Rain Coast Data through a professional services agreement for $31,550.00, to produce the attached draft documents. Meilani Schivens from Rain Coast Data assembled a team of several industry professionals who have an in-depth knowledge of Valdez, waterfront construction, and community planning. The Rain Coast Team analyzed three potential fuel dock owner operator scenarios:

- Privately Constructed fuel dock facility with negotiated property and tideland leases from the City of Valdez,
- A public private partnership with the City of Valdez constructing the facility and leasing out the operations to a private partner, and,
- A facility operated and constructed by the City of Valdez.

This document is intended to be used as a tool to assist city administration, and elected officials determine if they wish to design, construct, and manage a potential fueling facility in the Commercial Boat Harbor.

DRAFT

Return-on-Investment Analysis of a New Valdez Fuel Dock

CITY OF VALDEZ, ALASKA • OPPORTUNITIES IN EVERY SEASON •

February 2021

By Rain Coast Data

February 1st, 2021

Return-on-Investment Analysis of a New Valdez Fuel Dock

This benefit-cost analysis was performed by a team led by Rain Coast Data. Team members included R&M Consultants, Great Northern Engineers, Corvus Design, and PhD economist Brian Vander Naald.

Summary of Findings

The purpose of this technical memo is to assist the City of Valdez in understanding the return on investment over time associated with the development of a new fuel dock within the New South Harbor. The South Harbor is owned and managed by the City of Valdez. This memo analyzes three potential fuel dock owner and operating scenarios in this location:

- A privately constructed fuel dock facility with a negotiated property and tideland lease from the City of Valdez;
- A public-private partnership with the City of Valdez constructing the facility and leasing out the operations to a private partner; and,
- A facility operated and constructed by the City of Valdez.

While there are advantages and disadvantages for each model, developing an agreement with a private sector entity to build and operate the fuel dock provides the most significant benefit to the City of Valdez, with a Rate of Return (ROI) of 13.8 after 10 years, in other words, for every dollar of public investment, the City will earn $13.80. The public-private option has an ROI below one, meaning it will result in a net loss for the city – with just 30 cents earned for every public dollar invested. Since there are so many variables and choices involved in these calculations, this deliverable includes a dynamic excel-based tool in which variables, such as lease agreement elements, can be changed and new ROIs calculated.

Table 1. Return on Investment (ROI) for 3 Fuel Dock Models[1]

	Preferred Alternative: Private Construction/ Private Operation	Public Construction/ Private Operation	Public Construction/ Public Operation
Total Costs (20 years)	$128,917	$3,328,491	$6,483,321
Total Revenue (20 years)	$1,599,919	$1,599,919	$11,958,719
ROI 10 years	13.8	0.3	1.3
ROI 20 years	12.4	0.5	1.8
ROI 40 years	10.1	0.9	2.1

The City of Valdez also wanted to understand demand for a fuel dock in the South Harbor by Valdez residents and transient vessels owners that visit Valdez. This study included a survey of 525 Valdez vessel owners and operators. The analysis showed a high demand for a new fuel dock. For a full discussion on demand, see page 10.

- For a full discussion of the costs and revenues and variables considered for each option, see page 14.
- For a full review of the environmental requirements associated with a fuel dock in Valdez, see page 21.
- To see a case study analysis of other communities that use the three different models see page 27.
- Project drawings by Great Northern Engineers are on page 36.

[1] Return on Investment (ROI) is equal to the discounted sum of benefits divided by the discounted sum of costs for the project. If ROI is greater than 1, the investment is profitable. If ROI is less than 1, the investment is unprofitable. Since we are comparing different scenarios of the same magnitude, the larger the ROI, the more profitable will be the arrangement.

Project Description

This analysis explores the economic and environmental feasibility of a new fueling facility in the new Valdez commercial boat harbor, New South Harbor, as well as to gauge local and transient support and demand for a new fuel dock.

This document provides a comparison of economic costs and benefits, along with the potential risks and opportunities a fueling facility would provide to the community and harbor customers by exploring three potential fuel dock owner-operating scenarios:

Scenario One: Private Ownership and Operations
The City of Valdez would seek a qualified organization to finance, design, construct, operate, and maintain a new floating fuel dock in the South Harbor. The selected organization would secure rights from the City to build, own, and operate a commercial fueling facility, and the City would provide upland and tideland areas through long-term leasing arrangements sufficient for the building and operation of a floating fuel dock, fuel storage tanks, and distribution system.

Scenario Two: Public Ownership and Private Operations
The City of Valdez would finance, design, construct, and maintain a new floating fuel dock in the South Harbor. The City would put out a request for proposals for fuel vendor operations. The selected organization would operate the new fueling facility and lease the upland and tideland areas through a leasing arrangement with the City.

Scenario Three: Public Ownership and Public Operations
The City of Valdez would finance, design, construct, and maintain a new floating fuel dock in the South Harbor. The City would also conduct all fuel vendor operations.

New Boat Harbor

The new commercial boat harbor, New South Harbor, was constructed to help alleviate the demand for slips in the existing Small Boat Harbor (also known as North Harbor). Pre COVID-19 pandemic, the demand for slips had been increasing due to the expansion of Silver Bay Seafoods new fish processing facilities. The City of Valdez expanded its harbor facilities by completing the new boat harbor in the summer of 2019, which can accommodate moorage of 128 vessels up to 100 feet in harbor slips. The harbor was constructed to meet moorage needs of the fishing fleet and larger vessels and relocate larger commercial vessels from the North Harbor.

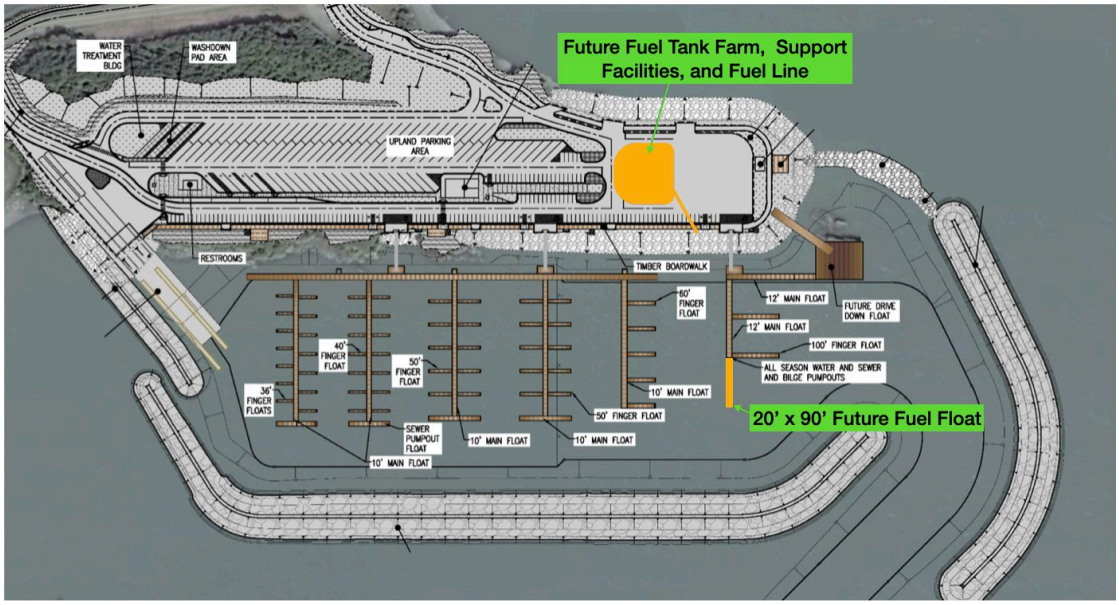
Table 2 shows the number slips in the New South Harbor by size, along with use of slips by vessel type. The photo shows use of the new harbor just a week after the grand opening.

Table 2. New Boat Harbor Capacity (Valdez South Basin)

Total Slips by Size				
36'	40'	50'	60'	100'
17	48	48	11	4
Total Number of Boats by Vessel Type				
Recreational	Sail	Charter	Commercial Fishing	Work
62	14	2	31	2

New Fuel Dock

The new fuel dock under consideration would provide fuel services to the vessels located in New South Harbor. The original design for the harbor provided space to support a 20-foot wide by 90-foot-long floating fuel dock located at the end of a moorage float, along with space for uplands facilities, including a tank farm and vendor space. The image below shows the location plans for the required fuel dock infrastructure.



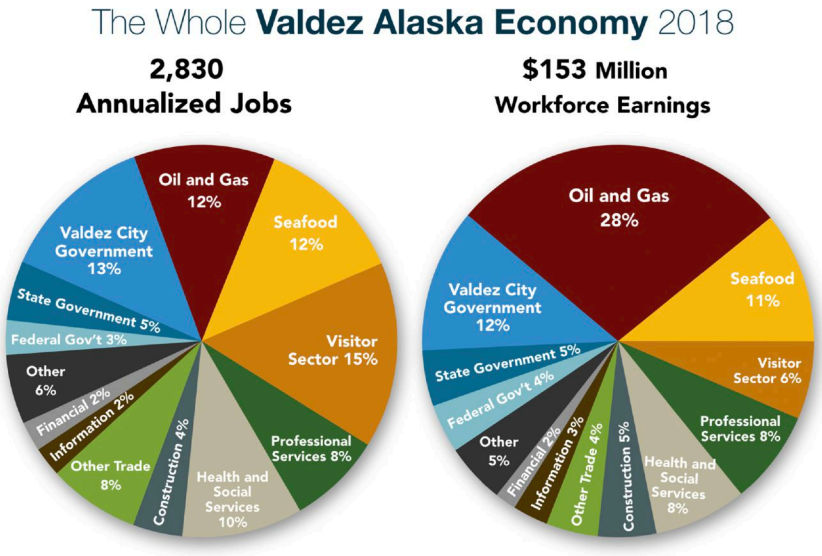
Below is an artist rendering of what the fuel dock could look like when complete:[2]

[2] Full project drawings can be found on page 36.

Project Need

Supporting the Valdez Economy

From an economic standpoint, supporting the seafood sector is critical to supporting the economy of Valdez as a whole. The primary beneficiaries of a fuel dock in the New South Harbor will be the commercial seafood vessels.



Seafood is one of the most important sources of jobs and workforce earnings for Valdez. It is the second largest producer of private sector wages in the community, second only to the oil and gas sector. In 2018, seafood provided 12% of all community annualized jobs (352), and 11% of total workforce earnings ($16.6 million). [3]

The rich Valdez fishery supports a substantial seafood harvest and logistical road connections make Valdez a great place to locate fish processing facilities. Pre-pandemic, there had been a significant increase in the processing capacity in the community.

Between 2015 and 2018 total pounds processed increased by 28%. Because New South Harbor was specifically developed to better serve the commercial fishing fleet, and because the commercial fishing fleet is such an important element of the Valdez economy, providing basic services, such as fuel, will support a key component of the economic framework of the community as a whole.

Moreover, while not its primary purpose, the New South Harbor also supports the growing Valdez visitor industry sector including recreation boating and fishing, charter fishing, and charter wildlife cruises. The visitor sector is the top provider of jobs in the community of Valdez. When adjusted to annualized employment, the visitor industry accounts for 15% of all year-round equivalent jobs in the community.

[3] Analysis by Rain Coast Data based on the following source: Alaska Department of Labor 2018 Employment & Wage data; 2018 (latest available) US Census Nonemployer. Note that these are annualized jobs. During summer months, the peak workforce is significantly higher, and during winter, the workforce is significantly smaller. Also note that workforce totals include the self-employed, and so fishermen who are residents of Valdez are included in these figures. Non-resident independent fishermen are not included in these tallies. Self-employment estimated using CFEC data distr: https://www.cfec.state.ak.us/gpbycen/2019/261507.htm

Reducing Wait Times for Fueling of Vessels

There are different ways to measure the economic value of a project. One is to measure the revenue that will be generated by various versions of the project, another is to measure the greater economic value to the community of a new or additional service. In the case of the fuel dock in Valdez, the fuel dock will reduce congestion and lines for the current fuel facilities, thereby allowing commercial fishing vessels and charter vessels to return to their economic activity more quickly, reducing "wasted" economic time, and increasing the economic opportunity time of the Valdez commercial sector.

A large measurable benefit of a new Valdez fuel dock project is the time saved by the fishermen in Valdez that will no longer have wait in line for fuel in the congested North Harbor. Currently, there is an economic cost of nearly $200,000 per year for the Valdez commercial fishing fleet of waiting to fuel up during the heart of the seafood season. To calculate the transportation/time cost benefits associated with the proposed development of a new fuel dock, 525 vessels that use the area were surveyed. While there might still be wait times, the reduction of congestion could alleviate up to 2,400 hours of commercial fishing manhours in productivity annually, assuming two crew and a captain per vessel.[4]

Table 3. Value of Time Saved with New Fuel Dock for Commercial Fishermen[5]

Location of Commercial Fishing Vessel	Average Minutes Spent Waiting to Fuel Up in Valdez	Average Number of Valdez Fueling Events	Total Vessels	Total Hours Spent Waiting to Fuel Up in Valdez	Total Cost of Waiting
New South Harbor	37	7	31	132	$32,583
Small Boat Harbor	21	6	19	40	$9,909
Transient Commercial Fishing Vessel	37	7	148	631	$155,251
Total				**804 hours**	**$197,743**

The analysis uses an average skipper wage developed by the US Army Corps of Engineers Alaska District in 2010 for Valdez. Increased to 2022 dollars for the first year that benefits are projected to accrue, the average skipper wage is estimated to be

[4]Valdez Harbor Expansion Feasibility Study Economics Appendix B Valdez, Alaska September 2010. What is interesting regarding the productivity time lost analysis is that it is not new. Lost productivity time was one of the arguments for building a new harbor in Valdez in the first place. A fuel dock in the New South Harbor was a critical part of overall New South Harbor plan, as can be seen in the 2010 study outlining the needs for a new harbor: "**Time-Delay Problems** Delay time and congestion are frequent occurrences at several locations within the existing small boat harbor. Delays occur at the fuel docks when everyone is fueling up before going out to fish …These delays occur during the peak fishing season, mid-May through mid-September…on a regular basis during a 130-day fishing period".

[5] Figures are based on interview data with fishermen in project area.

$94/hour. The average crew cost per hour would be $76/hour.[6] The average fishing vessel in the project area typically fuels up with a skipper and up to two workers, either crew or marine service staff.

While the above data is adjusted to reflect actual vessel counts, the table below reflects all 525 survey respondents. On average vessels wait 23 minutes to fuel up in Valdez per fueling event. Valdez vessels fuel up an average of 14 times per summer.

Table 4. Average time spent waiting to fuel up in Valdez by vessel type[7]

Vessel Type	Average Number of Valdez Fueling Events Per Vessel in The Summer	Average Minutes Spent Waiting to Fuel Up in Valdez
Charter vessel (tours, sports fishing, etc.)	50	25
Commercial fishing vessel	7	33
Recreation	13	21
Sailboat	6	20
Work vessel	30	24
Other	5	52
Valdez Average	**14**	**23**

Not included in the above analysis of lost time is the extra time vessels located in New South Harbor have to spend in transit to and from the Small Boat Harbor to procure fuel. The distance from the existing fuel dock to the proposed new fuel dock is just over one nautical mile, requiring approximately 10 minutes of extra time each way to obtain fuel.

Providing an Alternative to Kelsey Dock

In Valdez, there are two fuel docks operated by Crowley Marine in the small boat harbor. In addition to these options, vessels have two alternative ways to fuel up. They can use the Kelsey Dock, taking advantage of fuel trucks that drive onto the dock, or they can use tenders, which themselves often use Kelsey Dock to get their fuel in the first place. In the summer of 2019, 98,481 gallons of diesel was procured by vessels at the Kelsey Dock during 36 fueling events, for an average of 2,735 gallons per fueling.

However, Kelsey Dock might not be as available in the future. In August of 2019, a new assessment and load capacity analysis was conducted on Kelsey Dock.[8] According to the findings, the new maximum legal single-axle load on Kelsey Dock has been downgraded to 24,000 pounds, and the maximum legal tandem-axle load to 30,000 pounds. This change effectively bans fully loaded fuel trucks from using the dock in the same way. While fuel trucks can still use the dock for fueling, they will need to do so with a reduced

[6]Valdez Harbor Expansion Feasibility Study Economics Appendix B Valdez, Alaska September 2010 http://www.poa.usace.army.mil/Portals/34/docs/civilworks/currentproj/vol2appendixbeconomicanalysis%20(2).pdf

[7] Figures are based on interview data with fishermen in project area.

[8] John Kelsey Dock and Valdez Container Terminal Assessments and Load Rating Analysis, PND, August 2019

load level, utilizing only partially full fuel trucks. The report recommends evaluation on a case-by-case basis.

Similarly, fuel can be delivered over the new drive down float at the New South Harbor with partially loaded trucks, and at some bulkheads in the old small boat harbor that could potentially allow for fuel delivery via truck. However, these various options for fuel delivery by truck will be much less convenient than a dedicated fuel float, meaning an alternative marine fuel source becomes even more critical.

Project Costs

The permitting and construction of a new Valdez fuel dock is expected to occur over a 1.5-year period from 2021–2023. The estimated construction cost for elements of the Valdez fuel dock project is $3.1 million for construction during this period. The $3.1 million dollar price tag is for a City managed construction project and includes the following elements.

Table 5. City of Valdez Fuel Float Project Cost Estimate

Item	Projected Cost
Floating Dock	$746,100
Civil Uplands	$145,330
Mechanical / Tank Farm / Dispensing	$497,050
Electrical	$278,070
Contingency 25%	$489,138
Environmental Construction Permitting	$85,000
Operational Permitting Compliance (City-Managed Option Only)	$200,000
Other (Engineering, Construction Support, Mobilization, Demobilization, Construction Survey, Pollution Control)	$656,853
Total Private Construction Costs	**$2,897,541**
Total City Managed Construction	**$3,097,541**

Detailed capital facility costs for this project are broken out on page 35.

Tank Farm

The conceptual design of the onshore tank farm is based on previous work done by Great Northern Engineering (GNE) in 2017. GNE updated the 2017 estimates to today's values. The concept consists of 3 tanks having a tank capacity of 3,000-5,000 gallons of unleaded gasoline and 40,000 gallons of Ultra Low Sodium Diesel (a 12,000-gallon issue tank and 28,000 bulk storage tank). The tanks were sized based on 2017 preliminary engineering with input from local fuel vendors. Based on this, the sizes and capacities are deemed to be a reasonable preliminary fit to the site and expected demand. A more detailed examination of the expected demand and throughput is recommended and other sizes and combinations of tanks are possible.

Fuel Dock

The conceptual design of the floating fuel dock is based on input from Transpac Marinas and is founded on preliminary engineering work completed in 2017. Transpac updated the 2017 estimates to 2021 values. The concept consists of a 20' by 90' floating fuel dock at the end of existing moorage Float R. Existing moorage Float R has provisions for the future installation of below deck fuel pilings. The floating dock is restrained by four each 24-inch diameter galvanized steel piling, two on each end.

Project Demand

This section explores several types of demand associated with a potential new fuel dock, including fuel use and public support.

Fuel Demand Projections

One of the key elements of this project was to determine fuel demand projections for a new fuel dock. In order to understand the fuel consumption demand, a survey was developed for vessel owners and operators in Valdez, including vessels that are not homeported in Valdez but visit in the summer. A total of 525 vessels participated in the survey, which asked about fuel use, and potential demand for fuel in the new harbor. In order to calculate fuel demand, the following questions were asked of survey participants:

- Survey Question: How many gallons of marine fuel do you purchase annually (in Valdez or elsewhere)?
- Survey Question: Moving forward, what percentage of your annual fuel intake would you expect to procure from the new fuel dock in New South Harbor, if one was built?

Because these responses were also linked to vessel length, location of vessel, vessel type, and total fuel currently purchased in Valdez, the survey data could be used in combination with Valdez Docks and Harbors vessel data to calculate demand for fuel. Based on actual data combined with survey data, the calculated demand for a new fuel dock in the new boat harbor for all expected users is an estimated 1.7 million gallons annually.

Table 6. New South Harbor Fuel Demand Projections: All Demand

Fuel Type	Calculated Demand in Gallons Annually
Diesel	1,619,104
Gasoline	98,062
Total Gallons	**1,717,166**

Fuel Demand by Tenants of the New South Harbor

There are currently 128 slips in the New South Harbor. While 18 of these are currently not occupied, data was developed to create estimates for these vacancies, and so the survey demand model used assumes full harbor occupancy. Calculated demand shows that 533,871 gallons of fuel would be used by New South Harbor tenants, should it be constructed.

Table 7. New Boat Harbor Tenants Fuel Demand Projections

Fuel Type	Calculated Demand in Gallons Annually
Diesel	482,821
Gasoline	51,049
Total Gallons	**533,871**

Fuel Demand by Tenants of the Small Boat Harbor

Tenants of the small boat harbor were also surveyed to understand the demand that would be generated by these vessel owners for fuel at the proposed New South Harbor facility. Just over 32,000 gallons of fuel would be used by vessels in this harbor.

Table 8. Small Boat Harbor Fuel Demand Projections

Fuel Type	Calculated Demand in Gallons Annually
Diesel	11,625
Gasoline	20,450
Total Gallons	**32,075**

Fuel Demand by Visiting Commercial Fishing Vessels

The survey asked the transient commercial fishing fleet that comes to Valdez in the summer the same question – how much fuel did each vessel expect to purchase from a potential new fuel dock in the New South Harbor. The visiting transient fleet expect to purchase 1.15 million gallons from the fuel dock in the new boat harbor annually, once it is constructed. This includes a calculated demand of 385,192 gallons from transient commercial fishing vessels, and an additional 766,029 gallons from transient tenders.[9]

Table 9. Visiting Commercial Fleet Fuel Demand Projections

Fuel Type	Calculated Demand in Gallons Annually
Diesel	1,124,658
Gasoline	26,563
Total Gallons	**1,151,221**

Table 9b. Visiting Commercial Fleet Fuel Demand Projections by Type

Commercial Seafood Vessel Type	Count of Transient Vessels	Calculated Demand in Gallons Annually
Fishing vessels 30'-39'	19	37,963
Fishing vessels 40'-49'	31	213,565
Fishing vessels 50'-59'	74	128,456
Fishing vessels 60'-69'	3	5,208
Tenders	21	766,029
Total	**148**	**1,151,221**

Most of the fuel for the above transient vessels is currently procured at the small boat harbor fuel dock, although the larger vessels use Kelsey Dock. Most users of Kelsey Dock would prefer to use the proposed new fuel dock.

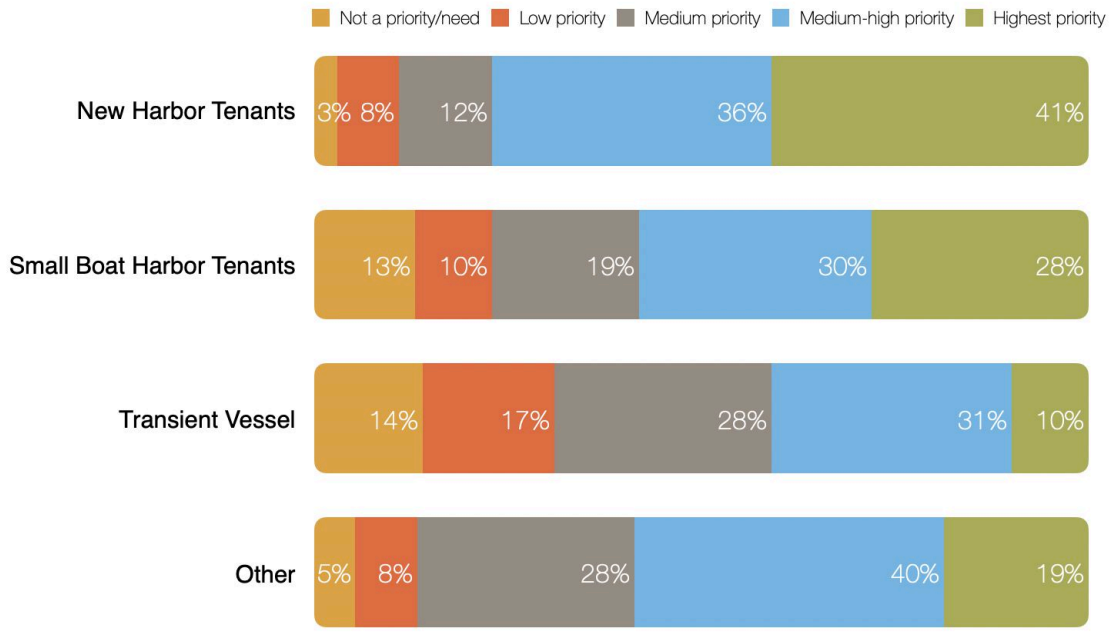
[9] While significant survey data was available for other types of commercial seafood vessels, the survey for the tenders included five of the 21 transient tenders. The average of the demand for these vessels was used to calculate all transient tender fuel demand.

Consumer Demand

To measure the consumer demand for a new fuel dock in Valdez, the survey asked vessel owner and operators how important development is of a fuel dock in the New South Harbor.

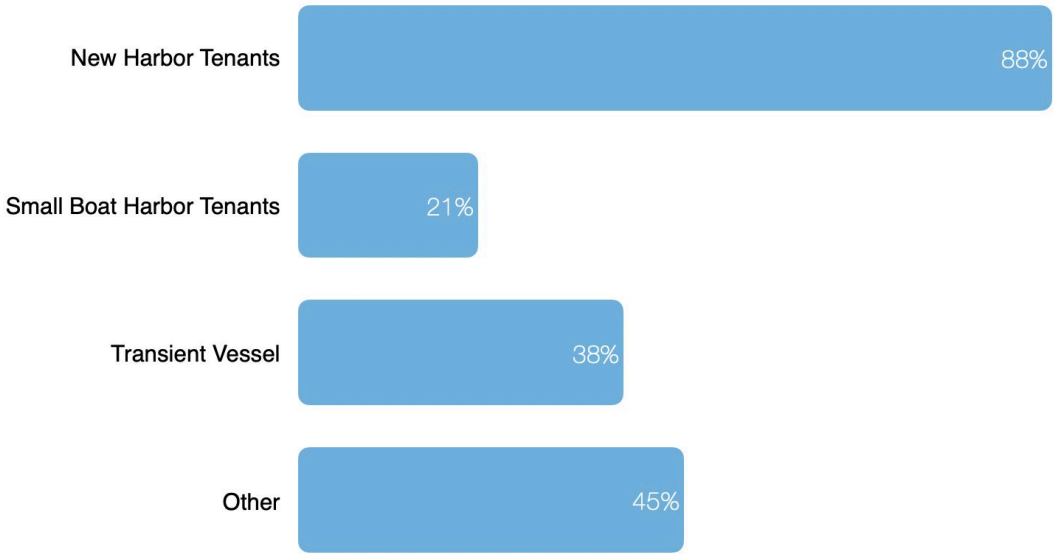
Those with current slips in the New South Harbor were most likely to say a new fuel dock should be considered as the highest priority. More than three-quarters (78%) of New South Harbor tenants said that a new fuel dock is the highest (41%) or medium-high (36%) priority level. More than half of those in the small boat harbor called the new fuel dock of the highest (28%) or medium-high (30%) priority. Transient vessel operators were less likely to say the fuel dock was at the highest priority level.

Survey Question: How important is the development of a fuel dock in the South Basin?



Survey Question: Moving forward, what percentage of your total annual fuel intake would you expect to procure from the new fuel dock in South Basin (New Harbor), if one was built?

Survey respondents were also asked what percentage of their future fuel they would expect to procure from a new fuel dock, should one be built. Current tenants of New South Harbor expected to get 88% of their annual fuel consumption from a new fuel dock if one is built in that harbor. Small boat harbor tenants would expect to get 21% of their fuel from the new fuel dock, while transient vessels would get 38% of their annual fuel.



Results of Return-on-Investment Analysis

The most important element to understand when weighing comparative fuel dock models is the long-term economic considerations, and the rate of return on investment for any publicly spent dollars. The following section summarizes the results and outlines the project costs, benefits, and assumptions used in this analysis for each of the three different owner-operator models.

Table 11. Benefit-Cost Analysis Summary Results

	Private Construction/ Private Operation	Public Construction/ Private Operation	Public Construction/ Public Operation
Total Costs (20 Years)	$128,917	$3,328,491	$7,245,621
Total Revenue (20 Years)	$1,599,919	$1,599,919	$11,958,719
ROI at 10 Years	13.8	0.3	1.2
ROI at 20 Years	12.4	0.5	1.7
ROI at 40 Years	10.1	0.9	1.8

The results of the ROI show the present value of the cash flows that occur over the analysis period (2021– 2062) under the discount rate of 3 percent.[10]

Return on Investment (ROI) is equal to the discounted sum of benefits divided by the discounted sum of costs for the project. If ROI is greater than 1, the investment is profitable. If ROI is less than 1, the investment is unprofitable. Since this analysis compares different scenarios of the same magnitude, the larger the ROI, the more profitable the arrangement. Another way of thinking of ROI, is it shows how many dollars will by earned by the City of Valdez for each dollar of public investment. Under the private-private scenario, the city will earn $13.80 for each dollar invested after 10 years, while under the public-private option, it will earn back just 30 cents of each dollar invested during the same period.

By this measure, the private-private model will result in the highest level of profit for the City of Valdez. The public-public model will result in a positive ROI, and thus provides an acceptable, but much smaller, return on investment. The public-private model results in a loss of revenue to the City of Valdez.

Because the ROI model includes so many differing variables, choices, and lease elements, this document includes a dynamic excel-based tool in which variables can be changed, so that the City of Valdez can see how the ROI will change based on differing input selections. The following section explores the resulting ROIs at 20 years and 40 years of the three fuel dock development-operating models, along with explanations regarding the variables selected for this analysis.

[10] The discount rate is used to discount future cash flows to the present. The discount rate takes into account the time value of money and the uncertainty associated with future cash flows (put simply, the principle of discounting works on the assumption that a dollar today is worth more than a dollar a year or more in the future). The discount rates of 3 percent follow the guidance of OMB Circular A-4 (OMB, 2016).

Private-Private Model

Over the next 20 years, a privately constructed fuel dock would cost the City of Valdez a small amount of staff oversight hours annually and bring in $1.6 million in revenue to the city. It would have a 20-year Return on Investment of 12.4 for the City of Valdez (or $12.40 for each public dollar invested) by far the highest the of the three models under consideration.

Table 12. Total City of Valdez Costs and Benefits for a Privately Built and Operated Fuel Dock

	40 Years	20 Years
Total Capital Costs	$0	$0
Total Maintenance Costs	$0	$0
Total Labor Costs	$302,009	$128,916
Total Costs	**$302,009**	**$128,916**
Total Fuel Revenue	$2,747,466	$1,442,419
Total Lease Revenue	$300,000	$157,500
Total Value	**$3,047,466**	**$1,599,919**
ROI	**10.1**	**12.41**

There are a significant number of variables that go into an economic assessment for a fuel dock. This report includes an attached spreadsheet in which those variables can be altered once better information is available (such as the value of the uplands that would need to be leased by a private operator, which is currently unknown) or if different decisions are made (such as the fuel wharfage fee, which is set at 4 cents in this report). The variables that have been used in this analysis, with the value that was selected for each, are presented below.

Table 13. Assumptions for a Privately Built and Operated Fuel Dock

Variable	Variable Value
Fuel Wharfage Per Gallon	$0.04
Gallons of Fuel	1,717,166
Tideland Value	$25,000
Upland Value	$50,000
Tideland Lease Rate	10%
Upland Lease Rate	10%
Annual Wage Increase	2%

Fuel Wharfage Per Gallon: Generally, the per gallon petroleum wharfage fee is between 1 cent and 5 cents across Alaska. This was set at 4 cents for the analysis because the City of Valdez mentioned consideration of this rate. A 2 cents wharfage fee would make the ROI 6.8 after 20 years. There is currently no per gallon throughput fee for the existing fuel docks in Valdez. The City of Valdez might also want to consider a sliding rate. Examples

across the state include models where the fee is set to gradually increase over time. Others provide creative rate structures to entice development. In Homer, no wharfage was charged until the fuel provider had recovered their fuel dock capital investments, for example.

Gallons of Fuel: Fuel demand was calculated using a survey of Valdez vessel owners, combined with vessel data. Refer to that section for additional details.

Tideland Value: The tidelands value presented here is a placeholder value. It represents the current tidelands value of the other fuel dock leases. The City of Valdez is currently working with an appraiser to give them an appraisal for the New South Harbor purposed fuel dock tidelands and upland lots, but those numbers are not yet developed.

Upland Value: The uplands value represents another placeholder value. It was calculated using the value per square foot of a property at 219 S. Harbor Drive in Valdez and applying that land value to the square feet of this location.

Tideland Lease Rate and Upland Lease Rate: By Valdez code, anything below 10% of assessed value annually, must be voted on by a supermajority of the City Council. While the city currently has lease agreements ranging from $1 a year, 4%, and 6%, currently the existing leases for both the existing fuel dock tideland leases and the single City owned upland lot are at 10%. A new fuel dock lease would be negotiated with the City and a private fuel provider.

Annual Wage Increase: A commonly used annual increase for wages is 2% per year. This analysis assumes that $5,000 worth of city-worker hours would be spent responding to issues at a new private fuel dock. This value would increase annually over the 40-year horizon of the analysis.

Public-Private Model

Over the next 20 years, a publicly constructed and privately operated fuel dock would cost the City of Valdez $3.3 million in development and maintenance costs and bring in $1.6 million in revenue to the city. It would have a 20-year Return on Investment (ROI) of 0.48 for the City of Valdez (or a return of just 48 cents for every public dollar invested). Return on Investment is equal to the discounted sum of benefits divided by the discounted sum of costs for the project, and so an ROI of less than 1 means that the investment would be unprofitable.

Table 14. Total City of Valdez Costs and Benefits for a Publicly Built and Privately Operated Fuel Dock

	40 Years	20 Years
Total Capital Costs	$3,061,924	$3,061,924
Total Maintenance Costs	$205,691	$137,650
Total Labor Costs	$302,010	$128,917
Total Costs	**$3,569,625**	**$3,328,491**
Total Fuel Revenue	$2,747,466	$1,442,419
Total Lease Revenue	$300,000	$157,500
Residual Value	$149,948	
Total Value	**$3,197,414**	**$1,599,919**
ROI	**0.9**	**0.48**

There are a significant number of variables that go into an economic assessment for a fuel dock. This report has been delivered with an attached spreadsheet in which those variables can be altered once better information is available. The variables that have been used in this analysis, with the value that was selected for each, are presented below. Explanations for each value selection are on the previous two pages.

Table 15. Assumptions for a Publicly Built and Privately Operated Fuel Dock

Variable	Variable Value
Fuel Wharfage Per Gallon	$0.04
Gallons of Fuel	1,717,166
Tideland value	$25,000
Upland value	$50,000
Tideland lease rate	10%
Upland lease rate	10%
Annual Wage increase	2%

Maintenance Costs

Part of understanding the cost of ownership, should the City of Valdez build and operate the fuel dock and related infrastructure, is understanding the long term associated maintenance costs. While the cost of building a fuel dock and tank farm is $3.1 million, the capital costs of construction are estimated at $2,445,687. This analysis assumes that annual maintenance costs will be 1.5% of capital cost every 5 years and 3.72% of capital cost every 15 years, with a discount rate of three percent.[11] These assumptions were developed as a standard starting point for Alaska marine service yards.[12]

Table 16. Maintenance Costs in 5-Year Increments

Assume completion in 2022	Discounted at 3%
2027	$31,645
2032	$27,297
2037	$58,396
2042	$20,312
2047	$17,521
2052	$37,482
2057	$13,037

Over a 35-year period, the maintenance of a city-owned facility would cost the City of Valdez $205,691. While the service life estimates developed by R&M are listed below, for the purposes of a cost estimate, maintenance costs for the first 39 years only were calculated, in order to match federal guidelines for economic modeling.

Fuel Dock Infrastructure Service Life

Service life is dependent on many factors including the environment, the degree of use, and on maintenance. The following general statements can be made for planning purposes:

- The estimated service life of mechanical equipment such as pumps is 25 years with proper maintenance.
- The estimated service life of floating marine facilities is 50 years with proper maintenance.
- The estimated service life of upland waterfront facilities is 75 years with proper maintenance.

[11] Northern Economics "Petersburg Waterfront Master Plan: Rate Study and Financial Considerations" presentation by Mike Fisher on October 4, 2017 at the AAHPA Annual Conference. Note: The discount rate is used to discount future cash flows to the present. The discount rate takes into account the time value of money and the uncertainty associated with future cash flows (put simply, the principle of discounting works on the assumption that a dollar today is worth more than a dollar a year or more in the future). The discount rates of 3 percent follow the federal guidance requirements.

[12] Residual Value: Given assumed 50-year lifespan of capital, calculated residual value as 20% of original capital value.

Public-Public Model

Over the next 20 years, a publicly constructed and publicly operated fuel dock would cost the City of Valdez $6.5 million in development and maintenance costs and bring in $11.9 million in revenue to the city. It would have a 20-year Return on Investment of 1.84 for the City of Valdez (or a return of $1.84 for every public dollar invested). Since the ROI for this model is greater than one, the investment would profitable. However, inefficiencies in operations or error could bring this value below one.

Table 17. Total City of Valdez Costs and Benefits for a Publicly Built and Operated Fuel Dock

	40 Years	20 Years
Total Capital Costs	$3,061,924	$3,061,924
Total Maintenance Costs	$205,691	$137,650
Total Labor Costs	$7,692,759	$3,283,747
Total Costs	**$10,960,374**	**$6,483,321**
Total Fuel Revenue	$21,693,822	$11,389,256
Total Lease Revenue	$1,084,691	$569,463
Residual Value	$149,948	
Total Value	**$22,928,461**	**$11,958,719**
ROI	**2.09**	**1.84**

There are a significant number of variables that go into an economic assessment for a fuel dock. This report has been delivered with an attached spreadsheet in which those variables can be altered once better information is available. The variables that have been used in this analysis, with the value that was selected for each, are presented below.

Table 18. Assumptions for a Publicly Built and Operated Fuel Dock

Variable	Variable Value
Fuel Markup (10-25%)	15%
Diesel in Gallons	1,619,104
Wholesale Diesel Price	$2.10
Gasoline in Gallons	98,062
Gasoline Price	$2.27
Wage Increases	2%
Retail as A Percent of Revenue	5%

Most of these variable assumptions were explained in the previous sections. The ones that are new to this model are presented below:

Fuel Markup: Of the many choices that will need to be made if the City of Valdez were to run a new fuel dock would be to decide the price of fuel. The City and Borough of Haines uses a 15% markup, and so that is what was used here. Within the private sector, the markup

for fuel is typically 10% to 25%, depending on volumes, market, competition in market, operating costs, and location.

Wholesale Diesel Price: For the purposes of this analysis, the current Homer cost of diesel was used, minus an assumed markup.[13] The cost of diesel was not adjusted to grow with inflation over the period of this analysis, since petroleum can be such a volatile commodity.

Gasoline Price: For the purposes of this analysis, the current average cost of gasoline was used, minus an assumed markup. Again, due to the volatility of the commodity market for gasoline, no future price adjustments were assumed.

Retail as a percent of revenue: The sales of snack items, beverages, bagged ice, and oil products are not the main source of revenue for a fuel dock. However, the markup on these types of items can be significant, up to 110%, leading to high margins on low-cost products. Retail sales represent less than 10% of fuel dock revenues. For the purposes of this analysis, five percent was selected.

City of Valdez Wages: For the purposes of this analysis, if the City of Valdez were to operate a fuel dock, this model assumes one dedicated worker working at 1,950 hours annually, based on a $52,402 annual wage, and 4 part time seasonal workers working 37.5 hours per week for 20 weeks at $20 per hour. The fully loaded value of these workers is included in the analysis, including benefits, retirement, and employees cost. These labor costs are estimated to increase at a rate of 2% annually.

[13] Source: Fisheries Economic Data http://www.psmfc.org/efin/data/getdata.html

Environmental Permitting Considerations

These estimates represent the cost of acquiring permits/authorizations during design and start-up phases (approximately one year). Permitting costs are expected to be $85,000 and staffing/startup costs are expected to be $200,000 for the first year, assuming a publicly built project.

Regulatory Compliance

The following section describes the anticipated permits and authorizations necessary to construct this proposed project and identifies issues of concern for regulatory agencies that need to be considered in assessing feasibility of moving the project forward. Anticipated risks and costs are also included for each regulatory action for planning purposes. Cost estimates are based on current regulations, similar project experience, and best professional judgement.

US Army Corps of Engineers (USACE) Section 10 Permit

Section 10 of the Rivers and Harbors Act gives the USACE jurisdiction over navigable waters of the US. The floating dock will require a Section 10 permit. The dock will not impede the navigability of the New South Harbor, but part of the permitting process includes consultation with the National Marine Fisheries Service (NMFS) and the US Fish and Wildlife Service (FWS) in accordance with Section 7 of the Endangered Species Act (ESA). The floating dock will require driving piles and pile driving activities have been shown to create underwater noise levels that can result in negative impacts to threatened and protected marine species. The consultation process with NMFS and USFWS will add cost and time to the USACE permitting process. However, given the presence of the noise-attenuating breakwaters, mitigation measures (marine mammal observers and pile-driving shut down protocols) should be sufficient to proceed with informal consultation. As such, an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act (MMPA) is not expected to be necessary.

Risk(s):

- ESA consultation could significantly extend the permitting timeframe
- NMFS and/or USFWS could require an IHA
- Marine mammal observer requirements during pile driving may be costly
- Shutdowns due to the presence of marine mammals in the harbor may cause delays (potentially significant) during construction

Estimated Cost: $20,000

Valdez Floodplain Development permit

The City of Valdez participates in the National Flood Insurance Program (NFIP) managed by the Federal Emergency Management Agency (FEMA). The New Boat Harbor project resulted in a change to the Flood Insurance Rate Map (FIRM) issued for the City of Valdez effective 2019. A Letter of Map Revision (LOMR) was submitted to FEMA in 2020 that included proposed changes to the FIRM. The proposed site of the onshore tank farm is partially within the limits of a flood

hazard area as defined in the effective FIRM (2019) but outside the proposed flood hazard area developed for the LOMR (2020). The project will need a Floodplain Development permit from the City of Valdez for the floating dock. The permit may or may not need to include the onshore tank farm depending on the status of the LOMR.

Risk(s): Additional permitting requirements may be necessary if an onshore tank farm is included

Estimated Cost: $10,000

City of Valdez Municipal Code

A review of the City's municipal code found no apparent conflicts with the City's zoning regulations. It is recommended that a meeting be held with the local planning department early in the project to confirm that there are no identified issues that need to be addressed.

Risk(s): Zoning regulations may identify additional requirements not currently known

Estimated Cost: Minimal (meeting/coordination only)

USACE Section 408 permit

Part of the New Boat Harbor is considered a USACE Civil Works project that is constructed and maintained by the Corps. The proposed project appears to extend to within 5 feet of the maneuvering/navigation channel maintained by the USACE. A Section 408 permit would not be required as long as the project does not interfere with the function of this channel. Section 408 coordination will occur within the Corps as part of the Section 10 permit process, giving the Operations Branch an opportunity to confirm the construction limits of the project relative to the Civil Works project.

Risk(s): None identified at this time

Estimated Cost: $0

Tank Farm Considerations

The following section outlines requirements for above ground fuel storage between 1,000 and 420,000 gallons and not part of a tank vessel, oil barge, pipeline, exploration, production, or oil terminal facility.

Alaska DEC Aboveground Storage Tanks

The ADEC Division of Spill Prevention and Response would classify the proposed tank farm as a Class 2 facility. This program was eliminated due to budget cuts in 2020 and does not require the registration of Class 2 facilities at this time. All tank facilities must post DEC spill reporting information on-site.

Risk(s): ADEC regulations change and additional compliance measures are required

Estimated Cost: $0

US Environmental Protection Agency

The US Environmental Protection Agency (EPA) regulates tanks with aggregate storage capacity greater than 1,320 gallons. The EPA requires the following:

- Spill Prevention Control and Countermeasure Plans (SPCC) - plans must be signed by a registered engineer and kept at the facility.
- Personnel training in spill prevention and containment, removal and disposal of spilled oil.
- Inspection and maintenance program.
- Proper selection and construction of spill prevention systems including dikes, liners, pumps, absorbent booms, etc.
- Tier II Emergency and Hazardous Materials Inventory form – must be completed by facilities with 10,000 pounds or more of gasoline or diesel.

Risk(s):

- Costly plan to prepare and implement.
- Requires establishing training, inspection, and maintenance programs.

Estimated Cost: $25,000

State Fire Marshall

The State Fire Marshall has adopted the International Fire Code (IFC) which includes design and operational standards for facilities including combustible and flammable liquids storage. Specific operational requirements include maintaining fire protection and suppression systems, providing secondary containment, and installing appropriate warning labels. Construction project plans must be submitted to the State Fire Marshall for review prior to construction.

Risk(s): Fire Marshall may require changes to plans to comply with applicable codes

Estimated Cost: $5,000 (project plan submittal only; design changes not included)

ADEC APDES Coverage

The project would require coverage under the Alaska Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System (APDES). Coverage would likely be sought under the Multi-Sector General Permit program which requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and includes annual monitoring and reporting requirements.

Risk(s):

- Implementation of SWPPP would require annual sampling, reporting, monitoring, and documentation
- Corrective actions may be costly to identify and resolve

Estimated Cost: $25,000 (initial year)/$15,000 (additional years)

Coast Guard

The U.S. Coast Guard regulates marine transportation related facilities that can receive a vessel with a capacity of 10,500 gallons or more. If the new fuel facilities will receive fuel shipments via barge, the Coast Guard oversight would apply. The Coast Guard requirements include:

- Submission of a Letter of Intent to Operate.
- Submission and approval of an Operations Manual and a Facility Response Plan.
- Facility operations must include procedures and equipment for fuel delivery from vessel (barge), including:
    - Designated qualified person in charge of the fuel transfer operation.
    - Personnel training and response drills.
    - Safety requirements.
    - Record keeping.

Risk(s): Fuel delivery source changes and a barge is proposed.

Estimated Cost: $0 (assumes no barge transfer of fuel)

Environmental Permitting Options

The applicability of the permits and authorizations described above does not change depending on the option chosen by the City. The main difference between the three options would likely be in the relative up-front costs as well as maintenance and operation costs. The regulatory requirements for operating a tank farm of this capacity include developing operating procedures and developing safety plans. Private entities that specialize in these types of facilities are likely to have these procedures developed already. Personnel training is another cost.

Private entities are likely to have training procedures in place. The long-term cost of training may be similar across the options, but the City would have a larger up-front cost to establish safety procedures and training protocols that meet industry and regulatory standards. To accommodate for this upfront cost, we have estimated that two City of Valdez staff with applicable tank farm compliance/safety experience would need to be hired (or contracted) at approximately $75,000/year per individual.

New training, safety, maintenance, and associated compliance programs including spill drills may add approximately $50,000 to secure and implement the permits for the first year. Annual reporting requirements would be the responsibility of the City or a private entity in charge of operations. There may be penalties if reporting requirements are not followed or if reporting shows that the required training and safety procedures are being followed.

The following table provides a brief overview of the regulatory requirements. The table identifies what items are required up-front prior to construction vs. on-going operations and maintenance tasks. For responsible parties for these tasks/requirements vary depending on the three options under consideration by the City.

Table 19. Overview of the Regulatory Requirements for a Valdez Fuel Dock, by Ownership-Operating Model

	Private Construction and Operation		City Construction and Private Operation		City Construction and Operation	
	Initial investment	**M&O investment**	**Initial investment**	**M&O investment**	**Initial investment**	**M&O investment**
ADEC APDES	Develop SWPPP	Annual monitoring/ reporting	Develop SWPPP	Annual monitoring/ reporting	Develop SWPPP	Annual monitoring/ reporting
EPA Reg's for Fuel Storage Tanks	SPCC Plan; Personnel training program; Inspection and Maintenance program; Other reporting requirements. Private entity likely to have much/all of this development already for other similar facilities.	Personnel training program; Inspection and Maintenance program; Other reporting requirements would continue annually	SPCC Plan; Personnel training program; Inspection and Maintenance program; Other reporting requirements. Unclear whether City would develop these for permitting purposes or partner with private entity to supply.	Personnel training program; Inspection and Maintenance program; Other reporting requirements would continue annually	SPCC Plan; Personnel training program; Inspection and Maintenance program; Other reporting requirements would need to be developed by the City	Personnel training program; Inspection and Maintenance program; Other reporting requirements would continue annually
Coast Guard Reg's for Marine Fuel Delivery	Letter of Intent, Operations Manual and Facility Response Plan developed by Private Entity	Record keeping and ongoing personnel training provided by Private Entity	Letter of Intent, Operations Manual and Facility Response Plan developed by Private Entity or City	Record keeping and ongoing personnel training provided by Private Entity	Letter of Intent, Operations Manual and Facility Response Plan developed by the City	Record keeping and ongoing personnel training provided by the City
State Fire Marshall Reg's for Design and Operation of Fuel Storage Facilities	Design requirements for fire protection and suppression systems, secondary containment, and warning labels. This cost and oversight provided by Private Entity	System maintenance and record keeping provided by Private Entity	Design requirements for fire protection and suppression systems, secondary containment, and warning labels. This cost and oversight provided by Private Entity or City	System maintenance and record keeping provided by Private Entity	Design requirements for fire protection and suppression systems, secondary containment, and warning labels. This cost and oversight provided by the City.	System maintenance and record keeping provided by the City

Acronyms: ADEC Alaska Department of Environmental Conservation; APDES Alaska Pollutant Discharge Elimination System; EPA Environmental Protection Agency; M&O Maintenance and Operation; SPCC Spill Prevention Control and Countermeasure; SWPPP Storm Water Pollution Prevention Plan.

Fuel Dock Ownership Model Case Studies

There are three potential owner-operator models that the City of Valdez is exploring for the potential development of a new fuel dock. These include city led construction and dock operations; city led construction and private operations; and private led development and operations (on public lands). These models are explored below as Case Studies based on fuel docks in other coastal Alaskan communities.

The Primary Example: Private Development and Operations in Homer

The model for nearly every fuel dock in Alaska with public ties has been to provide public lands for a facility that is privately constructed and privately operated. Homer is a good example of this model.

Total Homer harbor slips: 877

Total peak vessel usage: 1,200

Fuel dock operator: Petro Marine

Lease elements: uplands lease, over slope, fuel wharfage

Special elements: Standard lease, with the exception that year-round service is required.

Fuel wharfage fee: 2 cents per gallon (recently updated from 1 cent)

Retail: Includes small retail store.

Summer hours: 6AM to 8PM (with call out for fuel needs outside of operating hours)

Winter hours: 8AM to 5PM

Homer Harbor Master: Bryan Hawkins

Homer's experience with this operational model: "I am thankful we are not running the fuel float because it is very regulatory heavy. It is a specialty discipline. City-run fuel dock operations would require a whole additional department, most of which would be with compliance. Staffing the fuel float would be easy enough, but the compliance side is very onerous. It takes a big company to do that and keep everyone happy. We would have to train staff on EPA, DEC, and Coast Guard regulations, which would include training and responsibility for oil spill, clean up, and oil response. I also wouldn't want to be in the position of owning the fuel float for the community in terms of charging for fuel. It would be hard to have a sustainable rate for the harbor, and it would be seen as a public entity competing with private industry."

Interview with the Homer fuel dock manager: "As an operator, I would like to have infrastructure that has already been built. But if I were a city, I wouldn't want to put anything into the building or operating of a fuel dock. A city will never make money on it. Give to an operator and let them do it. However, if a private operator is going to be interested in the project, it all depends on the terms

of lease. Building a fuel dock and tank farm is a massive investment. The rate of return on that infrastructure is so far out before you ever begin to make any money. Let the operator take on that bill but provide them a long enough term to make a profit. The city will have to offer the lease for decades, at least 20 years. No private operator will come in, take on the development costs, and do a 10-year lease. An operator has to be able to figure out cost-benefits and a return-on-investment. There are so many variables, and years is the most critical piece of that. Private operators are going to be looking for an exclusive lease for the next 25 years. Also, from a regulatory perspective, a city operator will get nailed if they try to operate a fuel dock, as there are just so many regulatory issues to consider. For an entity that is not familiar with doing it, I don't think you would ever see a profit. I would think a city would do anything they could to release themselves of any liability and stay out of legal trouble."

Additional Notes: Homer passed a local policy disallowing fuel trucks on fish dock, "We had to disallow that, as it just provided too much competition with the fuel dock."

The Rare Example: Public Infrastructure and Operations in Haines

It is unusual for a city in Alaska to own and operate their own fuel dock facility. Haines is currently one of these examples, but it will not be for long.

Total Haines harbor slips: 130

Fuel dock operator: City and Borough of Haines

Lease elements: None

Fuel wharfage fee: None. But the fuel price is set at 15% over wholesale rates.

Retail: None

Year-round operating hours: Same as municipal operating hours, 8AM to 5PM (The call out fee for fuel needs outside of operating hours is $80) (9AM to 2PM on Saturdays)

Haines Harbor Master: Shawn Bell

Haines experience with this operational model: "The Haines harbor staff does many things, but not in the most efficient or best manner, because we are not equipped with training for handling the fuel facility, and we don't have the support from a larger organization. A fueling company has a depth of employee knowledge and resources that can be relied on to keep a facility operating, and to keep it operating most efficiently. In Haines, municipal employees are pulled in too many different directions, and don't have time to dedicate to the success of the fuel dock. Haines is not making any money on the fuel dock. At best we are breaking even, but only in operations. Infrastructure replacement comes on top of that. creating significant costs that can't make that up. We are doing a fuel tank replacement right now, and that will put us in the hole. We consider operation of the fuel dock as a public service to community. Fuel sales occur here and there throughout the day. In past the fuel dock was a job that everyone working at harbor was trained at and able to do. However, this was not the best use of time and expertise, and last year we had an employee dedicated to that role. Delta Western used to operate the fuel dock, but their lease was not renewed for some reason years ago. We are currently in negotiations with Delta Western to resume fuel dock operations."

The Elusive Example: Public Infrastructure and Private Operations in Kake

Currently there are no good examples of Alaska fuel docks in which the associated infrastructure was developed by a public entity, remains owned by the public entity, and is operated by the fuel provider.

Haines: Once Delta Western takes over the Haines fuel dock operations, it will transition into this model. However, because the infrastructure will still be publicly owned, many liability factors will remain with the City and Borough of Haines.

Kake: Kake is an interesting example, because the infrastructure was developed and is being maintained by the City of Kake. Kake Tribal, a private entity, operates the fuel dock, and purchases fuel from Petro Marine. The motivation for the City of Kake to use this model is two-fold: this has historically been the model, and the City of Kake has access to funding sources that Kake Tribal does not. The City is currently having to rebuild the fuel dock after a storm destroyed it. The City is applying for a Economic Development Administration funding source, allowing the project to move forward. The tank farm was funded through the Alaska Energy Authority.

- **Total Kake harbor slips:** 60
- **Fuel dock, tank farm, landowner:** City of Kake
- **Fuel dock operator:** Kake Tribal, fuel provider is Petro Marine.
- **Lease elements:** 35 cents per gallon (paid by Kake Tribal) no tidelands/uplands lease.
- **Fuel wharfage fee:** 5 cents (paid by Petro Marine)
- **Retail:** engine oil

Valdez: The mostly commonly cited historic example of this ownership model is the City of Valdez itself, which had built a fuel dock, and contracted out with a private entity to run. However, this was 30 years ago, and the reasons for transitioning away from this model are not entirely clear.

Down South: Many lower-48 entities operate under this model conceptually but are quite different as the ports in these examples are separate stand-alone public entities with their own taxing authority. Moreover, the markets in which they operate are very different, as they provide services in very high traffic areas, serving multiple private and public harbors. These models are not reflective of the Valdez harbor.

Additional Survey Findings

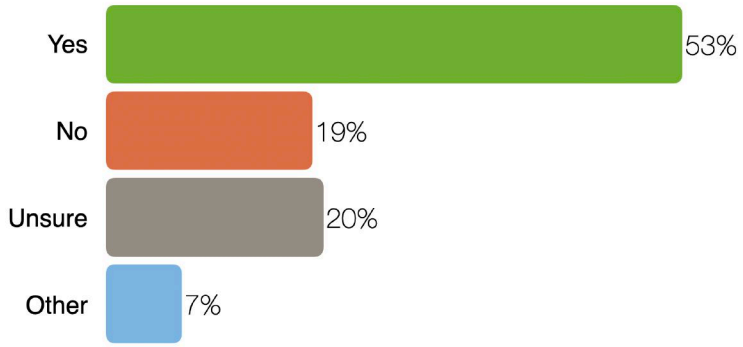
In order to obtain critical information regarding demand, the team developed a public survey open to those who use the Valdez harbors. The purpose of the survey was to understand demand for fuel and a new fuel dock by vessel, vessel type, and vessel location. The survey included 16 questions. On average, respondents spent 6 minutes on the survey.

A total of 525 vessel owners and operators who use the Valdez harbors responded to the survey. The high response rate means that the survey findings have a 99% confidence level with a 5% confidence interval. The survey was emailed directly to 1,500 harbor users, including non-Valdez residents. The survey was open between January 12th through January 18th, 2021.

Most survey results were integrated into the analysis in the previous sections of this report. Additional survey results are presented on the following pages.

Survey Question: For vessels located within the North Basin, would you use the fuel dock in the New South Harbor if the access/hours were better?

Those with slips in the small boat harbor were asked if they would be likely to use the new fuel dock if the operating hours were longer, and the wait times were shorter. More than half of small harbor tenents said they would likely use the new fuel dock at some point. Those selecting "other" wrote that price was the primary consideration driving fuel dock choice, over fueling hours and wait times.



Survey Question: Please describe your thoughts on the need for a new fuel dock in the newly built harbor (South Basin) in Valdez.

Respondents were asked to explain, in their own words, the need for a fuel dock. They said it would relieve congestion, open up dock space, and reduce waiting times. The full responses can be found at the end of this document. A word cloud image of the responses is shown below, along with a selection of responses.

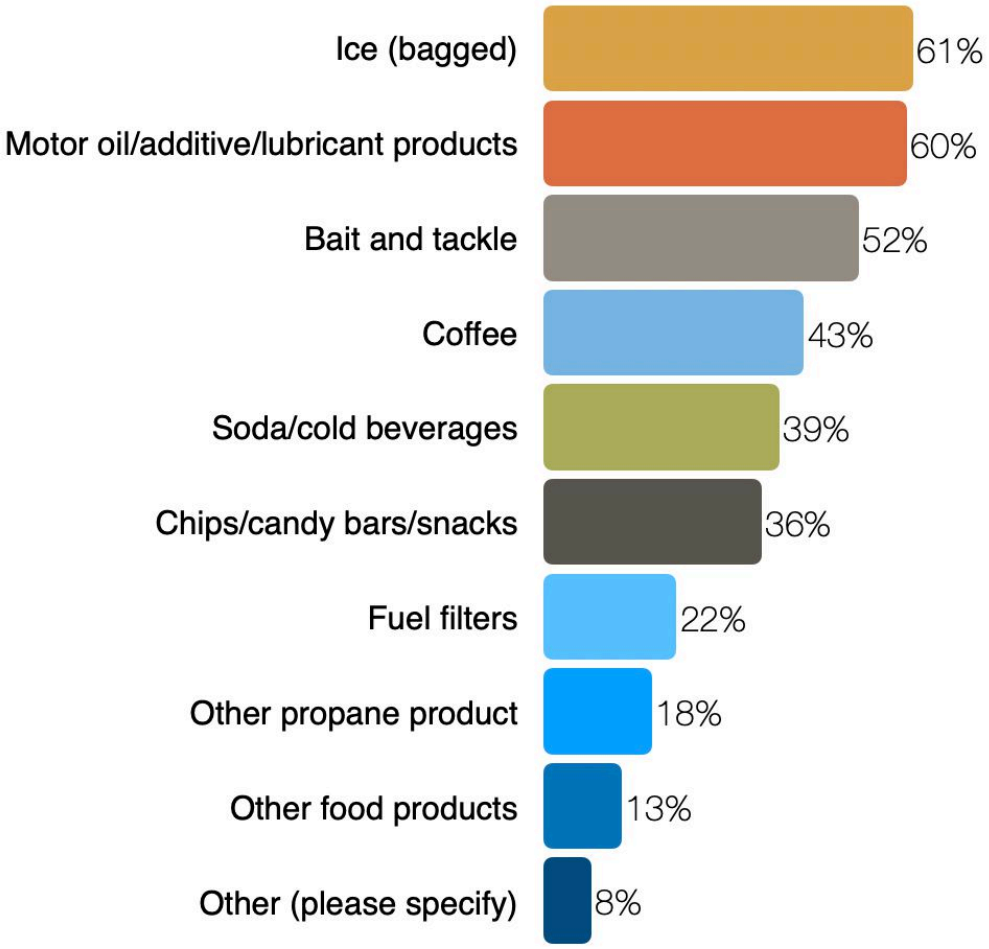
- It would eliminate the congestion in the old harbor. The commercial fleet located in the new harbor would benefit greatly. Less time wasted in line.
- A new fuel dock would serve the large fishing boats and allow the small boats better access to the small boat harbor fuel dock. Now a large boat takes up the whole fuel dock for a long period of time with no fuel available for a small boat.
- A fuel dock in the south harbor would relieve some of the congestion created in the north harbor from the line up at 5:30 am of charter boats waiting for the 6 am opening. Likewise, it would get more of the tenders to the other harbor for fuel, assuming the pumps are faster. Having a tender parked at the one fuel dock that is open for 2-4 hours taking on fuel creates backlogs, lineups, congestion, and short tempers. It leads to boat trying to wedge themselves into the backside of the fuel docks just to top off before the fuel dock closes for the evening, so they don't have to do the same thing in the morning with the charter boats. Install a fuel dock in the south harbor with gas and diesel on each pump. A high flow diesel line as well and lots of larger cleats along all faces of the dock for the ability for the most efficient use of dock space for multiple boats.
- A very important aspect to a new fuel Dock is a place for disposing of waste oil the way it is right now is very time consuming and can be a huge mess many times the waste oil at the harbor has been full which has people just leaving full buckets as it is now you have to load into buckets load into a truck and drive to boat basin. Sometimes we don’t have a truck to use and end up with many buckets on boat creating spill and safety hazard.
- Given the congestion in the old harbor, and what can be extensive fueling times for large commercial vessels creating long waits, having a fuel dock in the south harbor would be appreciated. There is also the inconvenience of having to waste time transiting between the two harbors to fuel. That said, I don't think this is a service the city should provide. Leave it to private enterprise.
- I feel like it is very important to have a fuel dock in the south basin. The congestion and wait and potential accidents that occur in the old boat Harbor is getting to the point of ridiculous. It’s bad image for the city of Valdez to have built a harbor capable of taking large vessels that have large fuel tanks and expanding all the commercial vessel’s that have extremely long large fuel systems to not have separate fuel tanks I could go on and on but I wore at this time I strongly recommend we get fuel services in the Valdez Harbor
- In the busy season it would be more convenient and safer to have another fuel source. In the busy season congestion is an issue.

Retail Demand

The City of Valdez wanted to better understand the demand for retail in conjunction with a fuel dock. This was also posed as a survey question.

Survey Question: In addition to fuel, what other retail would you regularly purchase from a new fueling station, if available?

Items vessel operators would most like to purchase at a fuel dock, in addition to fuel include bagged ice, oil lubricant and additive products, bait and tackle, and coffee. The most common response under "other please specify" included nothing, followed by oil absorbent pads.



Based on interviews, it is not uncommon to markup fuel dock products by 110%. The general advice on fuel docks, if there is extra space, is to sell retail products. However, at least 90% of revenue will come from fuel, so focus the business model on fuel sales.

Operating Hours Preference

The City of Valdez also wanted to know what operating hours for a fuel dock would be most advantageous to fuel dock users. This question was also included in the survey.

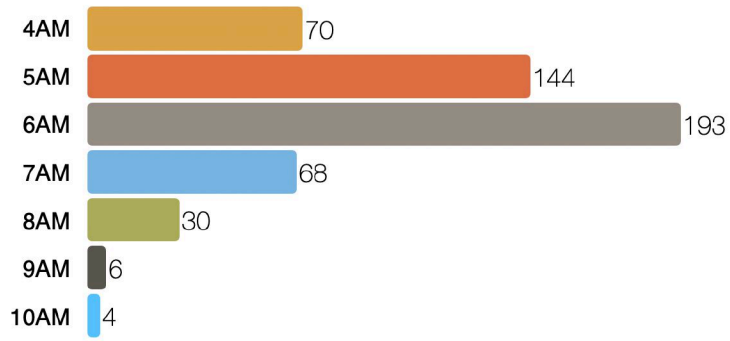
Survey Question: What time would you most like to see a new Valdez fuel dock in the new boat harbor open in the morning and close in the evenings during the summer?

Table 10. Hours of Operations Preferences

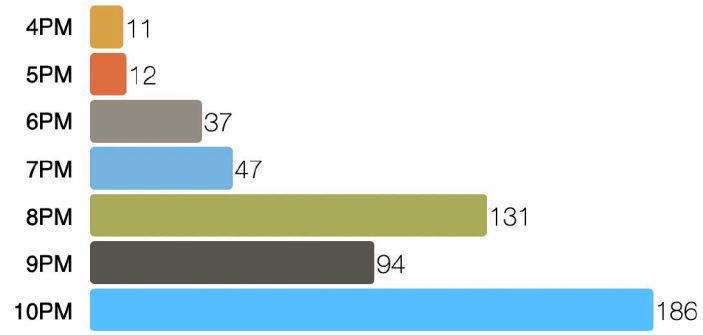
Vessel Operator Category	Morning Opening	Evening Closure
New South Harbor Tenants	6AM	8:30PM
Commercial Fishing Vessels	6AM	9PM
Charter Vessels	5:30AM	9PM
Small Boat Harbor Tenants	5:45AM	8:45PM
All vessels	**5:45AM**	**8:30PM**

Overall, Valdez vessel owners and operator would like to see the fuel dock open at 5:45 AM, and close at 8:30 PM, on average. Tenants of the New South Harbor would most prefer an opening time of 6AM. However, there is a significant range of preferences.

Survey Question: What time would you most like to see a new fuel dock in the new boat harbor open in the morning?



Survey Question: What time would you most like to see a new fuel dock in the new boat harbor close in the evening?



Facilities Capital Cost Estimates

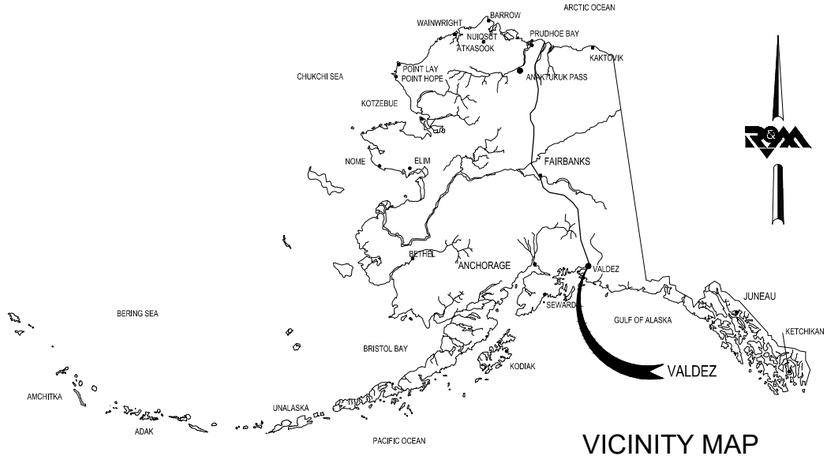
City of Valdez Fuel Float Project

Base Bid Items:				Engineer's Estimate	
	Description	Quantity	Unit	Unit Price	Extended Price
Task 1	**General**				
1.1	Mobilization/Demobilization	1	LS	$ 250,000	$ 250,000
1.2	Construction Survey / Polution Control	1	LS	$ 40,000	$ 40,000
	Sub Total				***$ 290,000***
Task 2	**Floating Dock**				
2.1	Protected Species Observer	1	LS	$ 5,000	$ 5,000
2.2	F&I 20x 90 Fuel Float	1	LS	$ 560,000	$ 560,000
2.3	24" Dia x 80' long Galv Steel Piles Furnished	4	EA	$ 16,000	$ 64,000
2.4	24" Dia Galv Steel Piles Driven	4	EA	$ 7,500	$ 30,000
2.4	Extend Potable Water System	1	LS	$ 10,000	$ 10,000
2.6	Extend Dry Standpipe Fire Suppression System	1	LS	$ 10,000	$ 10,000
2.7	Lighting and Electrical	1	LS	$ 50,000	$ 50,000
2.8	F&I Fire Extinguisher and Cabinet	2	EA	$ 1,500	$ 3,000
2.9	F&I Life Ring and Cabinet	2	EA	$ 1,500	$ 3,000
2.1	F&I Safety Ladders	1	EA	$ 1,500	$ 1,500
2.11	F&I Anodes	8	EA	$ 1,200	$ 9,600
	Sub Total				***$ 746,100***
Task 3	**Civil Uplands**				
3.1	Excavation and Trenching	100	CY	$ 37	$ 3,650
3.2	Tank Farm Rockshield and Liner	10000	SF	$ 4	$ 37,500
3.3	Containment and Berm Backfill	100	CY	$ 60	$ 6,000
3.4	Reinforced concrete strip footing for tank foundations	24	CY	$ 350	$ 8,400
3.5	Tank Farm Perimeter fencing, 6ft, 3 barb wire, excavation & posts	480	LF	$ 54	$ 25,680
3.6	8x20 Connex - Tank farm storage for spill response equipment, electrical room, etc.	1	LS	$ 6,500	$ 6,500
3.7	12'x12' Dock Kiosk Shelter (foundation, shell, lighting, HVAC, etc).	144	SF	$ 400	$ 57,600
	Sub Total				***$ 145,330***
Task 4	**Mechanical / Tank Farm / Dispensing**				
4.1	28k gal Horizontal - UL 142, Double Wall - ULSD, w/ submersible pump and controls for product transfer to ULSD dispensing tank.	1	LS	$ 112,000	$ 112,000
4.2	12k gal Horizontal - UL2085 Dispensing Tank - ULSD, w/ submersible pump and controls for dispensing.	1	LS	$ 96,750	$ 96,750
4.3	5k gal Horizontal - UL2085 Dispensing Tank - Gasoline, w/ submersible pump and controls for dispensing.	1	LS	$ 60,500	$ 60,500
4.4	3" ULSD Service Piping from Tanks to Dock Dispensers.	700	LF	$ 60	$ 42,000
4.5	1-1/2" Gasoline Service Piping from Tanks to Dock Dispensers	700	LF	$ 45	$ 31,500
4.6	Gasoline Fueling Cabinet, SS Enclosure, 10gpm (low flow), with permissive, meter, card reader, filtration, electric hose reel, hose, nozzle, bonding cable, etc.	1	EA	$ 44,100	$ 44,100
4.7	ULSD Fueling Cabinet, SS Enclosure, 30gpm (low flow), with permissive, meter, card reader, filtration, electric hose reel, hose, nozzle, bonding cable, etc.	1	EA	$ 47,250	$ 47,250
4.8	ULSD Fueling Cabinet, Dual SS Enclosure, 80gpm and 120gpm (high flow), with permissive, meter, card reader, filtration, dual electric hose reel, dual hose, high flow nozzles, bonding cable, etc.	1	EA	$ 62,950	$ 62,950
	Sub Total				***$ 497,050***
Task 5	**Electrical**				
5.1	Power Supply to Tank Farm Pumps, MOV's, Lighting, incl. grounding system	1	LS	$ 15,000	$ 15,000
5.2	Medium Voltage Cable, Pull and Provision (CVEA)	650	LF	$ 35	$ 22,750
5.3	Main Conversion Transformer - (CVEA)	1	LS	$ 28,125	$ 28,125
5.6	Utility Aboveground Cabinets	1	EA	$ 6,240	$ 6,240
5.7	ESD and FDS to Tank Farm	1	LS	$ 30,250	$ 30,250
5.8	Terminal Management System (Veeder Root)	1	LS	$ 95,000	$ 95,000
5.9	Tank instruments and conduit routing from dock to tank farm	1	LS	$ 58,205	$ 58,205
5.10	New indication panel and computer equipment in control room	1	LS	$ 15,000	$ 15,000
5.11	Integration of signals, PLC programming and start-up	1	LS	$ 7,500	$ 7,500
	Sub Total				***$ 278,070***
Task 6	**Environmental Cosntruction Permitting**				
6.1	USACE Section 10 Permit/ESA Consultation	1	LS	$ 20,000	$ 20,000
6.2	Valdez Floodplain Development Permit	1	LS	$ 10,000	$ 10,000
6.3	EPA SPCC	1	LS	$ 25,000	$ 25,000
6.4	State Fire Marshall	1	LS	$ 5,000	$ 5,000
6.5	ADEC MSGP Coverage	1	LS	$ 25,000	$ 25,000
	Sub Total				***$ 85,000***
Task 7	**Operational Permitting Compliance (City-Managed Option Only)**				
	Additional Staff (2 compliance/safety specialists)	2	EA	$ 75,000	$ 150,000
	Training, Drills, Program Development, etc.	1	LS	$ 50,000	$ 50,000
	Sub Total				***$ 200,000***
	Subtotal Base Bid Items:				*$ 1,956,550*
	Contingency 25%				*$ 489,138*
	Construction Total				**$ 2,445,688**
	Environmental Construction Permitting				*$ 85,000*
	Operational Permitting Compliance				*$ 200,000*
	Engineering @7.5%				$183,427
	Construction Support @7.5%				$183,427
	Project Total				**$3,097,540.63**

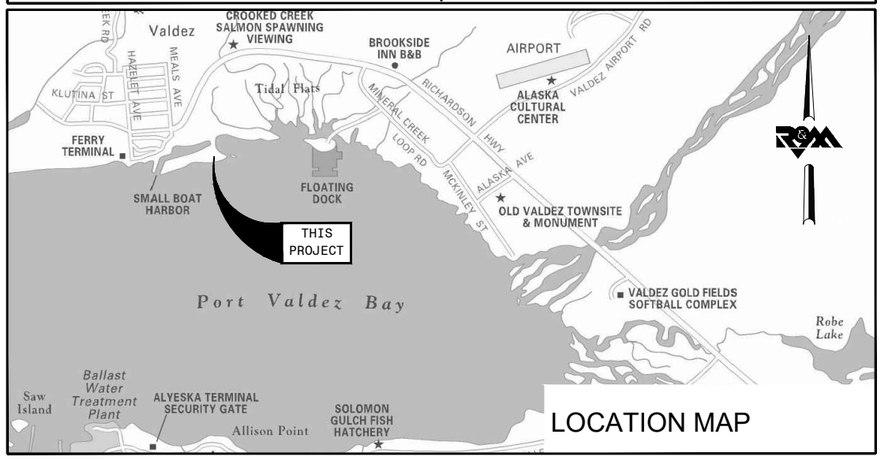
RAIN COAST DATA

FUEL FLOAT FEASIBILITY STUDY

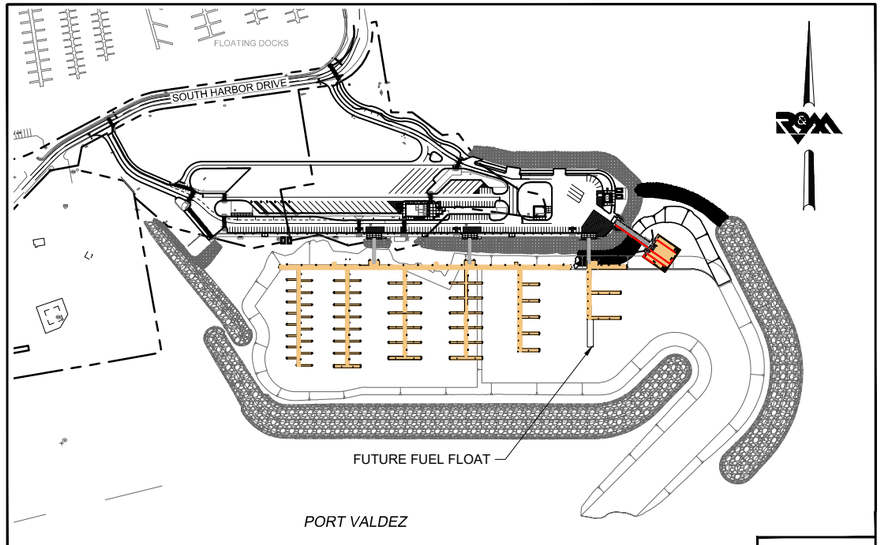
VALDEZ, ALASKA



VICINITY MAP



LOCATION MAP



SITE MAP

SHEET 1 OF 6

1

Meilani Schijvens
Director, Rain Coast Data

Designed By:

R&M CONSULTANTS, INC.
9101 Vanguard Drive
Anchorage, Alaska 99507
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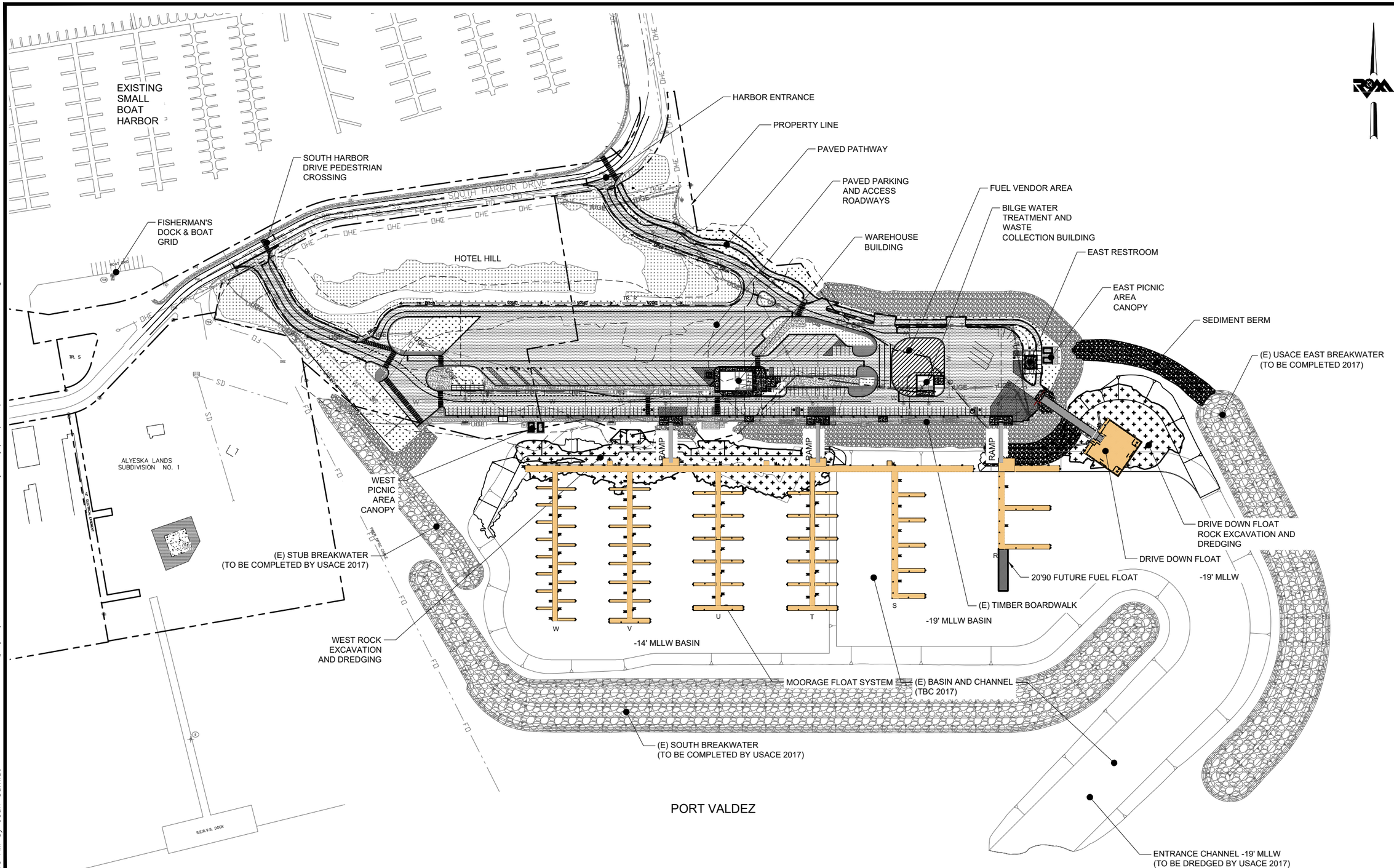
phone: 907.522.1707 • fax: 907.522.3403
CORPORATE AUTHORIZATION NUMBER AECC111



1 OVERALL SITE PLAN

Scale: 1"=100'

0 100 200 FEET

INCLUDES BOTH "UPLANDS FACILITIES" AND "INNER HARBOR FACILITIES" PLANS.

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CORPORATE AUTHORIZATION NUMBER AECC111

Rain Coast Data

VALDEZ FUEL FLOAT
FEASIBILITY STUDY

No.	Description	Date

Drawn By: JC | Checked By: JD

Date: JANUARY 25, 2021

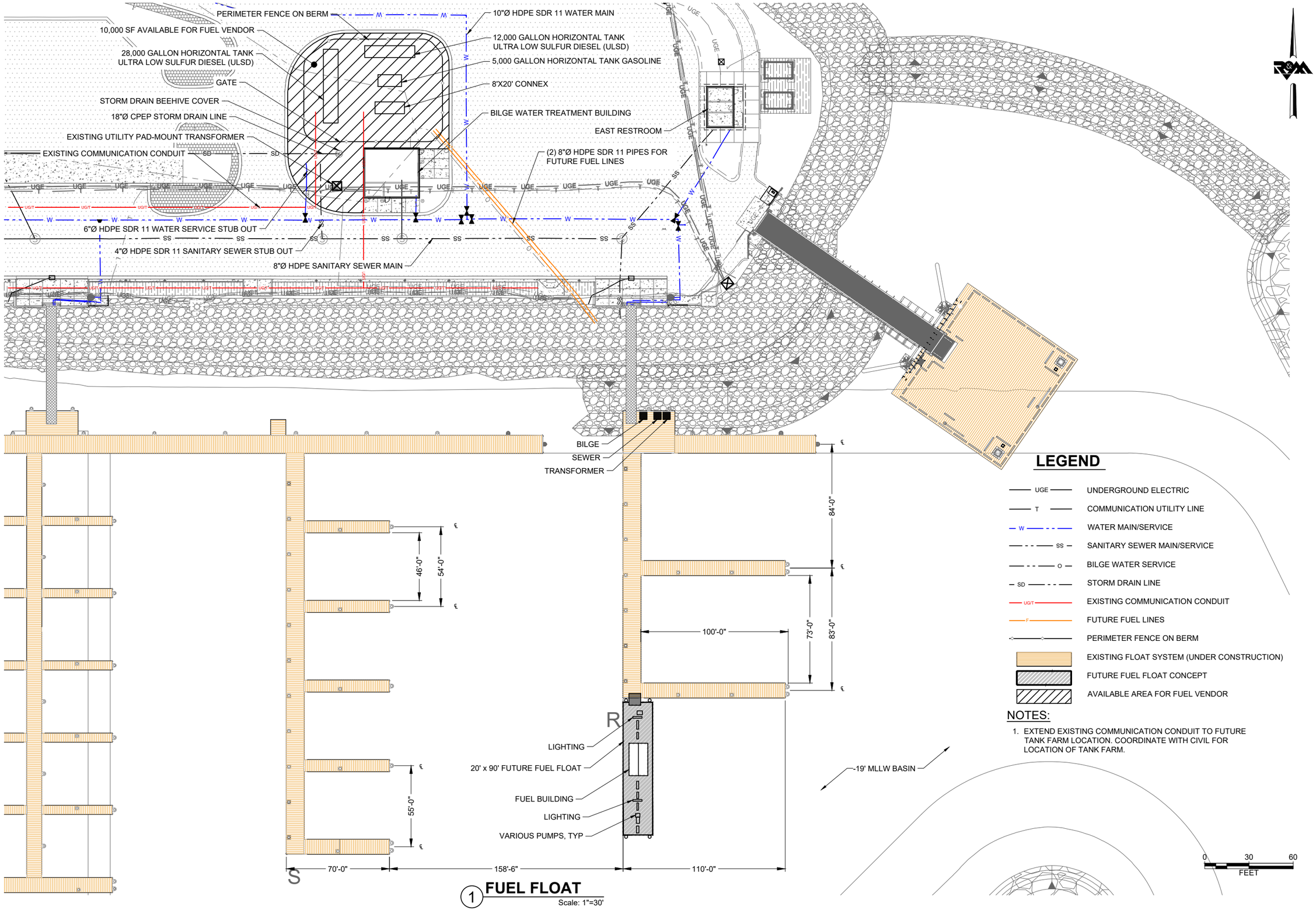
Phase: FEASIBILITY STUDY

Project No: 2879.01

SHEET TITLE: OVERALL SITE PLAN

SHEET NO: 2 OF 6

2



1 **FUEL FLOAT**
Scale: 1"=30'

NOTES:

1. EXTEND EXISTING COMMUNICATION CONDUIT TO FUTURE TANK FARM LOCATION. COORDINATE WITH CIVIL FOR LOCATION OF TANK FARM.

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Rain Coast Data

VALDEZ FUEL FLOAT
FEASIBILITY STUDY

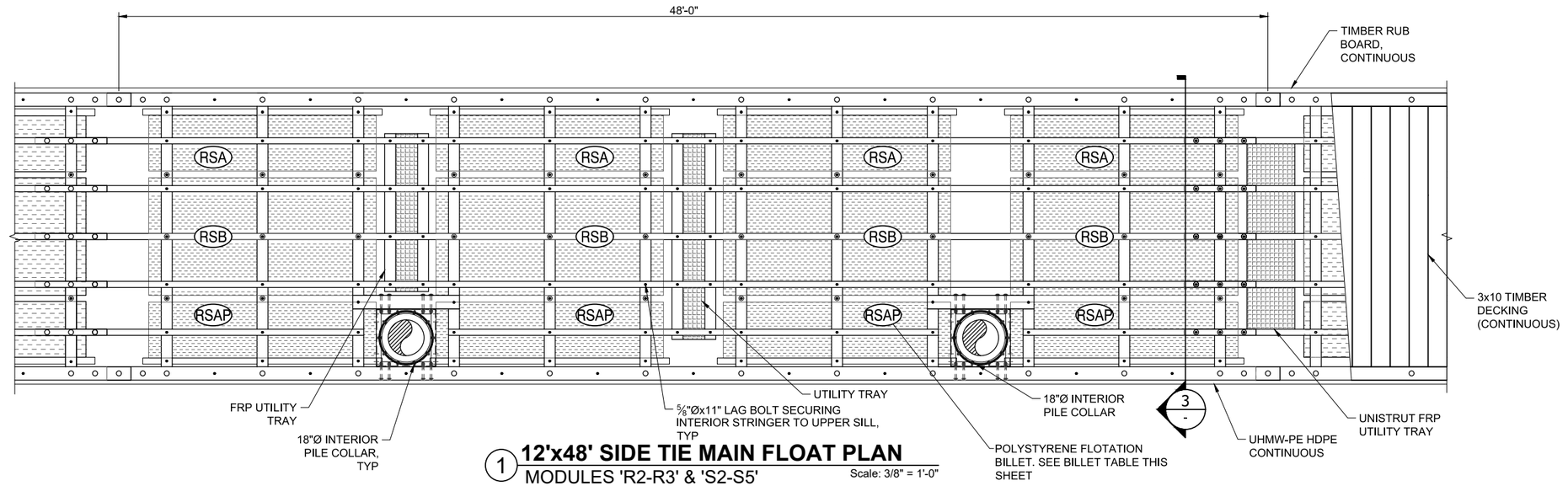
No.	Description	Date

Drawn By: JC
Checked By: JD
Date: JANUARY 25, 2021
Phase: FEASIBILITY STUDY
Project No: 2879.01
SHEET TITLE: VALDEZ FUEL FLOAT

SHEET NO: 3 OF 6

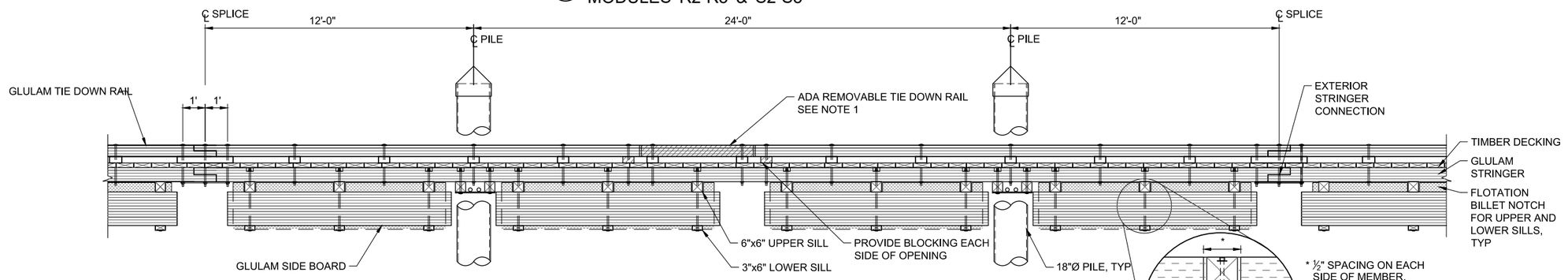
3

Plotted 1/24/2021 11:17 AM by Jean Cumlat Z:\project\2879.01 RCD Valdez Fuel Float Feasibility Study\Civil\ACAD\2879.01 – Fuel Dock.dwg



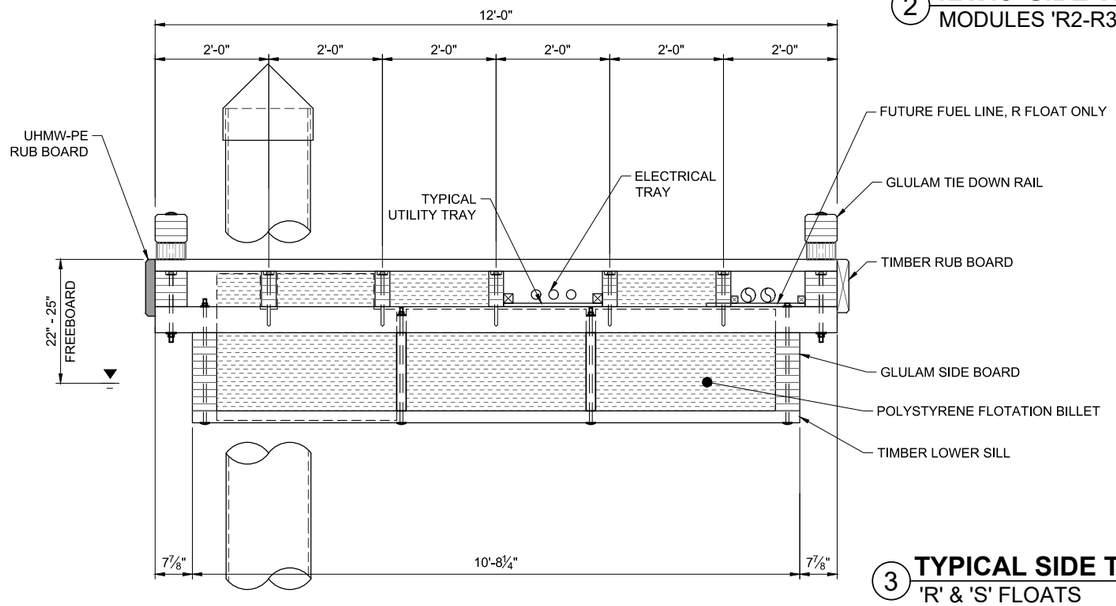
1 12'x48' SIDE TIE MAIN FLOAT PLAN
MODULES 'R2-R3' & 'S2-S5'

Scale: 3/8" = 1'-0"



2 12'x48' SIDE TIE MAIN FLOAT ELEVATION
MODULES 'R2-R3' & 'S2-S5'

Scale: 3/8" = 1'-0"



3 TYPICAL SIDE TIE MAIN FLOAT SECTION
'R' & 'S' FLOATS

Scale: 3/4" = 1'-0"

NOTES:
1. FLOAT MODULES 'R2' AND 'R3' SHALL HAVE 5' MIN CLEAR REMOVABLE TIE DOWN RAIL FOR ADA ACCESS ON WEST SIDE OF FLOAT ONLY.

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Rain Coast Data

VALDEZ FUEL FLOAT
FEASIBILITY STUDY

No.	Description	Date

Drawn By: JC | Checked By: JD

Date: JANUARY 25, 2021

Phase: FEASIBILITY STUDY

Project No: 2879.01

SHEET TITLE: FLOAT DETAILS

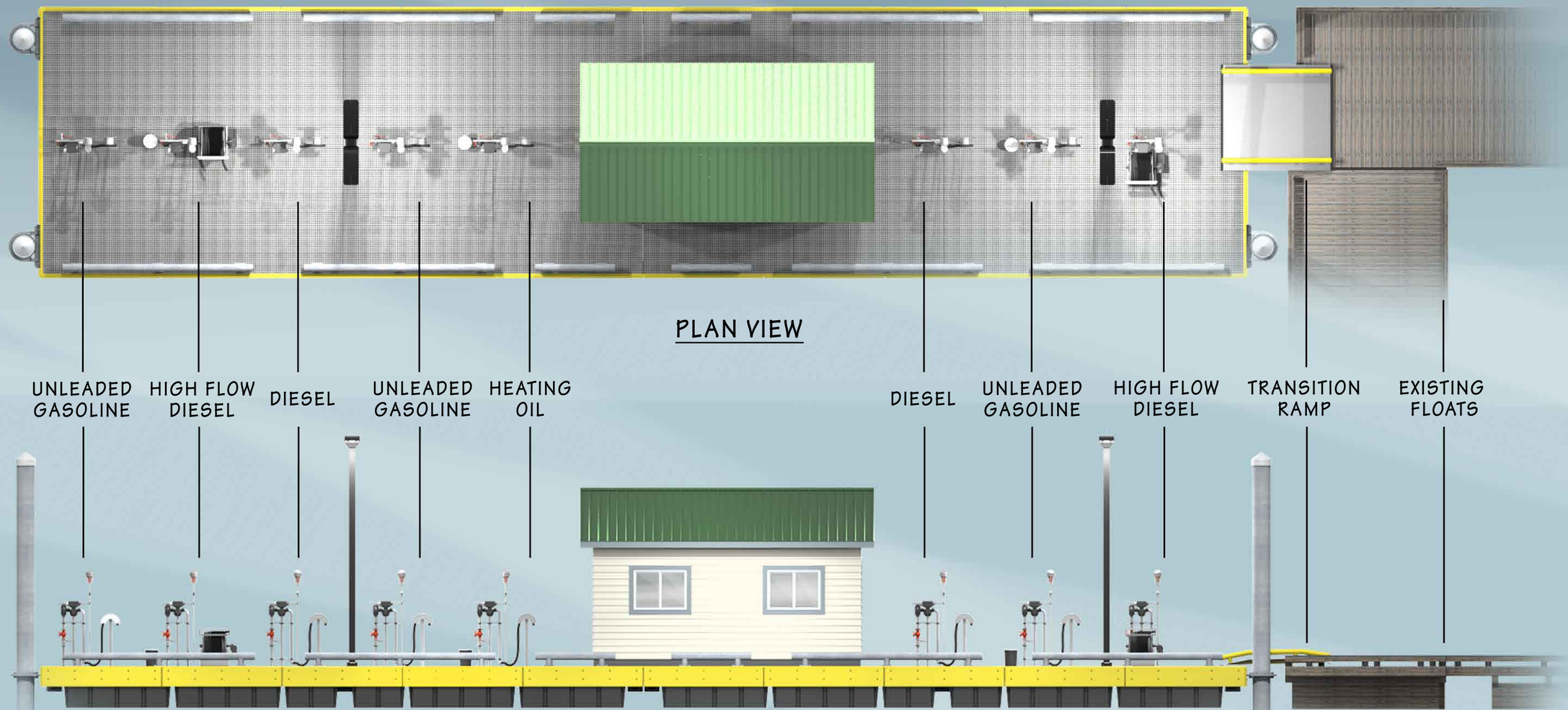
SHEET NO: 4 OF 6

4

CITY OF VALDEZ, ALASKA · GATEWAY TO THE INTERIOR ·

PETRO STAR INC. EXCELLENCE IN ENERGY

TRANSPAC MARINAS



PLAN VIEW

FRONT ELEVATION

CITY OF VALDEZ, ALASKA · GATEWAY TO THE INTERIOR ·

PETRO STAR INC. EXCELLENCE IN ENERGY

TRANSPAC MARINAS

Survey Open-Ended Responses to Need for Fuel Dock

Please describe your thoughts on the need for a new fuel dock in the newly built harbor (South Basin) in Valdez

- A new dock would certainly relieve the congestion at the current dock. It gets dangerous there.
- A new fuel dock would serve the large fishing boats and allow the small boats better access to the small boat harbor fuel dock. Now a large boat takes up the whole fuel dock for a long period of time with no fuel available for a small boat.
- A fuel dock in the south basin would take the pressure off of the north basin fuel dock. Although, it is unclear as to why Crowley only operates one station in the summer when there are two available.
- A fuel dock in the south harbor would relieve some of the congestion created in the north harbor from the line up at 5:30 am of charter boats waiting for the 6 am opening. Likewise, it would get more of the tenders to the other harbor for fuel, assuming the pumps are faster. Having a tender parked at the one fuel dock that is open for 2-4 hours taking on fuel creates backlogs, lineups, congestion, and short tempers. It leads to boat trying to wedge themselves into the backside of the fuel docks just to top off before the fuel dock closes for the evening, so they don't have to do the same thing in the morning with the charter boats. Install a fuel dock in the south harbor with gas and diesel on each pump. A high flow diesel line as well and lots of larger cleats along all faces of the dock for the ability for the most efficient use of dock space for multiple boats.
- A fuel dock would be nice, but I think spending more time on finding employees to operate the current 2 fueling stations would be a bigger priority. You have a nice fuel dock that was only opened 2 times this summer. And the hours at the current fuel dock need to be changed. An additional 2 hours on each end would make the world of difference. Plus, better filters so we don't get so much water in the fuel. Till then, keep the money for something else, utilize what you already have
- A lot of guys are going to say that we NEED a fuel dock at the new harbor. This isn't the case though. It would be cool of course. But when it comes down to it, ALL of the commercial guys who buy large quantities of fuel, we either get from the processor on the grounds or when we go large quantities, we get the fuel truck. Having the fuel dock in the old harbor open at least one side with better hours would fulfill the realistic need. An entirely new fuel dock and the money that takes could be better spent in other places.
- A new dock would make fueling better if it was a place larger vessel had a place to fuel without tying up the fuel docks in the north harbor. This would help the smaller private boats get fuel. I get most of my fuel from tenders on the grounds so the ability the make fueling them more efficient would help.
- a new fuel dock is needed to take the pressure and long waits in old harbor during peak months. also need to have some other company operate it so that Crowley monopoly is over. their customer service this last couple years sucked 2 fuel docks and only 1 open most times.
- A new fuel dock on the south basin would help relieve pressure waiting to refuel especially during peak hours. In a busy fishing season large vessel refueling take a long time.
- A new fuel dock with a few amenities would be convenient for all boaters
- A new fuel dock would be beneficial for the larger vessels, but what I've noticed over the years is when the commercial fishing vessels come in they raft up to each other or crowd the fuel dock when offloading their catch. Is there any thoughts regarding moving their operations to the new dock area. Many times there wasn't much room to navigate through the rafted commercial vessels. Thanks. John
- A new fuel dock would cut down on wait time for the smaller boats and give those with the bigger boats who dock at the new docking station more room.
- A new fuel dock would relieve the congestion from commercial boats in north basin
- A new fuel station would be nice

- 2020 fuel docks were very crowed compared to previous years. Seemed to have lots of problems. Times suck. Sometimes folks got hot tempers.
- A boat launch at the new harbor is more needed than a fuel pump. A parking lot with excessive trailer parking with no launch doesn't make sense.
- A company other than Crowley that would sell fuel after hours consistently with a call out
- A very Important aspect to a new fuel Dock is a place for disposing of waste oil the way it is right now is very time consuming and can be a huge mess many times the waste oil at the harbor has been full which has people just leaving full buckets as it is now you have to load into buckets load into a truck and drive to boat basin. Sometimes we don't have a truck to use and end up with many buckets on boat creating spill and safety hazard. A new fuel dock there would be very useful getting fuel by truck at the city dock can be very time consuming and having to be dockside you are dependent on other boats moving the shuffle can be very hard especially when wind is blowing. Getting fuel in the main Harbor is next to impossible sometimes when lots of charter and sports boats. Lined up makes for an unsafe congestion of boats waiting in the navigation channel. And waiting for the North Pacific Dock to open up from barge deliveries takes days sometimes a barge unloads and there are many boats waiting for fuel that sometimes takes 3 -4 hrs for one boat if they are getting a big amount of fuel. Another fuel dock in Valdez would help very much the way it is now can be very inconvenient especially when more than a few boats need fuel. The Salmon Tenders need to be able to get fuel regularly and when there are Fisheries Openers we need to be able to get fuel after an offload and proceed to fishing's grounds ASAP. Thank You John Bratland F/V Pacific Harvester Silver Bay Seafoods
- access to the fuel dock is a real goat rope with all the big commercial fishing boats plugging up the harbor during fishing season What we really need is better access to pump out facilities and more pump outs.
- Access to the fuel dock is very limited when the fishing fleet in operating sometimes when the tenders are fueling the wait for fuel can be very long
- Accessibility during morning rush.
- Additional fuel dock Desperately needed. We have Increased number of vessels needing fuel Services. Having additional fuel dock in South harbor will reduce congestion in North harbor where navigation is already congested. We would buy snacks, coffee, oil etc. at both locations even if we don't need fuel.
- Additional pumps with extended hours would reduce congestion at the existing pumps. Would be great to extend hours so boats coming in could fill up before heading into slips so we could roll without getting gas in the AM
- All good if it happens.
- Another company to get competition
- Another fuel dock in the new harbor is greatly needed. It is always a wait to get fuel in the old harbor and rarely are both fuel docks open
- Another place to get away from the charters so everyone can have a good experience
- As a company that operates in the North Basin and see frequent times when large tenders or pleasure boats are waiting their turn, I think a dock in the South Basin would absorb the load, especially if a boat launch is constructed at the South Basin.
- As a family recreation boater who operates exclusively out of the old harbor, I see the need for a new fuel dock as a way to eliminate congestion from the larger vessels. However, the secondary Crowley dock wasn't open at all in 2020 and is hit-or-miss on normal years it seems. Overall, my recommendation would be Option 1: keep the two in the North harbor and a new fuel station to South Option 2: close one of the two in North and add a new station to South
- As an occupier of the North Dock, I am not much affected by changes in the South Dock, and my opinions should count for little.
- as described above there are many times when I cannot get fuel because either there are large commercial vessels taking on fuel or there is only one fuel dock open and there are too many other boats waiting in line. there is not enough room in that part of the old harbor to float around and wait especially when its windy. there have been many times when we have had to try again the next day or week to get fuel.

- At minimum, if Valdez doesn't move forward with a fuel dock in the new harbor, both fuel docks in the old harbor should be open. A fuel option in the new harbor, however, is a great idea!
- Be beneficial in summer months, at times north harbor is busy, I just a visitor, and last summer was slow, but very enjoyable harbor for me. Thanks
- Because I'm in the North basin I would never use it.
- Being a bigger boat, we have to get in and tie up most of the dock. I just bought the boat at the last month of summer last year. It would reduce the traffic into the harbor and be better access to fuel for us. Commercial and Recreational vessels.
- Better access Old harbor hard to access with all the tenders and fish boats
- Big commercial boats are the problem, causing delay for the recreational users
- Boat traffic gets pretty heavy with people coming from the new harbor to fuel. Afraid sooner or later it can be a collision problem.
- Build it
- Commercial vessels take the longest to refuel, so it would be great to have them fuel elsewhere
- Congestion around the fuel dock with tenders in the old harbor causes difficulty during the summer months
- Consider risk reduction of less vessel traffic in old harbor, congested area in main channel.
- Convenience when departing
- convenience, as time goes on it get busier
- Creates congestion in the old harbor for us in the south harbor to obtain fuel while cannery operations are going on and small boats in & out of the old harbor. Significant travel time & wait time to obtain fuel in the old harbor
- Crowley hours suck- longer hours or both fuel docks open would help. harbor fuel monopoly, no reason for them to get better or improve customer service. A new fuel source would/could improve overall Valdez experience for boaters.
- Crowley is a monopoly
- Current docks seem to be adequate except holiday periods. Thank for good service.
- Current fueling situation is congested and problematic. It's an accident waiting to happen.
- Decreasing traffic in the north harbor by adding a south harbor fueling station would be desirable (for safety reasons among others) during summer months.
- Definitely need another fuel dock gets too busy in the summer and too much traffic around the existing fuel dock. Be nice if commercial boats had their own area and charter / private boats had their own.
- Definitely a need to provide facility for larger vessels. Big prob this last summer with only one fuel dock open. I fuel up 100-120 times over the summer and wait time a problem for commercial operation At least require both docks to be open.
- Demand in Valdez won't change with a new fuel dock
- demand is high. Wait times are terrible at peak hours and unbearable when a commercial boat is taking on fuel.
- Doesn't apply to me on a side note. It's interesting you remember me for a survey, but I have to fill out all your forms every fucking year.
- Don't have an opinion
- Don't need it at all. Waste of money and resources.
- Don't care one way or the other everything's working fine now though
- Don't know
- Due to the commercial boats, we need another fueling station in the South Harbor. In the "heat" of the fishing season larger commercial boats and sport fishing boats are "jammed" up waiting to fuel up. Many boats might choose to be in the South Harbor is fuel was available.
- Ease congestion in N Harbor.
- Easier access for boats
- Easier to fuel up. No going to another harbor, which is crowded and hard to turn around in.
- Easier to get to and less congested.
- Especially during seiner season, it would cut down on congestion in the north Harbor and make it safer.

- Excellent idea!
- Fewer boats waiting is a big plus for two locations.
- Fish processor boats take a long time to fuel and ties up the fuel dock.
- For boats docked in the South Basin it is necessary.
- Fuel dock in the south basin would be great need to consider a new launch at the south basin.
- Fuel dock is necessary to lessen the congestion in the small boat harbor during busy months
- Fueling last summer was horrible. Only one side open and large tenders blocked it for hours
- Get the larger boats that take long periods for fueling out of small boat harbor
- Given the congestion in the old harbor, and what can be extensive fueling times for large commercial vessels creating long waits, having a fuel dock in the south harbor would be appreciated. There is also the inconvenience of having to waste time transiting between the two harbors to fuel. That said, I don't think this is a service the city should provide. Leave it to private enterprise.
- Good expansion
- Good idea
- Good idea
- good idea
- good idea
- good idea to get away from the boat traffic.
- Great idea, if the old harbor had a wait, I would go to the new harbor to fuel up.
- Great idea!
- Great idea. It would be nice to separate the commercial guys from the non-commercial
- Great news
- Greatly appreciated
- Have been going to Whittier more and Valdez less.
- have no opinion
- Have not really thought about it
- Having a convenient place to fill at the dock is important
- Having a fuel dock in the south harbor would relieve some pressure and if the hours were better and they had food and bait
- Having another fuel dock would take pressure and congestion off the North Harbor
- Highly encourage having a new fuel dock
- Hopefully it will make fueling at the N harbor better too
- Hopefully it would take the large commercial ships now using and traveling through the Old Harbor for fuel and then docking at the new harbor.
- Hopefully the seiners who are berthed there would use the new fuel dock, allowing the rest of us to use the old fuel docks.
- I am a captain at Stan Stephens so not only do I have to fill our boats, but I have a front row seat to the north basin fuel docks from my office. We typically get fueled right in our slip, which helps avoid congestion at the fuel docks. However, Crowley has opened both docks less each year and we do have to move to fuel occasionally. It is very difficult to hold a large vessel "in line" to get fuel in the small area provided in the north basin. Also, the current fuel docks are undersized for our boats. The same is true for fishing tenders. It is quite common to witness a recreational boat have a near miss with a tender in the summer. I feel if Crowley would open both docks and staff them accordingly, the situation could be much improved, to the point of not needing a south basin fuel dock. My only suggestion if a new fuel dock moves forward is please make is long enough for large vessels.
- I am certain that there is a need for one in the new harbor.
- I am currently on the slip wait list, so when I dock in Valdez, I have been utilizing a transient slip. Up until this point I have only been docked in the North Basin, so for now it has been easiest and most convenient to use the services there. I based all of my inputs upon my use previous use of the harbor. If I were slipped in the South Basin, I would most likely be more of a proponent of a servicing station over there.

- I am not 100% sure because I am only there a couple of times a year. I have had mixed experiences with waiting for fuel. I know there is a lot of boat traffic in the summer and another fuel dock would be helpful to relieve the north harbor fuel dock.
- I believe a new fuel dock would cut down 50% of the current wait times. There is also ample opportunity to increase sales through the offering of other commodore I have already listed in a previous question. This would lead to not only more visits to the fuel dock but also increase revenue for whomever was operating the dock.
- I believe another fuel dock would be a great addition, if it were open.
- I believe it is mandatory to have a full time or part-time operating new fuel dock. Recommend having self-service fueling and pay by inserting credit/debit card into fuel pump unit - would mean no employees would have to be hired.
- I believe it would help with the congestion that occurs in the north basin
- I believe it's needed due to over congestion I've been seeing in the old harbor
- I believe that it would be more convenient and take away from the entrance traffic in south harbor. Lot of boats in the am and pm south harbor
- I believe the people who have a slip in the new harbor deserve their own fuel dock, and this would also decrease stress on the old harbor fuel stations.
- I come up in the summer to seine salmon. I purchase fuel usually from Crowley's dock or get it pumped to me off tenders as most tenders provide fuel to the fleet. I think, speaking for myself and likely others in my position, most of us get fuel in this manner because it is the cheapest way of doing it. We burn a lot in the summer so the price per gallon is the most important factor. Convenience is up there too but, with the gallonage that most of us can take at once, price and volume discounts are the most important factor. Looking at how things would pencil out in this project I wouldn't think that many of the "big boat" commercial fleet would utilize the new facility if there were other, cheaper, options available.
- I do not see a need at this time. If two fuel docks currently operate in the old harbor are fully staff the need is little.
- I don't think there is a terrible need, although it would be nice for the vessels berthed there in the summer. Is it worth the expense for 4 months of the year.
- I don't like the old harbor, it's too crowded and waiting to get fuel is definitely something we don't look forward to
- I feel it would fill a void and maybe limit some traffic in north harbor fuel dock. The number one problem thou is there is two fuel docks in north harbor but only one was open in 2020. These should not be owned by same company if there only going to have one open.
- I feel it would help decongest the present dock however I don't go to Valdez enough to give a valid response.
- I feel like it is very important to have a fuel dock in the south basin. The congestion and wait and potential accidents that occur in the old boat Harbor is getting to the point of ridiculous. It's bad image for the city of Valdez to have built a harbor capable of taking large vessels that have large fuel tanks and expanding all the commercial vessel's that have extremely long large fuel systems to not have separate fuel tanks I could go on and on but I wore at this time I strongly recommend we get fuel services in the Valdez Harbor
- I feel there is a huge need for a fuel dock in the new harbor. The boats from the new harbor have to still use the current fuel docks which creates extra traffic and wait times which defeats the purpose of building a new harbor. The fact that the new harbor does not have a fuel dock is quite silly.
- I feel there is a need during the fishing season. There was one in the original plans and I feel if us needed
- I have a small boat so I probably would not use the other new fuel very much
- I have always found the fuel dock in Valdez to be efficient and staffed with pleasant people. The need for a second fuel dock would be predicated on how many boats were moored in the harbors.
- I have friends with boats in the new harbor and it is difficult for them to access the old harbor fuel area. Additionally, most of the boats in the new harbor are larger vessels and when they do fuel in the old harbor it takes time for them to turn around which increases time for everyone. A new fuel

dock would reduce larger vessel traffic and improve fuel dock access time for us in the north basin.

- I have not seen plans for transient slips and can't comment
- I know last summer may have been affected by covid, but we heard the owners responsible for hiring were reluctant to man the pumps. The lines & wait were so ridiculous! If we didn't hit the pumps at the right time the wait was as long as an hour. And it's HORRID that the huge commercial boats share the only pumps in Valdez! They take 4ever to fill. I'm surprised fights don't break out on the dock, there was especially a lot of hot tempers last summer. The need for a new fuel dock is vital. You have charters, commercial & pleasure boats all vying for just a couple of pumps!!!!
- I love the idea.
- I only use the North harbor but if a new fuel dock would take away some of the traffic at the current fuel dock then that would be great. I also would like to see both the fuel docks open in the North harbor.
- I really don't count only getting fuel once a year
- I really think a new boat launch would be better
- I see a great need for the new Fuel Dock to get the larger vessels serviced so other craft don't have to idle around waiting, obstructing traffic into and out of the harbor. Some of the big fishing vessels and tenders can tie up the fuel dock for a long time.
- I think it would add value to the new harbor
- I think it would be an asset for the boats docked in the new harbor but I will probably use the North stations
- I think it would be beneficial to the vessels in the new harbor
- I think it would be convenient and keep traffic from coming into the north harbor. I'm not sure about cost v convenience.
- I think it would be convenient to have an alternative fuel dock because often in the early morning there are multiple vessels waiting to purchase fuel. If one was available, I would use an alternative site. But this problem could be easily fixed if both stations in the north harbor were open regularly.
- I think it would be more convenient for all boat users to have fuel docks in both harbors
- I think it would be very helpful for us during the salmon seine season especially if we're open to fishing every day. We don't get done till late and there is then often a very long line. I also try to use that new harbor mostly and it would be nice to get fuel there. Nice to have an oil dump there as well.
- I think it would help unclutter the fuel dock chaos. Especially with the commercial boats
- I think it would make sense and greatly reduced queue time for fuel
- I think it's a good idea
- I think that a boat lift that kept up with the increase in local vessel size. Would be better spent money. For the short time that the majority of fuel is sold why waste money on more infrastructure that sits around for long periods.
- I think that most of the year it would be more of a convenience but during the commercial pink season it's a pretty long wait sometimes and can be very tight in front of the fuel docks, if two tenders are passing and people pulling into the fuel docks as well as people coming in and out of slips it can be a real shit show in there at times.
- I think this is a great idea. The small boat harbor is congested, forming long lines and creating unnecessary hazards.
- I thought there was supposed to be a fuel dock and a boat launch ramp in the new harbor anyway, so this is a no brainer to me.
- I travel there infrequently.
- I would ask Crowley or another fuel provider what they wanted to do.
- I would be worried that the commercial boats would dominate the dock causing huge wait times
- I would like to see it accommodate primarily larger boats and seiners. With capacity to handle Charters in the morning hours.

- I would likely not use a South Basin fuel dock, but it would alleviate a lot of pressure on the North Basin dock. Especially important in mornings (7-8am) and afternoons (6-7pm) as these are busy charter and rec hours through fishing season. As much of a priority ought to be having BOTH fuel docks in North basin open through fishing season. Some wait times last season due to only 1 dock being open were over 30 minutes.
- I would love it! so much of a pain to go into the busy other fuel area
- I would love to have a fuel dock in the new harbor for convenience
- I would love to see one to keep the big boat down
- I would probably only use it if north basin was too busy. The coast guard would probably use it a lot in the winter if they didn't charge a call out fee like Crowley does...
- I would use the new harbor fuel dock on a regular basis if slips were available for transient boaters.
- I wouldn't use it much. Better for the commercial guys- who ought to pay for it.
- I'll have to see this south basin 1st.
- I'm happy with using the small boat harbor and services within the small boat harbor
- I'm sure it's a bigger hassle for boats to move into another harbor to get fuel. The traffic in and out of the old harbor gets really congested near the fuel docks. It was really bad when there was only 1 fuel dock open, seems like it was most of 2020 summer. Bigger vessels have a harder time dealing with traffic and getting in and out of the fuel dock, increased risk of collision with other vessels and other vessels have a higher risk of hitting another vessel that is trying to avoid the large vessel.
- I'm new to the harbor and have not experienced a true summer with the current pandemic impacting the harbor so I might have different answers depending
- I'm not usually there but the I sure charter vessels would like an additional fuel dock for they probably need to fuel daily during charter season!
- I've never had my boat in there yet but I think it would help reduce the boat traffic in the north harbor if the boats in the south had a place to fuel.
- If a fuel dock was built in the new harbor it would prevent people from bringing fuel tanks to fill up their boats and possibly cause spillage which could harm the marine life. It would benefit the boat owners to have the ability to get out on the water instead of having to go around and possibly cause the harbor to be overwhelmed with boat traffic because of needing fuel.
- If a new fuel dock in the south basin would alleviate the pressure from the north basin fuel dock then it would be a benefit to all.
- If both stations in the old harbor were open at the same time with extended hours there would be no need for one in the new harbor
- If hours of operation were increased and a store with deli or food items, ice and bait were available, I'd use it exclusively.
- If it provides bait, ice, fuel, oil and other sundries it would be a highly advantageous due to the depleted resources in town
- If my vessel was located in that harbor, I would want a fuel dock there as well. Also, the north harbors fuel dock hours are not feasible for my schedule so I would use a fuel dock with better hours. I work until 6 and the fuel dock was constantly closed this summer forcing me to fuel from Captain Joe's using 5-gallon cans or pulling my boat, what a pain!
- If prices compare to what you could find on shore for food items, coffee, ice, and fuel, it's a good idea.
- If the City decides not to build a new fuel dock, then build a boat ramp in the new harbor. There should have been one in the first place. It is unbelievable the amount of visitors during the summer using the one ramp. That is another serious issue. I recall seeing a ramp in the new harbor in an early plan. What happened? On another note, if the City decides to NOT build another fuel dock, then the two fuel docks need to be open together. So frustrating that only one fuel dock was open last summer. Constantly shifting from neutral, forward, and reverse in the middle of the lane while waiting for fuel. Somebody needs to correct these issues. Especially when a commercial vessel is taking up the whole dock for an hour to fuel up. This is a management issue that is mismanaged.
- If the hours of operation were more accommodating, I'd use it 100% of the time.

- If the hours were longer at the south dock, and both sides were open more than you might not need one. But if you only had one fuel dock in each harbor that could work well.
- If there is a fuel dock at the new harbor. Then the boats that tie up there wouldn't have to come back into the old harbor for fuel. In the summer with the fish tenders that are also taken up space. I believe there should be another fueling spot
- If there is small boat mooring, and I am moored there I would use the fuel dock
- If they cannot manage the fuel dock in the North harbor how will they manage a new one?
- If you docked in the new harbor would be way more convenient if you didn't have to go to the other side to fuel up
- If you expand to accommodate congestion during peak summer use. How would this reduce congestion in the small boat harbor if all boats recreational and commercial from both harbors are forced to enter and exit from one fuel location. Of course, all decisions have to be based on current and future demand.
- In the busy season it would be more convenient and safer to have another fuel source. In the busy season congestion is an issue.
- In the summertime it would service larger vessels a little better.
- Isn't the new harbor east? Yes, a fuel dock would be great in the new harbor
- It all depends on if both fuel docks in the north basin are open. I'm sure a new fuel dock in the new harbor would be utilized by the commercial boats and make gassing up quicker in the old harbor.
- It doesn't matter how many fuel docks you have in our marine environment if they are seldom open. Many others boat year and I around and Crowley has held us in contempt, meaning they are never hardly open past a certain date and were not open past 6pm this last summer. This is unacceptable! We are having to go further than ever before to find fish and getting back before 6pm proves near impossible to do with our limit of fish, fuel docks should be open till 10pm at a minimum. Many others and I are completely fed up with Crowley!!! Before creating a new fuel source, please fix the 2 that are in place now.
- It gets very tight and stressful in the small boat harbor when there is a line for gas especially when only on station is open. It creates a bit of an unsafe situation to boats.
- It is a bit in convenient to have to go to the old harbor to get fuel if you are staying in the new harbor, although I prefer the old harbor because I don't have a car
- It is a narrow transit lane when leaving the harbor and some days I forego fueling due to heavy traffic and wait times. I also would suggest getting another boat ramp up and running in the new harbor in addition to a new fuel dock.
- It is needled
- It is not necessary for my use but would be a welcome addition to the harbor.
- It is probably dependent on how much the commercial ships need a larger newer fuel dock. We smaller vessels in the old harbor port probably wouldn't have to wait as long or as many times to get our fuel if the larger ships were utilizing the newer fuel docks.
- It is really inconvenient having a boat in the new harbor and having to get gas in the old harbor. It's a big mess. And I dislike it very much
- It is really needed for the fishing boats are in
- It is so needed and will help with the congestion in the North Harbor!
- It might not be realistic for north harbor users to go over there but it seems like an enormous need for the south harbor users. That's hassle to come into the north harbor to get fuel and have to maneuver into the fuel dock. It seems like it would be crazy town during silver season.
- It might relieve some of the traffic or congestion in the north basin.
- IT MUST SERVICE THE COMMERCIAL FISHING FLEET. THERE ARE NOW PROBLEMS WITH RECREATIONAL OPERATORS AND COMMERCIAL CAPTAINS! IT IS GOING TO ESCALATE!!!
- It needs to manned unlike the current fuel docks.
- It only makes sense that the over the top (in the millions) new boat harbor would have a fuel dock. The current fuel dock situation is pathetic to say the least and very out of date. For the business that is generated in the harbor and the outlandish prices that are charged to have a slip you would

think you would have much more conveniences, but nope. Very lame, outdated and poor customer service.
- It services the fishing fleet and allows smaller crafts to easily fuel.
- It should provide for easier & better access to the fuel dock in the North harbor because commercial boats & other large boats would be more likely to fill up there.
- It sounds like a good idea - that way boats in the South Basin can get their fuel there, and North Basin boats can fuel there. It should help dramatically with congestion! Thank you!
- It was be very convenient, and save lots of time
- It will be handy as the old harbor is so congested
- It would be much better and safer to have a new fuel station. Currently it is neither safe or convenient.
- It would be a big asset
- It would be a good idea to relieve congestion in the old harbor.
- It would be a nice feature
- It would be a nice feature but I wouldn't want stall rates to go up in order to have it
- It would be an excellent addition to the harbor system as a whole, in peak season the lines for fuel can get overwhelming and being able to split the waiting times to fuel up would have a great impact. North harbor wouldn't have to always go to south but the option to use either would be there for both harbors.
- It would be convenient
- It would be great to get a high flow pump for commercial vessels in the new harbor. Would possibly free up a lot of fuel dock time for sport vessels in the new harbor. Also it is inconvenient to have to go into the new harbor just for fuel.
- It would be great to have additional fueling capacity regardless of how you locate it.
- It would be great. we would avoid traffic entering the old harbor.
- It would be much more convenient for the boats that moor at the new dock. Would also help all of us at the old harbor, during commercial fishing season, when those fishing boats tie up the fueling dock in the old harbor season
- It would be nice if the commercial and big boats used it so they would not have the north basin fuel docks jammed up. I have found I needed to gas up at late or odd hours to avoid long lines due to big boats taking sometimes over an hour to gas up.
- It would be nice to have a choice and be able to get fuel when we needed it
- It would be nice to have a fuel dock in the new harbor for the bigger boats and fishing vessels to fuel and not plug up the old harbor fuel docks. We have waited upwards of 45 minutes for fuel on several occasions.
- it would be nice to have fuel at both harbors.
- It would be nice to have fuel there and move all the larger boats out of old small boat harbor and into new one, put more smaller slips in old harbor.
- It would be very nice.
- It would cut down wait time and congestion at the previous harbor!! It's got to be irritating to the commercial boats that have to maneuver around and wait on pleasure crafts like myself!!
- It would eliminate the larger tenders, seiners taking hours.
- It would eliminate the congestion at the current fuel pumps
- It would eliminate the congestion in the old harbor. The commercial fleet located in the new harbor would benefit greatly. Less time wasted in line.
- It would free up the fuel dock in the old harbor and cut down on traffic in the old harbor
- It would free up the fuel docks in old harbor from big boats if they were instructed to use new fuel dock.
- It would free up the north fuel dock and make it feasible for big boats to use the new harbor
- it would help big boats stay out of small boat harbor
- It would help relieve old fuel dock load times
- It would help the people at the old docs get fuel faster and make it so the people in the new dock area does not have to come to the older fuel stations
- It would lessen the congestion of commercial fishing boats coming into the north basin to get fuel.

- It would make getting out a lot less stressful, having the option to possibly schedule a fuel up in the winter would be huge. Waiting in line for fuel sucks!
- It would make it more convenient!
- It would relieve some of the congestion at the fuel docks in the north basin
- It would relieve the pressure on the fuel dock in old harbor especially when the old harbor fuel docks are running on restricted hours.
- It would relieve waiting for the bigger boats to get fueled as they take a long time sometimes
- It would show Valdez guests that you appreciate their patronage! You are already the most user-friendly port!
- It would take pressure off of the fuel docks in the old harbor during the busy season.
- It's frustrating to have to go to the old harbor to get fuel. There's always so much boat traffic in and out of there and the long lines waiting to get fuel at the "almost never open and operating" Crowley docks is angering. Also, if we're planning a long trip and want to get fuel ahead of time, we burn quite a bit of fuel wastefully traveling to the old harbor and back to the new.
- It's a real need to have commercial vessels fuel in the south to help with the flow of both harbors
- It's badly needed for the commercial boats
- It's needed to accommodate all the large fishing vessels, so they don't come over to the north basin to fill up.
- It's a good idea, especially for the comm. boats. Frees up north harbor for rec. boats to fuel there.
- Keep it open super late, like midnight during the Valdez salmon seining run. It is really needed
- Last year there were allot of boats backed up on a regular basis waiting for fuel. It's not the wait time that's was irritating it's the safety of having 5 to 10 boats especially when fishing boats are in to not bump into each. Especially when boats are coming in and out and not getting fuel. With a fuel dock over at the new harbor it would decrease the safety hazard and increase fuel time by not having so many boats backed up. Plus, those of us in the new harbor would really appreciate not going out and around every time we have to fuel up. It didn't help much last year that the 2nd fuel dock in the old harbor was never open.
- Last year we had to wait almost every time due to the increase in number of boats. A new fuel station should be able to reduce or eliminate the wait. It was a hassle to enter the old harbor just to refuel never. Plus, one time the weather kicked up and it became real bad getting back to the new harbor.
- Less confusion and wait time. Very crowded and unsafe
- Less congestion especially when the Commercial tenders are unloading and loading
- less traffic
- Long wait times and traffic jams in harbor
- Maximized usage for commercial boating...
- Mixed
- Moderately important
- More boats added to fill will definitely slow the filling process at the north basin
- more boats need more support to keep congestion down
- More convenient for the boats in the south
- More of a convenience not having to fight and wait in the small harbor when you have a slip in the new harbor
- more places to fuel are better, service of food coffee ice would greatly improve service to the customers
- Most fishing vessels get fuel from tenders in the summer Not necessary
- Most of last summer only one side was open, and a tender or other large vessel could shut the fuel dock down for long periods of time. There needs to other options for fueling.
- Mostly commercial guy in south harbor and they don't fuel up many times a year If Crowley was more diligent about running the two docks, they have it would alleviate most of the congestion. MY suggestion is to give one of the Crowley docks to north Pacific and let private enterprise sort it out
- Much less congestion in the North Harbor if the large boats in the South Harbor did not have to fuel in the North Harbor.

- Much needed and would bring more business to Valdez.
- My main concern is to have the commercial and other big boats access to a South Basin fuel dock. In the summer, mainly when I am there, those big seiners in particular come over to the small boat harbor to fuel, and sometimes it can be hours before we can get fuel for our private boat. In addition, they are pushy and rude, along with their tenders, and act as if they are of utmost importance, don't comply with wake rules, and create agitation and unrest. There should be a fuel dock in the new harbor.
- My understanding was that it would be for commercial vessels. A place for them to get fuel would reduce pressure in the old harbor.
- Necessary
- Need
- Need
- need a fuel dock
- Need it
- Need more fuel docks no matter where they are even to have both open in the old harbor they never are.
- Need to get the commercial fisherman away from fueling in the north basin. They take up the entire dock and tie it up for 30 to 45 min at a time.
- Need to move all of the commercial fishing boats to the new harbor then and only then think about spending the money for another fuel dock.
- Need two competing vendors!
- Needed
- Needed
- Needed
- Needed for larger boats in the new boat area and prevent back up in the small boat harbor
- Needed yet location would be nice to know to help with an informed decision
- Needed. Keep the commercial boats out of North Harbor
- Needs to be built to service boats including fishing vessels to keep traffic clear in old marina
- Needs to be done to alleviate congestion in the old harbor. This will keep the larger boats out of the old harbor and help with boat flow overall.
- neutral
- New fuel dock in South Basin would improve access to existing fuel docks in North Basin. New fuel dock in South Basin could add services (e.g., bait, tackle, ice, etc.) if included during construction.
- New harbor fuel dock would ease the heavy traffic at the old harbor fuel dock.
- New harbor, new dock. If you're going to double the size don't you need more fueling areas?
- Nice
- Nice to have but not necessary.
- None
- North basin is congested A.F., a fueling location in the south basin would be nice however if this comes with increased moorage fees than I would say "hell no"
- north basin is not open enough (as it is) and larger vessels using the new dock would minimize the wait time
- north side lines are long.
- Not a bad idea, but why not just have both fuel stations in the small harbor open???
- Not a high priority for me as I use the Valdez Harbor just a few times a year however, I could certainly understand there is a need if expressed by more frequent users of the harbor.
- not a high priority given funds can be used for social welfare for the needy and poor.
- Not an issue
- Not desperate, but would be nice
- Not important for my recreational vessel
- not important to me unless switch to south harbor
- Not much of an issue, but!

- Not necessary
- Not needed at this time
- Not only would a new fuel dock service south basin, but it would also alleviate a lot of congestion in north basin. Boats waiting for fuel in north basin can sometimes be a hazard and plug the fairway out of the harbor.
- Not sure I'd use it unless I was moored there
- Offer it to another vender to allow competition
- Old harbor fuel docks to crowded. Long lines. Need a fuel dock both harbors
- Once a slip is available this will be a priority for me. Time is money, Valdez needs to consider business needs to attract more revenue. A large charter vessel represents considerable investment in the local economy.
- Once again at my fuel usage price is king. I will continue to get fuel from Northpacific fuel at their barge dock unless the are the vender in the new harbor. I do not see myself ever using Crowley
- One is needed without reduction in hours at the north harbor
- One should definitely be put there to accommodate all the boats in the new harbor. It would be a big time and money saver for all the boats moored there.
- Only reason for me is convenience if I get a slip in the new harbor. Otherwise, extra 10 minutes never hurt anyone.
- Overcrowding is an issue. Add fuel point in new harbor
- Pay the full night/weekend call-out fee to the person being called out, so they are happier to actually come out? Last I asked, the company kept all of it and only paid hourly to the person being called out, so they guilt trip 300-gallon customers not to use that service. Who fuels at odd hours? Pilots, Coast Guard, maybe a couple more. We had to schedule our emergencies around not inconveniencing the underpaid fuel dock employee.
- Please add 90 octane. A lot of outboards do better with 90. Thanks
- Please build a new fuel dock in the new harbor, the sooner the better. Pumps with credit card access would not require employees and could be accessed 24/7.
- Probably a good idea
- Probably won't use it, but if it's convenient and the price isn't too high, I might.
- Question does it need it
- Quite important for people who use new marina
- Relieve congestion in north basin. Get Crowley to open both fuel docks in north basin.
- Safety is our big concern. It gets very dangerous in the harbor around the fuel docks, especially when tenders are in and commercial vessels are about. Volume is very high in the summer which makes it more dangerous. A fuel dock in the new harbor should be priority.
- Seems like a good idea to me...would make my life easier.
- Seems like it would make sense.
- Seems to me that the dock is over busy at defined times of the day, especially early morning launch. If there were more available fueling spaces that perhaps opened for a few hours during peak rush times (defined times), then the labor costs could be kept as reasonable as possible and the peak demand times would flow better for your clients filling their boats.
- Should be high volume high flow with discounted prices for volume.
- Since there was only 1 fuel dock open instead of 2, there were some VERY long wait times. The staff was good to work with but they should have both stations open or add another in the new terminal. That would hopefully shorten the wait time.
- Small boat owner and infrequent user. Happy with most things in Valdez, especially the way you reacted with caution to covid. The gas people have always conducted themselves well. Most of the people at the harbormaster's office do so as well, although the grouchy one or two who work there and who don't like people, shouldn't work in a such a public position. Specifically, boat owners who make the trip down from Fairbanks (such as me and my family) often pull in late and sleep in our boats at the parking lot. We shop at the grocery store, buy fishing gear, eat in the burrito and crunchwrap places, pack and then leave. depending upon how packed the lot is, we even sometimes let our gear drift into the space next door. A little more permissive culture would be

helpful. Otherwise, we love Valdez and look forward to returning this summer. Also, myself and the people I know would like to buy land, build a boat structure and leave our boat in Valdez over the winter. Your land/building regulations don't allow this without requiring the landowner to build a house. If I overwinter my boat in Valdez, then I'm going to spend more money in Valdez each year while I buy parts for the boat, prep it for trips and winterize it. Cheers.

- Sometimes we cannot get fuel when we leave early. It is either closed or taken up by boats. Only one station is open. During commercial fishing it is very hard to get fuel they take up the entire dock. We try to get up early and be at the dock when it opens sometimes it is full and we wait. Almost impossible to get fuel in the afternoon cause it is packed very stressful
- Sounds like a good idea. Like the thought of a store that sells some food.
- sounds like it will take pressure off and be a great addition
- summertime can be chaotic in north harbor. mar & nov _ my other 2 filling periods - can be chaotic outside of south harbor due to weather & ice. the harbor staff had to break me out this last nov & it was froze over again by time I got back from north hbr. i south fuel dock alleviate those problems & reduce stress. it would certainly be a further attraction for the larger fishing vessels.
- Take the load and wait time off old harbor
- Thanks for opportunity to provide input
- That would be great for everyone, put some fish cleaning stations over there also.
- The 2 weeks in August that I spend down in Valdez, I would probably never use a fuel dock in the new harbor
- The biggest problem is the commercial fishing boats. Some take up the entire fuel dock and take on several thousand gallons of fuel. That pretty much means that with only one fuel dock open, you can't get fuel for hours and may have to cancel your trip. The fuel dock is also located at the end of the slips. Sometimes, like silver season, it is a "Who's on First" comedy of boat maneuvering with out-of-towners that have no idea what navigation rules are or even have a radio for communications.
- The boats in the south harbor would not have to come over into the north harbor. That would make the wait times in the north harbor less. with only one fuel dock open this last summer, sometimes there would be 3 or more boats circling to get fuel.
- the charter boats and fishing fleet, plus the boats from the new harbor all fuel up at the ONE fuel depot making fueling up in the am or pm very stressful it would help if they would keep both fuel depots open, I think a fuel dock in the new harbor would be great.
- The commercial boats that use the docks now take big fuel quantities and having made using the existing facilities crowded and slow.
- The commercial fleet would best utilize the new fuel dock and free up space which would lead to safer access in and out of the North Basin
- The congestion at the north harbor fuel dock is much worse with no south harbor fuel dock and is going to get worse as the fleet increases
- The current fuel dock is often crowded with boats having to wait in the fairway for there turn and other boats cutting in front of the line. Commercial boats often take a while to take on fuel and due to their size this often limits other boats from being able to access the dock even though pumps are available
- The fishing vessels and other vessels around that size take up quite a bit of time at the fuel dock when fueling.
- The fuel dock in the north harbor has terrible service. No pathetic service. Crowley only staffs the dock at the absolute lowest possible. As a charter operator I need to get fuel on a daily basis from April into September. Crowley has inconsistent hours, there staff does not show up, they run out of fuel and have ongoing problems with operating their pumps. On a scale of 1 to 10 I would rate Crowley a -5. Many times during the summer I have to wait 1 or 2 hours to get fuel. This is not acceptable. Please do something to require Crowley to provide a reasonable service. A new fuel dock would help this problem.
- The inlet to the north basin is notorious for getting stuff stuck in my jet. I have had to pull it out of the water to clear it and would not travel into the north basin just to get fuel. Also my boat is hard to fuel with jugs and would be hard to while in the water and may result in spills. I would of course prefer to fuel up close to where I'm parked

- The main problem last summer was that Crowley didn't open both gas docks, waiting time was terrible the docks both need to be open in the north harbor. Also you should be able to split gas purchases between the fishermen on the boat. I'm not sure why the stopped it but it's wrong. Also the new gas dock should be operated by someone other than Crowley. We need some competition down there not a monopoly. Thanks for asking for input from the users.
- The monopoly on fuel sales must stop. Crowley need competition.
- the more the better
- The north harbor fuel docks routinely get tied up with large commercial boats. Those customers would be better served in the south dock. I skip fueling at the docks and load the boat on my trailer to fuel in town because of wait times.
- The present fuel dock is not open enough and when it is it can be very busy. that being said, a fuel dock in the new harbor might not be busy enough to interest Crowley or Shoreside, but I would use it.
- The sheer Volume of vessels trying to use just one fuel dock is... Inconceivable, when a large tender or tour boat ties up then we all have to wait and it gets backed up and they're ridiculous hours closing at 8o'clock at night when I'm trying to run a commercial fishing operation. I showed up less than three minutes late with people still at the dock and wouldn't sell me fuel and due to an oncoming Storm I was unable to make it to fishing grounds. Or the fact that several times they ran out of Fuel. Or another time when the Attendant couldn't figure out how to turn on the pumps and I had to wait for over a half hour for someone to come turn on the pumps or when they shut their season down early when people are still trying to fish and then make you do an on-call deal and then charge you a ridiculous amount of money and everybody else that shows up for the on-call fee.. I could keep going but I'm getting Mad..
- The small boat harbor gets too congested a lot of the times with the larger fishing boats.
- The south basin harbor needs a fuel dock. It's so Awesome to be able fuel up without running 1/2 mile outa the way. Safety first, it'd be right there. It'd be the talk of the fishing fleet Cordova has got to be the worst fuel dock in the State.
- There are times when commercial fishing vessels tie up fuel dock for hours, another location would relieve congestion
- There is a need for a fuel dock. Current fuel docks are not serving the public well. Not even when both docks are open which does not happen very often causing more back up. Current distributor is poor in service. And does not provide sufficient service.
- There needs to be competition, Crowley or any company shouldn't be able to have the monopoly on fuel. This last summer proved that. We needed two fueling places opened not one because they couldn't find staff. Having a new fueling station in the new harbor would relieve pressure in the old harbor, again one company should have all the control!
- There should be a fuel dock in the new harbor. If there was a need for a new boat harbor (which there was) there's a need for all the facilities that go along with it. that includes a fuel dock, restrooms with showers, and fish cleaning stations. I feel the new docks should be utilized by larger boats due to the height of the docks. They are too high for smaller boats making it difficult to get on and off them. It is very difficult for anyone with mobility issues.
- There should be one in every harbor
- There would have to be a long line at the north or they would have to move me to the south.
- things that happened this past year you need it and you need the commercial boats to fill up at the new fuel dock I am sure they will like it.
- Think it would be a good addition
- Think it would make the old harbor less congested
- This is a very much needed facility. It's very difficult to use the existing small boat harbor fuel dock when coming from the new boat harbor. It's difficult to maintain the waiting line and turn around when done. I have seen arguments/ disputes erupt when waiting in line as sometimes there is no available place to tie up when waiting. This leads to motoring idle, and with a sailboat, sometimes having to do a U-turn and come around again to stay in line. During this time, someone may think the maneuvering boat is leaving harbor and gets in line - thus inadvertently cutting inline.

- This past summer was difficult to get fuel with only 1 side open for fuel. I don't know how many times I sat idle trying to not get hit by commercial boats while a charter boat filled up 200 plus gallons of fuel. It's dangerous for the recreation boats. There needs to be an option for the recreation guys.
- This past summer was not a pleasant experience. With only one fuel dock open 90% of the time, caused a lot of congestion in the narrow passage. If a commercial vessel was fueling the wait could be an hour, where do you wait your turn?
- This will take the congestion away from north harbor.
- This would be a great addition to the new harbor. I wouldn't mind a slip there if it had fuel access. At minimum make the fuel dock available to the large fishing vessels so they are not plugging the line for the smaller Rec boaters. They take loads of fuel and sit at dock forever. Valdez harbor is amazing and ran very well but another fuel access point would make this the best facility to access PWS
- This would be a huge positive addition
- this would be great!
- This would be very helpful. It would minimize the congestion and wait times to fuel
- Those who have slips there really need easy access to fuel.
- To have a slip in the new harbor and to not have access for fuel without going to the old harbor is a poor design, not only can it be a navigation and safety issue but if your boat is in the old harbor the wait is even longer to get fuel because of boats from new harbor get fuel there too. Also safety concerns with big commercial boats navigating in harbor with added traffic throughout summer.
- to relieve the congestion in the old harbor, especially when there are commercial fishing boats in the port, charters, and all the summer recreation boats
- To take pressure off of the small boat harbor. Especially during salmon season.
- Too many times only one of the old harbor fuel docks is open. This creates long waits and congestion. I am currently on the waiting list for a slip in the new harbor. A fuel dock and active fish cleaning stations will be a plus. Really disappointed with the elimination of the new launch ramps as the old harbor ramp is worse than the fueling issues
- Too much congestion in North Harbor by fishing vessels and large craft. It's a hazard in the height of season. Another fueling dock would relieve pressure.
- Ultimately it will alleviate some of the congestion inside the old harbor.
- Very important to reduce congestion in old harbor
- Vessels in the South Basin need a fuel dock there, without question. It could, also, help with congestion at the North Basin.
- Waiting times & congestion.
- Waits at the current fuel dock are too long and create a safety problem. Many boat operators can't figure out how to wait and stay out of the way.
- Waste of money!
- we are just a small boat so the bigger boats should have more of an impact on this survey
- We need a new fuel dock at the new harbor and hopefully this will eliminate a lot of the very large boats congestion when trying to fuel during the busy season. Also both fuel docks need to be operating at all times during the summer months. my biggest complaint last year is that only 1 dock was open and sometimes not at all.
- We need competition in our fuel docks. Currently only one out of the two open due to same owners. We need another fuel option.
- We would rather see another boat launch other than gas but my u understanding is the new harbor is geared more towards bigger boats
- When I moved from the old to the new harbor, my understanding was that fuel would be provided soon. It's ridiculous to have to go over to the other harbor for fuel before departing.
- When moored in the new dock it is time consuming and bothersome to go from the new dock to the old dock just for fuel.
- When the charters and commercial fishing boats are at the south (old) fuel dock, it's impossible to fuel up.

- Whenever we are in Valdez there is only one fuel dock open when already on the water and the wait time is always horrible, another fuel dock would be amazing and appreciated
- With added volume of vessels in the water at any given time it seems like the small boat harbor is going to be even more crowded. I am not sure of why both fuel docks aren't open at all times in the small boat harbor either.
- With larger vessels in the new harbor it is important to have fuel dock there as it would decrease the number of large vessels entering the old harbor and also waiting time for fuel there. Fuel access in new harbor would greatly reduce chances of accidents.
- With the Fishing Fleets off loading and fueling and only one dock opens in old Harbor something definitely needs improved
- With the increase of boats to both the new and old harbors, I believe it only makes sense to build a new fuel station. This will alleviate the summer rush at the old harbor fuel dock. The new harbor has boats with larger tanks because of their size and length which require longer times to fuel. Space to handle longer boats fueling is necessary also.
- Would be a good plan
- Would be a nice convenience during busy fishing times and decrease congestion around current fuel dock area.
- Would be awesome!
- Would be convenient but until a launch is built in new harbor, not a priority
- Would be convenient.
- Would be great if I was able to transient dock there
- Would be more convenient for boats docked in the South Basin
- Would be nice
- Would be nice to have the option
- Would be really helpful when we dock there the most
- Would cut wait time down at fuel dock, especially if other harbor was set up for bigger boats, tenders, seiners, tour boats, etc.
- Would help during peak season and traffic in small boat harbor
- Would help out with congestion in a high traffic area especially when they only have one fuel dock open
- Would like to reduce the waits for the old fuel docks especially during commercial season when seiners require lengthy times at the docks.
- Would rarely use it if at all
- Would rather have more slips available than fuel dock.
- Would really help if commercial boats would use it. Too bad, I heard that funding was cut, but what is really needed in the new harbor is a boat launch.
- Would solve the problem of waiting for most of the fishing vessels fueling
- Would use it if it had more to buy (ice, tackle, coffee, etc.) otherwise, I'd just use the North Basin fuel.

This dynamic excel-based tool is intended to be used in conjunction with the technical me
Data, to help the City of Valdez understand the return on investment over time for the deve
dock within South Harbor. Since there are so many variables and choices involved in these
allows variables, such as lease agreement elements, to be changed and new ROIs calculate

	Private Construction/ Private Operation	Public Construction/ Private Operation
Total Costs (40 years)	$ 302,010	$ 3,569,625
Total Revenue (40 years)	$ 3,047,466	$ 3,197,414
ROI 10 years	13.8	0.3
ROI 20 years	12.4	0.5
ROI 40 years	10.1	0.9

	Private Construction/ Private Operation	Public Construction/ Private Operation
Total Costs (20 years)	$ 128,917	$ 3,328,491
Total Revenue (20 years)	$ 1,599,919	$ 1,599,919
ROI 10 years	13.8	0.3
ROI 20 years	12.4	0.5
ROI 40 years	10.1	0.9

Developed by Rain Coast Data

mo from Rain Coast
elopment of a new fuel
calculations, this tool
d.

Public Construction/ Public Operation	
$	10,960,374
$	22,928,461
	1.3
	1.8
	2.1

Public Construction/ Public Operation	
$	6,483,321
$	11,958,719
	1.3
	1.8
	2.1

	40 Years	20 Years
Total Capital Costs	$0	$0
Total O&M Costs	$0	$0
Total Labor Costs	$302,010	$128,917
Total Fuel Revenue	$2,747,466	$1,442,419
Total Lease Revenue	$300,000	$157,500
Residual Value	$0	$0

ROI 10 years	13.77
ROI 20 years	12.41
ROI 40 years	10.09

Year	**Costs to COV**	
	Capital Costs	O&M
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		
2033		
2034		
2035		
2036		
2037		
2038		
2039		
2040		
2041		
2042		
2043		
2044		
2045		
2046		
2047		
2048		

2049			
2050			
2051			
2052			
2053			
2054			
2055			
2056			
2057			
2058			
2059			
2060			
2061			
2062			
Totals:		$0.00	$0.00

Fuel Wharfage	$0.04
Volume	1,717,166
Tideland value	$25,000
Upland value	$50,000
Tideland rate	10%
Upland rate	10%
Annual Wage increase	2%

	Benefits to COV		
Labor	fuel revenue	Residual Value	Lease revenue
$5,000	$68,687		$7,500
$5,100	$68,687		$7,500
$5,202	$68,687		$7,500
$5,306	$68,687		$7,500
$5,412	$68,687		$7,500
$5,520	$68,687		$7,500
$5,631	$68,687		$7,500
$5,743	$68,687		$7,500
$5,858	$68,687		$7,500
$5,975	$68,687		$7,500
$6,095	$68,687		$7,500
$6,217	$68,687		$7,500
$6,341	$68,687		$7,500
$6,468	$68,687		$7,500
$6,597	$68,687		$7,500
$6,729	$68,687		$7,500
$6,864	$68,687		$7,500
$7,001	$68,687		$7,500
$7,141	$68,687		$7,500
$7,284	$68,687		$7,500
$7,430	$68,687		$7,500
$7,578	$68,687		$7,500
$7,730	$68,687		$7,500
$7,884	$68,687		$7,500
$8,042	$68,687		$7,500
$8,203	$68,687		$7,500

$8,367	$68,687		$7,500
$8,534	$68,687		$7,500
$8,705	$68,687		$7,500
$8,879	$68,687		$7,500
$9,057	$68,687		$7,500
$9,238	$68,687		$7,500
$9,423	$68,687		$7,500
$9,611	$68,687		$7,500
$9,803	$68,687		$7,500
$9,999	$68,687		$7,500
$10,199	$68,687		$7,500
$10,403	$68,687		$7,500
$10,611	$68,687		$7,500
$10,824	$68,687		$7,500
$302,009.92	$2,747,465.60	$0.00	$300,000.00

	40 Years	20 Years
Total Costs	**$302,010**	**$128,917**
Total Revenue	**$3,047,466**	**$1,599,919**

	40 years	20 Years
Total Capital Costs	$3,061,924	$3,061,924
Total O&M Costs	$205,691	$137,650
Total Labor Costs	$302,010	$128,917
Total Fuel Revenue	$2,747,466	$1,442,419
Total Lease Revenue	$300,000	$157,500
Residual Value	$149,948	

ROI 10 years	0.26
ROI 20 years	0.48
ROI 40 years	0.90

Year	**Costs to COV**	
	Capital Costs	O&M
2021	$1,874,697.32	
2022	$1,187,226.52	
2023		
2024		
2025		
2026		
2027		$31,645.06
2028		
2029		
2030		
2031		
2032		$27,297.31
2033		
2034		
2035		
2036		
2037		$58,396.31
2038		
2039		
2040		
2041		
2042		$20,311.76
2043		
2044		
2045		
2046		
2047		$17,521.10
2048		

	2049		
	2050		
	2051		
	2052		$37,482.37
	2053		
	2054		
	2055		
	2056		
	2057		$13,037.35
	2058		
	2059		
	2060		
	2061		
	2062		
Totals:		$3,061,923.83	$205,691.25

Fuel Wharfage	$0.04
Gallons	1,717,166
Tideland value	$25,000
Upland value	$50,000
Tideland rate	10%
Upland rate	10%
Annual wage increase	2%

	Benefits to COV		
Labor	fuel revenue	Residual Value	Lease revenue
$5,000	$68,687		$7,500
$5,100	$68,687		$7,500
$5,202	$68,687		$7,500
$5,306	$68,687		$7,500
$5,412	$68,687		$7,500
$5,520	$68,687		$7,500
$5,631	$68,687		$7,500
$5,743	$68,687		$7,500
$5,858	$68,687		$7,500
$5,975	$68,687		$7,500
$6,095	$68,687		$7,500
$6,217	$68,687		$7,500
$6,341	$68,687		$7,500
$6,468	$68,687		$7,500
$6,597	$68,687		$7,500
$6,729	$68,687		$7,500
$6,864	$68,687		$7,500
$7,001	$68,687		$7,500
$7,141	$68,687		$7,500
$7,284	$68,687		$7,500
$7,430	$68,687		$7,500
$7,578	$68,687		$7,500
$7,730	$68,687		$7,500
$7,884	$68,687		$7,500
$8,042	$68,687		$7,500
$8,203	$68,687		$7,500

$8,367	$68,687		$7,500
$8,534	$68,687		$7,500
$8,705	$68,687		$7,500
$8,879	$68,687		$7,500
$9,057	$68,687		$7,500
$9,238	$68,687		$7,500
$9,423	$68,687		$7,500
$9,611	$68,687		$7,500
$9,803	$68,687		$7,500
$9,999	$68,687		$7,500
$10,199	$68,687		$7,500
$10,403	$68,687		$7,500
$10,611	$68,687		$7,500
$10,824	$68,687	$149,948	$7,500
$302,010	$2,747,466	$149,948	$300,000

	40 Years	20 Years
Total Costs	**$3,569,625**	**$3,328,491**
Total Revenue	**$3,197,414**	**$1,599,919**

	40 Years	20 Years
Total Capital Costs	$3,061,924	$3,061,924
Total O&M Costs	$205,691	$137,650
Total Labor Costs	$7,692,759	$3,283,747
Total Fuel Revenue	$21,693,822	$11,389,256
Total Retail Revenue	$1,084,691	$569,463
Residual Value	$149,948	

ROI 10 years	1.34
ROI 20 years	1.84
ROI 40 years	2.09

Year	**Costs to COV**	
	Capital Costs	O&M
2021	$1,874,697	
2022	$1,187,227	
2023		
2024		
2025		
2026		
2027		$31,645.06
2028		
2029		
2030		
2031		
2032		$27,297.31
2033		
2034		
2035		
2036		
2037		$58,396.31
2038		
2039		
2040		
2041		
2042		$20,311.76
2043		
2044		
2045		
2046		
2047		$17,521.10
2048		

	2049		
	2050		
	2051		
	2052		$37,482.37
	2053		
	2054		
	2055		
	2056		
	2057		$13,037.35
	2058		
	2059		
	2060		
	2061		
	2062		
Totals:		$3,061,923.83	$205,691.25

Fuel Markup (10-25%)	15.0%
Diesel in Gallons	1,619,104
Wholesale Diesel Price	$2.10
Gasoline in Gallons	98,062
Gasoline Price	$2.27
Wage increases	2%
Retail as a percent of revenue	5%

	Benefits to COV		
Labor	fuel revenue	Residual Value	Retail
$ 127,359	$542,346		$27,117
$ 129,907	$542,346		$27,117
$ 132,505	$542,346		$27,117
$ 135,155	$542,346		$27,117
$ 137,858	$542,346		$27,117
$ 140,615	$542,346		$27,117
$ 143,427	$542,346		$27,117
$ 146,296	$542,346		$27,117
$ 149,222	$542,346		$27,117
$ 152,206	$542,346		$27,117
$ 155,250	$542,346		$27,117
$ 158,355	$542,346		$27,117
$ 161,522	$542,346		$27,117
$ 164,753	$542,346		$27,117
$ 168,048	$542,346		$27,117
$ 171,409	$542,346		$27,117
$ 174,837	$542,346		$27,117
$ 178,334	$542,346		$27,117
$ 181,901	$542,346		$27,117
$ 185,539	$542,346		$27,117
$ 189,249	$542,346		$27,117
$ 193,034	$542,346		$27,117
$ 196,895	$542,346		$27,117
$ 200,833	$542,346		$27,117
$ 204,850	$542,346		$27,117
$ 208,947	$542,346		$27,117

$ 213,125	$542,346		$27,117
$ 217,388	$542,346		$27,117
$ 221,736	$542,346		$27,117
$ 226,170	$542,346		$27,117
$ 230,694	$542,346		$27,117
$ 235,308	$542,346		$27,117
$ 240,014	$542,346		$27,117
$ 244,814	$542,346		$27,117
$ 249,710	$542,346		$27,117
$ 254,705	$542,346		$27,117
$ 259,799	$542,346		$27,117
$ 264,995	$542,346		$27,117
$ 270,295	$542,346		$27,117
$ 275,701	$542,346	$149,948	$27,117
$7,692,758.83	$21,693,822	$149,948	$1,084,691

	40 Years	20 Years
Total Costs	**$10,960,374**	**$6,483,321**
Total Revenue	**$22,928,461**	**$11,958,719**

* One time permitting fees pulled out from the total project cost; not recurring, and assumed to be inc
* Capital Costs assumed to be spread over two years of construction

		1/2 * capital cost
One-time permitting + support (from R&M estimate)	$651,854	
Capital Cost	$2,445,686.63	$1,222,843.32

urred during year 1

Total Capital Cost:	$2,445,687

	Maintenanc
	Construction Completed
operational in 2022	2022
maintenance	2027
	2032
	2037
	2042
	2047
	2052
	2057
replacement in 2062	2062

1.5% of capital cost every 5 years and 3.72% of ca

e Costs Years since completion		O&M
5	$	31,645
10	$	27,297
15	$	58,396
20	$	20,312
25	$	17,521
30	$	37,482
35	$	13,037
40		
	$	205,691

apital cost every 15 years

	fully loaded wage, benefit, and employee costs	hours	# workers
	71850	1950	1
seasonal	20	37.5	4

*wage used was median of range provided to Rain Coast.

#weeks	# months	annually
	12	67359.375
4	5	60000

Residual Value = [(U-Y)/U]*total project cost	$489,137.33