



NEEDS ASSESSMENT TRIP REPORT

BULK FUEL UPGRADES

SOUTHEAST ALASKA COMMUNITIES

Prepared for:
State of Alaska
Alaska Energy Authority /
Rural Energy Group

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SOUTHEAST ALASKA COMMUNITY NEEDS ASSESSMENT

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SOUTHEAST ALASKA BULK FUELUPGRADES PROJECT COMMUNITY BULK FUEL NEEDS ASSESSMENTS

1.0 OVERVIEW

During the week of 3/8/04, Bryan Carey of the Alaska Energy Authority (AEA) and Karl Hulse of CRW Engineering Group LLC (CRW) traveled to seven communities on Prince of Whales Island to inspect existing bulk fuel facilities and discuss AEA's Bulk Fuel Upgrades Program with potential local participants. Communities visited during the trip included Hydaburg, Craig, Klawock, Thorne Bay, Coffman Cove, Point Baker and Port Protection. All communities, with the exception of Point Baker and Port Protection, are connected to the Island's road system. A float plain was chartered to access those communities off of the road system.

Potential BFU Program participants include Alaska Power and Telephone (AP&T owns and operates diesel power plants and related fuel storage facilities in the majority of communities visited), Petro Alaska (a regional fuel vendor based out of Thorne Bay), and multiple service stations and lodges scattered over the Island.

This Needs Assessment summarizes the information gathered during the site visit, including descriptions of existing fuel related facilities and operations, and defines the potential scope for upgrade projects in each community. Further, the Assessment includes conceptual cost estimates for completing the work. Two cost estimate scenarios are provided for most communities: Scenario one assumes that all potential projects within a community are completed at one time; scenario two provides estimates for each stand-alone facility. Also included is a separate estimate for upgrading the AP&T facilities in each community as a stand-alone project.

2.0 City of Craig

Craig (population 1,174) is located on a small island off the west coast of Prince of Wales Island, and is connected by a short causeway. The city lies 56 air miles northwest of Ketchikan, 750 air miles north of Seattle, and 220 miles south of Juneau. Project related contacts include the City Office (Mayor Dennis Watson), P.O. Box 725, Craig, Alaska 99921 (907-826-3275); and Alaska Power and Telephone (Greg Mickelson, Manager) 907-755-4825.

Existing Facilities

AP&T owns two diesel power plant facilities in the community, denoted here as the "Craig Power Plant" and the "Craig Substation power plant". The Craig Power Plant is a 1980's vintage, 45' by 60' pre-fabricated metal structure which supplies stand-by power to Craig and a portion of Klawock. The plant includes five diesel-driven electrical generators ranging in size from .6 to 1.2 MW, a 10,000 gallon diked bulk storage tank located adjacent to the plant, and a 1,000 gallon interior day tank. One generator is located in a 10' by 40' connex van set adjacent to the building; a separate 500 gallon day tank serves this generator. Fuel from the 10,000 gallon bulk tank is fed by gravity into the two day tanks. A float-actuated valve automatically opens as required to fill the 1,000 gallon interior day tank while the 500 gallon day tank appears to be filled via manually opening an isolation valve located at the entrance to the day tank. The 1,000

gallon day tank supplies fuel to the four plant generators; return lines from the generators are routed through a fuel cooling radiator prior to returning to the tank. This facility is discussed in further detail in AP&Ts “Craig Power plant/Substation SPCC Plan” located in the appendices.



Craig Power plant

The “Craig Substation Plant” is a new facility and is not yet in service. The Plant is located near Crab Bay on Lot A of the False Island Industrial Park at mile 2 of the Craig-Klawock Highway, and will supply stand-by power to the cities of Craig, Thorne Bay, Klawock and Kasaan. The plant includes two 1.3 MW generators, a 1,000 gallon, diked, external day tank and a 10,000 gallon, diked bulk fuel tank. Fuel is transferred from the bulk tank to the day tank via a submersible pump at the bulk tank and overhead fuel supply and return lines supported by a timber post; floats in the day tank automatically energize and de-energize the submersible pump. The generators pull fuel directly from the exterior day tank. No SPCC plan was available for this power plant.



Craig Substation Power plant

Potential Bulk Fuel Upgrades (City of Craig)

Potential upgrades at the Craig Power plant include the following:

- New 10,000 gallon double wall bulk storage tank complete with standard appurtenances, level floats and electrical controls as required.
- New 100 gallon day tank system complete with tank, pump and controls.
- New piping between the bulk tank and the power plant building.



Craig power plant's existing 10,000-Gallon Diked Tank

Potential upgrades at the Craig Substation Power plant include:

- New 10,000 gallon double wall bulk storage tank complete with standard appurtenances, submersible pump, level floats and electrical controls as required.
- Upgrades to the existing exterior day tank, including new normal and emergency vents and controls (float switches, alarms and other controls).



Craig Substation Plant's 10,000 gallon tank

3.0 City of Thorne Bay

Thorne Bay (population 480) is located 47 air miles northwest of Ketchikan and 60 road miles from Hollis, on the east coast of Prince of Wales Island. Bulk fuel facility owners in Thorne Bay include AP&T (owner of the City's stand-by diesel power plant), Petro Alaska (owner of a local tank farm and fuel delivery business), and three local fuel vendors including "The Port", the "Tackle Shack," and "Bayview Fuel and Tire." Contact information for each potential participant in the community is listed below.

Entity	Contact	Address	Phone Number
AP&T	Greg Mickelson Manager	Klawock, AK	907-755-4825
Petro Alaska	Nick Gefre Manager	Petro Alaska, Inc. Shoreline Drive Thorne Bay, Alaska	907-829-3900
The Tackle Shack	Doug Sawyer Owner	Thorne Bay, Alaska	907-828-3383 (fx)
Bayview Fuel and Tire	Gloria Hayes Owner	Thorne Bay, Alaska	907-828-3432(fx)
The Port	Monty McDonald Owner	Thorne Bay, Alaska	907-828-3331

Existing Facilities

AP&T's Thorne Bay power plant consists of a 1970's vintage pre-fabricated metal building with two diesel powered electrical generators (one 425 kW and one 658 kW), a 4,000 gallon bulk fuel storage tank and a 400 gallon interior day tank. A submersible pump in the bulk tank transfers fuel to the day tank via a manually operated switch located inside the plant. Fuel supply and return lines run from the day tank to each generator.



AP&T Diesel Power Plant in Thorne Bay

The Petro Alaska Tank Farm includes a combination of 12 vertical and horizontal, single wall tanks installed within a lined earthen impoundment. Overall capacity of the facility is approximately 257,000 gallons (194,000 diesel, 43,000 Gasoline and 20,000 Jet A). The facility is filled by fuel barges via a dual product marine header and buried transfer piping. The piping and header are located on property owned by Boyer Barge Company. Reportedly Petro Alaska has acquired an easement across Boyer Barge's property for the header and pipeline. Fill and draw operations for all horizontal tanks occurs through a single 2" bottom penetration in each tank; vertical tanks are equipped with separate 2" bottom penetrations for fill and draw. The bulk tanks feed three separate dispensers, including a high flow diesel, and typical single product gas and diesel units. No truck fill secondary containment areas are present. At the time of the site visit Petro Alaska was the only diesel fuel retailer in Thorne Bay. Additional information on the facility is provided in the Petro Alaska SPCC included in the Appendices.



Petro Alaska Bulk Fuel Tank Farm

The Port is a local convenience store that doubles as the post office and a retail seller of gasoline and diesel fuels. The Port's fuel system includes two dual product, protected dispensing tanks (one 2,000 gallon and one 4,000 gallon tank), a retail gasoline dispenser located adjacent to the tanks, and a dual product marine dispenser located on the dock in front of the store. The protected dispensing tanks are located on a concrete pad approximately 60 ft from the store, 15 ft from the gasoline dispenser and 5 ft from the ROW line. The 2,000 gallon tank includes two 1,000 gallon compartments; one compartment is used for diesel storage and the other is left empty. The 4,000 gallon tank includes two 2,000 gallon compartments; one is used for unleaded gasoline and the other for super-unleaded gasoline. Each tank compartment is equipped with a submersible pump for dispensing. A combination of buried steel pipe and hose strung from the dock deliver fuel to the dispensers. The tanks are filled via truck haul from the local Petro Alaska bulk facility. The store has a point of sale system capable of remotely reading the dispenser readouts.



The Port Store Bulk Tank Farm (Marine Dispenser shown in Back Ground)

The Tackle Shack is a local sporting goods store which provides marine gasoline dispensing from its private dock. The store's fuel system includes one 3,000 gallon, double wall tank located within a fenced area behind the building. The bulk tank is approximately 20 ft from the building and 50 ft from the shore. The gasoline dispenser is situated at the end of the dock, approximately 150 ft from shore. A submersible pump at the bulk tank and a combination of 2" buried steel pipe and 1-1/2" UL listed fuel hose deliver fuel to the dispenser. The store has a point of sale system capable of remotely reading the dispenser readouts.



The Tackle Shack Bulk Fuel Tank

Bayview Fuel and Tire is a local garage which provides vehicular service and retail gasoline sales. The shop's fuel system includes a 2,000 gallon protected dispensing tank and a single product dispenser. Fuel is conveyed to the dispenser via a dispenser-mounted pump and 2" buried steel piping.



Bayview Fuel and Tire Fuel Tank

Potential Bulk Fuel Upgrades (Thorne Bay)

AP&T Thorne Bay power plant:

- New 4,000 gallon double wall bulk storage tank complete with standard appurtenances, level floats and electrical controls as required.
- New 100 gallon interior day tank system complete with tank, pump and controls.
- New piping between the bulk tank and the power plant building.

Petro Alaska Tank Farm:

- New Bulk Fuel Tank Farm – Approximately 200,000 gallons of storage in the form of single wall ASTs within a diked containment area.
- New dual product barge header and fill pipelines.
- New bulk transfer secondary containment area.
- New dual product fleet dispenser and controls.

The Port:

- New land and marine-based retail dispensing facilities.
- Upgrades to existing tanks and piping.

The Tackle Shack:

- New marine dispensing facilities.
- Piping upgrades between existing tank and marine dispenser.

Bayview Fuel and Tire

- New dispensing facilities.
- Tank and piping upgrades.

4.0 City of Coffman Cove

Coffman Cove (population 163) is on the northeast coast of Prince of Wales Island in Southeast Alaska. It lies 73 miles northeast of Ketchikan and 42 miles southeast of Wrangell. Contact information for each potential participant in the community is listed below.

Entity	Contact	Address	Phone Number
AP&T	Greg Mickelson Manager	Klawock, AK	907-755-4825
One Stop Store	Judy Wellis Owner	Coffman Cove, Alaska	907-329-2213

Existing Facilities

Existing bulk fuel facility owners in Coffman Cove include AP&T (owner/operator of the City's power plant) and the One Stop (a local convenience store and fuel retailer).

AP&T's Coffman Cove power plant consists of a 1970's vintage pre-fabricated metal building with three diesel powered electrical generators (175kW, 330kW and 235 kW), a 6,000 gallon diked bulk fuel storage tank and a 300 gallon diked, exterior day tank. A submersible pump in the bulk tank transfers fuel to the day tank via a manually operated switch located inside the plant. Fuel supply and return lines run from the day tank to each generator.



AP&T Power Plant in Coffman Cove

The One Stop is a local convenience store that doubles as a retail seller of gasoline and diesel fuels. The One Stop's fuel system includes two diked tanks (one 2,000 gallon gasoline and one 3,000 gallon gasoline), one 500 gallon single wall diesel tank, two retail gasoline dispensers and one retail diesel dispenser. Each dispenser is connected

directly to a bulk tank bottom penetration; dispenser mounted pumps pull fuel from the tanks. The tanks are filled via truck haul from the Petro Alaska bulk facility in Thorne Bay. The dispensers and tanks are currently located on a City-owned lot approximately 500 ft from the store. The store sits on a lot leased from the City. The owners of the store plan to purchase the lot from the City and relocate their retail sales facility to the store lot in the future.



One Stop Retail Sales Facility

Potential Bulk Fuel Upgrades (Coffman Cove)

Power Plant Upgrades:

- New 6,000 gallon double wall bulk storage tank complete with standard appurtenances, level floats, pump, and electrical controls as required.
- Upgrades to existing 300 gallon, exterior day tank.
- New piping between the bulk tank and the exterior day tank.

One Stop:

- New 5,000 gallon, dual product, double wall bulk storage tank.
- Piping upgrades.

5.0 City of Hydaburg

Hydaburg (population 370) is located on the southwest coast of Prince of Wales Island, 45 air miles northwest of Ketchikan and 36 road miles west of Hollis. The only potentially eligible BFU Project participant in Hydaburg is AP&T.

Existing Facilities

AP&T's Hydaburg power plant consists of a 1970's vintage pre-fabricated metal building with three diesel powered electrical generators (one 400 kW, and two 350 kW units). Hydaburg is not connected to the electrical grid; therefore this plant provides prime power for the community. Fuel storage tanks at the plant include a 10,000 gallon diked bulk tank and a 1000 gallon diked exterior day tank. A submersible pump in the bulk

tank automatically transfers fuel to the day tank based upon float switches in the day tank. Fuel supply and return lines run from the day tank to each generator.



AP&T Power Plant at Hydaburg

Potential Bulk Fuel Upgrades (Hydaburg)

AP&T Power Plant

- New 6,000 gallon double wall bulk storage tank complete with standard appurtenances, level floats, and electrical controls as required.
- New 100 gallon interior day tank system complete with tank, pump and controls.
- New piping between the bulk tank and the power plant building.

6.0 Point Baker

Point Baker (population 33) is located on the northern tip of Prince of Wales Island, 142 miles south of Juneau and 50 miles west of Wrangell. The local bulk fuel facility owner is the Point Baker Trading Post (Herbert Hoyt, Owner; 907-559-2204).

Existing Facilities

The Trading Post's fuel system consists of four 5,000 gallon single wall welded steel tanks (5,000 gas, 15,000 diesel), one 2,000 gallon riveted steel AV-gas tank, and a marine dispenser for each product. The Trading Post's power plant, which recently burned down, included an external day tank of unknown size. The existing bulk tanks are located on the hillside above the Trading Post and are founded on timber cribbing. The tanks are currently filled via a marine header constructed from 2" diameter threaded steel pipe. The tanks are connected to the dock-mounted dispensers via a tee at the end of the marine header and hoses which run underwater to the dock.



Point Baker Lodge, Marina and Fuel Tanks

Potential Bulk Fuel Upgrades (Point Baker)

- New bulk fuel tank farm including approximately five 5,000-gallon, double wall ASTs.
- New dual product marine header and fill pipelines.
- Pipeline upgrades to marine dispensers.

7.0 Port Protection

Port Protection (population 57) is Located on the northern tip of Prince of Wales Island, 145 miles south of Juneau, 50 miles west of Wrangell and approximately 5 miles ___ of Port Baker. The local bulk fuel facility owner is the Wagon Wood Trading Post (Jack Mason, Owner; 907-489-2222).

Existing Facilities

The Trading Post's bulk fuel tanks include two single wall welded steel tanks (6,000 gallons diesel #1 and 10,000 gallons diesel #2), one 4,000 gallon rectangular, riveted steel gasoline tank, and one 5,000 gallon double wall welded steel gasoline tank. The tanks are located on a rocky shelf on the hillside, immediately above the Trading Post; a portion of the tank farm is supported by a timber structure cantilevered over the bay. The bulk tanks are filled directly off of fuel barges via hose and the barge's on-board pump. The Trading Post operates gasoline and diesel marine dispensing facilities. Dispensing system components include a combination of threaded steel piping and rubber hose which connects the bulk tanks to three hose reels and meters located on the dock. Fuel flows by gravity from the bulk tanks to the dispensers. The Trading Post's power plant, located within a 10'x10' shed adjacent to the Trading Post Store, includes a 1,000 gallon external day tank which is filled via gravity from the bulk tanks.



Port Protection Bulk Fuel Tank Farm

Potential Bulk Fuel Upgrades (Port Protection)

- New bulk fuel tank farm including approximately four 5,000-gallon, double wall ASTs.
- New dual product marine header and fill pipelines.
- Pipeline upgrades to power plant and marine dispensers.

8.0 City of Kasaan

The City of Kasaan (population 55) is situated on the east side of Prince of Wales Island on Kasaan Bay, approximately 30 air miles northwest of Ketchikan and 25 road miles from Thorne Bay. The City owns the local bulk fuel facility (City of Kasaan, Mayor Richard Petersen, P.O. Box KXA, Kasaan Alaska 99950, 907-542-2212).

Existing Facilities

The City's tank farm consists of two 5,000 gallon, single wall, welded steel tanks each with an integral hose reel and pump attached to the tank head. The tanks are situated within a concrete containment basin, and the entire facility is enclosed within a wood framed structure. The front of the structure has been left open for access to the dispensing pumps. The facility is located on Kavalco Inc. (Village Corporation) land; the site is leased from Kavalco Inc. by the City. Fuel is delivered to the City by Petro Alaska out of Thorne Bay. The City uses the tank farm to provide fuel for the standby power plant and for retail sales to local residents.



City of Kasaan Bulk Fuel / Dispensing Facility

Potential Bulk Fuel Upgrades (Kasaan)

- New bulk fuel tank farm including two 5,000-gallon, double wall ASTs.
- New bulk fuel transfer area, complete with all required pumps and controls.

9.0 City of Klawock

The City of Klawock (population 851) is located on the west coast of Prince of Wales Island, on Klawock Inlet, across from Klawock Island. It is 7 miles road north of Craig, 24 road miles from Hollis, and 56 air miles west of Ketchikan.

The only eligible facility in Klawock is the AP&T-owned bulk storage tank at the Viking Lumber Mill. The tank is a 4,000 gallon, diked AST, and provides fuel directly to the mill's stand-by power plant generators. The tank sits on Viking Lumber property.



Viking Lumber Co. Tank

SOUTHEAST BULK FUEL UPGRADE PROJECT
COST ESTIMATE SUMMARY SHEETS

CRAIG BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. AP&T POWER PLANT		
A. SITE WORK	\$6,660	
B. TANKS	\$60,310	
C. PUMP AND PIPING SYSTEMS	\$17,770	
D. POWER, CONTROLS, ETC.	\$36,250	
E. MISCELLANEOUS	\$16,060	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$33,189	
AP&T POWERPLANT SUB-TOTAL	\$209,939	
2. AP&T SUBSTATION POWER PLANT		
A. SITE WORK	\$6,660	
B. TANKS	\$47,910	
C. PUMP AND PIPING SYSTEMS	\$14,520	
D. POWER, CONTROLS, ETC.	\$36,210	
E. MISCELLANEOUS	\$16,060	
F. OVERHEAD	\$36,700	
G. FREIGHT	\$29,699	
AP&T SUBSTATION SUB TOTAL	\$187,759	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECT SCENARIO #1 - COMMUNITY WIDE UPGRADES		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$397,698	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$35,000	
Construction Management	\$50,000	
Overall Project Sub Total	\$482,698	
Contingency	\$96,540	20%
Insurance	\$12,338	
Total Estimated Project Cost	\$591,575	
Estimated Cost per Gallon	\$26.89	22,000 Gallons Total Storage
PROJECT SCENARIO #2 - INDIVIDUAL FACILITY COSTS		
ITEM DESCRIPTION	COST	COMMENT
AP&T Power Plant Construction Cost	\$209,939	
Design and Construction Admin	\$25,000	
Construction Management	\$30,000	
Contingency / Insurance	\$47,354	
Total Estimated Cost	\$312,293	
AP&T Cost per Gallon	\$28.39	11,000 Gallons Total Storage
AP&T Substation Plant Construction Cost	\$187,759	
Design and Construction Admin	\$23,000.00	
Construction Management	\$30,000	
Contingency / Insurance	\$42,351	
Total Estimated Cost	\$283,110	
Petro Alaska Cost per Gallon	\$25.74	11,000 Gallons Total Storage

THORNE BAY BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. AP&T POWER PLANT		
A. SITE WORK	\$5,040	
B. TANKS	\$34,310	
C. PUMP AND PIPING SYSTEMS	\$15,320	
D. POWER, CONTROLS, ETC.	\$40,250	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$29,579	
AP&T SUB-TOTAL	\$179,339	
2. PETRO ALASKA TANK FARM		
A. SITE WORK	\$160,397	
B. TANKS	\$204,900	
C. PUMP AND PIPING SYSTEMS	\$51,750	
D. POWER, CONTROLS, ETC.	\$109,110	
E. MISCELLANEOUS	\$55,060	
F. OVERHEAD	\$95,500	
G. FREIGHT	\$148,367	
PETRO ALASKA SUB TOTAL	\$825,084	
3. TACKLE SHACK		
A. SITE WORK	\$1,800	
B. TANKS	\$2,580	
C. PUMP AND PIPING SYSTEMS	\$15,620	
D. POWER, CONTROLS, ETC.	\$44,810	
E. MISCELLANEOUS	\$16,060	
F. OVERHEAD	\$38,500	
G. FREIGHT	\$17,651	
TACKLE SHACK SUB TOTAL	\$137,021	
4. BAYVIEW FUEL AND TIRE		
A. SITE WORK	\$1,800	
B. TANKS	\$2,580	
C. PUMP AND PIPING SYSTEMS	\$13,420	
D. POWER, CONTROLS, ETC.	\$44,810	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$38,500	
G. FREIGHT	\$16,931	
BAYVIEW SUB TOTAL	\$133,181	
5. THE PORT STORE		
A. SITE WORK	\$5,040	
B. TANKS	\$5,760	
C. PUMP AND PIPING SYSTEMS	\$19,750	
D. POWER, CONTROLS, ETC.	\$54,040	
E. MISCELLANEOUS	\$23,300	
F. OVERHEAD	\$41,700	
G. FREIGHT	\$19,148	
THE PORT STORE SUB TOTAL	\$168,738	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECT SCENARIO #1 - COMMUNITY WIDE UPGRADES		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$1,443,363	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$100,000	
Construction Management	\$150,000	
Overall Project Sub Total	\$1,693,363	
Contingency	\$338,673	20%
Insurance	\$43,282	
Total Estimated Project Cost	\$2,075,318	
Estimated Cost per Gallon	\$9.65	215,000 Gallons Total Storage
PROJECT SCENARIO #2 - INDIVIDUAL FACILITY COSTS		
ITEM DESCRIPTION	COST	COMMENT
AP&T Power Plant Construction Cost	\$179,339	
Design and Construction Admin	\$25,000	
Construction Management	\$50,000	
Contingency / Insurance	\$40,452	
Total Estimated Cost	\$294,791	
AP&T Cost per Gallon	\$73.70	4,000 Gallons Total Storage
Petro Alaska Tank Farm Construction Cost	\$825,084	
Design and Construction Admin	\$75,000.00	
Construction Management	\$130,000	
Contingency / Insurance	\$186,106	
Total Estimated Cost	\$1,216,190	
Petro Alaska Cost per Gallon	\$6.08	200,000 Gallons Total Storage
Tackle Shack Construction Cost	\$137,021	
Design and Construction Admin	\$20,000	
Construction Management	\$50,000	
Contingency / Insurance	\$30,906	
Total Estimated Cost	\$237,927	
Tackle Shack Cost per Gallon	\$79.31	3,000 Gallons Total Storage
Bayview Fuel and Tire Construction Cost	\$133,181	
Design and Construction Admin	\$20,000	
Construction Management	\$50,000	
Contingency / Insurance	\$30,040	
Total Estimated Cost	\$233,221	
Bayview Cost per Gallon	\$116.61	2,000 Gallons Total Storage
The Port Store Construction Cost	\$168,738	
Design and Construction Admin	\$20,000	
Construction Management	\$50,000	
Contingency / Insurance	\$38,061	
Total Estimated Cost	\$276,799	
The Port Store Cost per Gallon	\$46.13	6,000 Gallons Total Storage

COFFMAN COVE BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. AP&T POWER PLANT		
A. SITE WORK	\$5,040	
B. TANKS	\$29,910	
C. PUMP AND PIPING SYSTEMS	\$13,870	
D. POWER, CONTROLS, ETC.	\$39,150	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$36,205	
AP&T SUB-TOTAL	\$179,015	
2. ONE STOP		
A. SITE WORK	\$6,840	
B. TANKS	\$26,740	
C. PUMP AND PIPING SYSTEMS	\$13,420	
D. POWER, CONTROLS, ETC.	\$44,810	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$38,500	
G. FREIGHT	\$29,161	
ONE STOP SUB TOTAL	\$174,611	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECT SCENARIO #1 - COMMUNITY WIDE UPGRADES		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$353,626	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$35,000	
Construction Management	\$50,000	
Overall Project Sub Total	\$438,626	
Contingency	\$87,725	20%
Insurance	\$11,211	
Total Estimated Project Cost	\$537,562	
Estimated Cost per Gallon	\$48.87	11,000 Gallons Total Storage
PROJECT SCENARIO #2 - INDIVIDUAL FACILITY COSTS		
ITEM DESCRIPTION	COST	COMMENT
AP&T Power Plant Construction Cost	\$179,015	
Design and Construction Admin	\$25,000	
Construction Management	\$40,000	
Contingency / Insurance	\$40,379	
Total Estimated Cost	\$284,394	
AP&T Cost per Gallon	\$47.40	6,000 Gallons Total Storage
One Stop Construction Cost	\$174,611	
Design and Construction Admin	\$75,000.00	
Construction Management	\$130,000	
Contingency / Insurance	\$39,385	
Total Estimated Cost	\$418,996	
One Stop Cost per Gallon	\$83.80	5,000 Gallons Total Storage

HYDABURG BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. AP&T POWER PLANT		
A. SITE WORK	\$5,040	
B. TANKS	\$42,310	
C. PUMP AND PIPING SYSTEMS	\$13,870	
D. POWER, CONTROLS, ETC.	\$39,150	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
	\$31,805	
AP&T SUB-TOTAL	\$187,015	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECT SCENARIO #1 - COMMUNITY WIDE UPGRADES		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$187,015	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$23,000	
Construction Management	\$35,000	
Overall Project Sub Total	\$245,015	
Contingency	\$49,003	20%
Insurance	\$6,263	
Total Estimated Project Cost	\$300,281	
Estimated Cost per Gallon	\$49.23	6,100 Gallons Total Storage

POINT BAKER / PORT PROTECTION BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. POINT BAKER TANK FARM		
A. SITE WORK	\$333,300	
B. TANKS	\$135,900	
C. PUMP AND PIPING SYSTEMS	\$42,520	
D. POWER, CONTROLS, ETC.	\$77,190	
E. MISCELLANEOUS	\$31,800	
F. OVERHEAD	\$98,000	
G. FREIGHT	\$145,856	
POINT BAKER SUB-TOTAL	\$864,566	
2. PORT PROTECTION		
A. SITE WORK	\$303,300	
B. TANKS	\$113,900	
C. PUMP AND PIPING SYSTEMS	\$42,520	
D. POWER, CONTROLS, ETC.	\$73,910	
E. MISCELLANEOUS	\$31,800	
F. OVERHEAD	\$95,160	
G. FREIGHT	\$122,303	
PORT PROTECTION SUB TOTAL	\$782,893	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECT SCENARIO #1 - COMBINED PROJECT CONSTRUCTION		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$1,647,458	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$130,000	
Construction Management	\$170,000	
Overall Project Sub Total	\$1,947,458	
Contingency	\$389,492	20%
Insurance	\$49,777	
Total Estimated Project Cost	\$2,386,727	
Estimated Cost per Gallon	\$95.47	25,000 Gallons Total Storage

PROJECT SCENARIO #2 - INDIVIDUAL FACILITY COSTS		
ITEM DESCRIPTION	COST	COMMENT
Point Baker Tank Farm Construction Cost	\$864,566	
Design and Construction Admin	\$90,000	
Construction Management	\$130,000	
Contingency / Insurance	\$195,011	
Total Estimated Project Cost	\$1,279,577	
Pt. Baker Cost per Gallon	\$51.18	25,000 Gallons Total Storage
Port Protection Tank Farm Construction Cost	\$782,893	
Design and Construction Admin	\$80,000	
Construction Management	\$115,000	
Contingency / Insurance	\$176,589	
Total Estimated Project Cost	\$1,154,482	
Port Protection Cost per Gallon	\$57.72	20,000 Gallons Total Storage

KASAAN BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. KASAAN TANK FARM		
A. SITE WORK	\$30,075	
B. TANKS	\$55,820	
C. PUMP AND PIPING SYSTEMS	\$21,350	
D. POWER, CONTROLS, ETC.	\$75,790	
E. MISCELLANEOUS	\$75,400	
F. OVERHEAD	\$60,980	
G. FREIGHT	\$75,569	
KASAAN SUB-TOTAL	\$394,984	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
PROJECTSCENARIO #1 - TANK FARM CONSTRUCTION		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$394,984	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$50,000	
Construction Management	\$75,000	
Overall Project Sub Total	\$519,984	
Contingency	\$103,997	20%
Insurance	\$13,291	
Total Estimated Project Cost	\$637,272	
Estimated Cost per Gallon	\$63.73	10,000 Gallons Total Storage

KLAWOCK BULK FUEL UPGRADES (VIKING LUMBER TANK) - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. VIKING LUMBER TANK		
A. SITE WORK	\$6,230	
B. TANKS	\$35,310	
C. PUMP AND PIPING SYSTEMS	\$15,345	
D. POWER, CONTROLS, ETC.	\$75,790	
E. MISCELLANEOUS	\$17,060	
F. OVERHEAD	\$37,050	
G. FREIGHT	\$42,647	
VIKING LUMBER AP&T SUB-TOTAL	\$229,432	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
VIKING LUMBER TANK REPLACEMENT AND FUEL SYSTEM UPGRADE		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$229,432	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$35,000	
Construction Management	\$50,000	
Overall Project Sub Total	\$314,432	
Contingency	\$62,886	20%
Insurance	\$8,037	
Total Estimated Project Cost	\$385,355	
Estimated Cost per Gallon	\$96.34	4,000 Gallons Total Storage

AP&T COMBINED BULK FUEL UPGRADES - CONCEPTUAL COST ESTIMATE SUMMARY SHEET

DETAILED PROJECT COST BREAKDOWN		
ITEM DESCRIPTION	COST	COMMENT
1. CRAIG AP&T (COMBINED COST OF TWO FACILITIES)		
A. SITE WORK	\$13,320	
B. TANKS	\$108,220	
C. PUMP AND PIPING SYSTEMS	\$32,290	
D. POWER, CONTROLS, ETC.	\$72,460	
E. MISCELLANEOUS	\$32,120	
F. OVERHEAD	\$76,400	
G. FREIGHT	\$62,888	
CRAIG AP&T SUB-TOTAL	\$397,698	
2. THORNE BAY AP&T		
A. SITE WORK	\$5,040	
B. TANKS	\$34,310	
C. PUMP AND PIPING SYSTEMS	\$15,320	
D. POWER, CONTROLS, ETC.	\$40,250	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$29,579	
THORNE BAY AP&T SUB TOTAL	\$179,339	
3. COFFMAN COVE AP&T		
A. SITE WORK	\$5,040	
B. TANKS	\$29,910	
C. PUMP AND PIPING SYSTEMS	\$13,870	
D. POWER, CONTROLS, ETC.	\$39,150	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$36,205	
COFFMAN COVE AP&T SUB TOTAL	\$179,015	
4. HYDABURG AP&T		
A. SITE WORK	\$5,040	
B. TANKS	\$42,310	
C. PUMP AND PIPING SYSTEMS	\$13,870	
D. POWER, CONTROLS, ETC.	\$39,150	
E. MISCELLANEOUS	\$15,140	
F. OVERHEAD	\$39,700	
G. FREIGHT	\$31,805	
HYDABURG AP&T SUB TOTAL	\$187,015	
5. KLAWOCK AP&T		
A. SITE WORK	\$6,230	
B. TANKS	\$35,310	
C. PUMP AND PIPING SYSTEMS	\$15,345	
D. POWER, CONTROLS, ETC.	\$75,790	
E. MISCELLANEOUS	\$17,060	
F. OVERHEAD	\$37,050	
G. FREIGHT	\$42,647	
KLAWOCK AP&T SUB TOTAL	\$229,432	

COST CONTAINMENT ANALYSIS FOR PROJECT SCENARIOS		
CONCEPTUAL COST ESTIMATE FOR COMBINED AP&T FACILITY UPGRADES		
ITEM DESCRIPTION	COST	COMMENT
Estimated Construction Costs	\$1,172,499	Sum of Facility Upgrade Sub Totals
Design and Construction Admin.	\$90,000	
Construction Management	\$130,000	
Overall Project Sub Total	\$1,392,499	
Contingency	\$278,500	20%
Insurance	\$35,592	
Total Estimated Project Cost	\$1,706,591	
Estimated Cost per Gallon	\$54.52	31,300 Gallons Total Storage

SOUTHEAST BULK FUEL UPGRADE PROJECT
COST ESTIMATE DETAIL SHEETS

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	120	lin.ft.	\$10.50	\$1,260	0.50	60	\$60	\$3,600			\$4,860	15.00	1800
TANKS													
New 10,000 Gal Dbl Wall	1	ea	\$43,000	\$43,000	0	0	\$60	\$0			\$43,000		0
New 100 gallon Day Tank System	1	ea	\$10,000	\$10,000	40	40	\$60	\$2,400			\$12,400	1000	1000
Pipe Mounting Brackets, Etc	1	ls	\$1,500	\$1,500	0	0	\$0	\$0			\$1,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	200	lin. ft.	\$7.00	\$1,400	0.20	40	\$60	\$2,400			\$3,800	5	1000
3" Sch 40 Welded	50	lin. ft.	\$7.00	\$350	0.20	10	\$60	\$600			\$950	5	250
1" Sch 160 Welded Above Grade	100	lin. ft.	\$5.00	\$500	0.10	10	\$60	\$600			\$1,100	3	300
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	1	ea	\$500	\$500	1	1	\$60	\$60			\$560	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
3" Fill Limiters	1	ea	\$800	\$800	4	4	\$60	\$240			\$1,040	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$1,000	\$1,000	40	40	\$80	\$3,200			\$4,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	2000	2000
MISCELLANEOUS													
Concrete strip Footings	3	cu.yd.	\$500	\$1,500	7	21	\$60	\$1,260			\$2,760	600	1800
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$500		\$500		0
Rent/Mobilize Heavy Equip	1	lump	\$10,000						\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													30,315
Barge Freight Seattle - Hollis	30315	lb.	\$0.60							\$18,189			
Truck Freight Hollis to Craig	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	1	LS	\$5,000							\$5,000			
CONSTRUCTION SUB-TOTAL				\$98,290		710		\$49,480	\$28,980	\$33,189	\$209,939		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	120	lin.ft.	\$10.50	\$1,260	0.50	60	\$60	\$3,600			\$4,860	15.00	1800
TANKS													
New 10,000 Gal Dbl Wall	1	ea	\$43,000	\$43,000	0	0	\$60	\$0			\$43,000		0
Pipe Mounting Brackets, Etc	1	ls	\$1,500	\$1,500	0	0	\$0	\$0			\$1,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
1" Sch 160 Welded Above Grade	100	lin. ft.	\$5.00	\$500	0.10	10	\$60	\$600			\$1,100	3	300
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$600	\$600	4	4	\$60	\$240			\$840	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	1	ea	\$1,200	\$1,200	6	6	\$60	\$360			\$1,560	100	100
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$1,000	\$1,000	40	40	\$80	\$3,200			\$4,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Concrete strip Footings	3	cu.yd.	\$500	\$1,500	7	21	\$60	\$1,260			\$2,760	600	1800
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$5,000		\$5,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													28,665
Barge Freight Seattle - Hollis	28665	lb.	\$0.60							\$17,199			
Truck Freight Hollis to Craig	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$2,500							\$2,500			
Airplane freight	2	ea.	\$2,500							\$5,000			
CONSTRUCTION SUB-TOTAL				\$88,040		626		\$44,040	\$25,980	\$29,699	\$187,759		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	80	lin.ft.	\$10.50	\$840	0.50	40	\$60	\$2,400			\$3,240	15.00	1200
TANKS													
New 4,000 Gal Dbl Wall	1	ea	\$17,000	\$17,000	0	0	\$60	\$0			\$17,000		0
New 100 gallon Day Tank System	1	ea	\$10,000	\$10,000	40	40	\$60	\$2,400			\$12,400	1000	1000
Pipe Mounting Brackets, Etc	1	ls	\$1,500	\$1,500	0	0	\$0	\$0			\$1,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
3" Sch 40 Welded	50	lin. ft.	\$7.00	\$350	0.20	10	\$60	\$600			\$950	5	250
1" Sch 160 Welded Above Grade	50	lin. ft.	\$5.00	\$250	0.10	5	\$60	\$300			\$550	3	150
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	1	ea	\$500	\$500	1	1	\$60	\$60			\$560	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
3" Fill Limiters	1	ea	\$800	\$800	4	4	\$60	\$240			\$1,040	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	500	500
MISCELLANEOUS													
Concrete strip Footings	2	cu.yd.	\$500	\$1,000	7	14	\$60	\$840			\$1,840	600	1200
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$500		\$500		0
Rent/Mobilize Heavy Equip	1	lump	\$10,000						\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													15,965
Barge Freight Seattle - Hollis	15965	lb.	\$0.60							\$9,579			
Truck Freight Hollis to Thorne Bay	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$74,420		658		\$46,360	\$28,980	\$29,579	\$179,339		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Grading	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
TANKS													
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	2	ea	\$250	\$500	2	4	\$60	\$240			\$740	20	40
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Relocate Tank	1	ea	\$0	\$0	10	10	\$60	\$600			\$600		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$600	\$600	4	4	\$60	\$240			\$840	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	1	ea	\$1,200	\$1,200	6	6	\$60	\$360			\$1,560	100	100
Mechanical Dispnsr	1	ea	\$3,000	\$3,000	20	20	\$80	\$1,600			\$4,600	400	400
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Concrete strip Footings	2	cu.yd.	\$500	\$1,000	7	14	\$60	\$840			\$1,840	600	1200
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	40	hr			1	40	\$80	\$3,200			\$3,200		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													7,385
Barge Freight Seattle - Hollis	7385	lb.	\$0.60							\$4,431			
Truck Freight Hollis to Thorne Bay	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$2,500							\$2,500			
Airplane freight	2	ea.	\$2,500							\$5,000			
CONSTRUCTION SUB-TOTAL				\$48,530		511		\$36,740	\$30,980	\$16,931	\$133,181		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Clear & Prep Site	1	lump	\$0	\$0	150	150	\$60	\$9,000			\$9,000		0
Sand and Gravel	1,700	cu. yd.	\$4.00	\$6,800	0.250	425	\$60	\$25,500			\$32,300		0
Dike Membrane Liner	16,500	sq. ft.	\$1.30	\$21,450	0.005	83	\$60	\$4,950			\$26,400	0.17	2805
Non-Woven Geotextile	33,000	sq. ft.	\$0.09	\$2,970	0.002	66	\$60	\$3,960			\$6,930	0.08	2640
Woven Geotextile	24,000	sq. ft.	\$0.09	\$2,160	0.002	48	\$61	\$2,928			\$5,088	0.10	2400
Timbers for Dike Construction	16,500	brd. ft	\$1.00	\$16,500	0.020	330	\$62	\$20,460			\$36,960	4.00	66000
Aluminum Sheet	15,000	lbs	\$1.00	\$15,000	0.003	45	\$63	\$2,835			\$17,835	1.00	15000
Sumps	6	ea	\$200.00	\$1,200	1.000	6	\$64	\$384			\$1,584	2.00	12
6' Chain-Link Fence	600	lin.ft.	\$10.50	\$6,300	0.50	300	\$60	\$18,000			\$24,300	15.00	9000
TANKS													
New 20,000 Gal single Wall	10	ea	\$17,000	\$170,000	0	0	\$60	\$0			\$170,000		0
Pipe Mounting Brackets, Etc	1	ls	\$5,000	\$5,000	0	0	\$0	\$0			\$5,000	1000	1000
Emergency Vents	10	ea	\$300	\$3,000	2	20	\$60	\$1,200			\$4,200	75	750
Pressure/Vacuum/Whistle Vents	10	ea	\$250	\$2,500	2	20	\$60	\$1,200			\$3,700	20	200
Clock Type Gauges	10	ea	\$280	\$2,800	2	20	\$60	\$1,200			\$4,000	20	200
Place Tanks	10	ea	\$0	\$0	30	300	\$60	\$18,000			\$18,000		0
PIPING SYSTEM													
3" Sch 40 Welded Buried	500	lin. ft.	\$8.00	\$4,000	0.20	100	\$60	\$6,000			\$10,000	5	2500
2" Sch 80 Welded Above Grade	300	lin. ft.	\$7.00	\$2,100	0.10	30	\$60	\$1,800			\$3,900	3	900
Misc Strut & Pipe Clamps	1	lump	\$2,500	\$2,500	60	60	\$60	\$3,600			\$6,100	400	400
Flexible Connectors	10	ea	\$125	\$1,250	1	10	\$60	\$600			\$1,850	10	100
3" Flanged Check Valves	10	ea	\$200	\$2,000	1	10	\$60	\$600			\$2,600	30	300
Flanged Ball Valves	10	ea	\$200	\$2,000	1	10	\$60	\$600			\$2,600	30	300
Misc Threaded Ball Valves	5	lump	\$300	\$1,500	10	50	\$60	\$3,000			\$4,500	50	250
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	10	ea	\$300	\$3,000	1	10	\$60	\$600			\$3,600	40	400
1" Flanged PRV	4	ea	\$475	\$1,900	1	4	\$60	\$240			\$2,140	10	40
3" Fill Limiters	10	ea	\$800	\$8,000	4	40	\$60	\$2,400			\$10,400	20	200
Pipeline Filter	1	ea	\$1,200	\$1,200	4	4	\$60	\$240			\$1,440	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	2	ea	\$1,200	\$2,400	6	12	\$60	\$720			\$3,120	100	200
Bulk Transfer Cabinet	2	ea	\$5,500	\$11,000	40	80	\$60	\$4,800			\$15,800	1500	3000
Bulk Transfer Pumps	2	ea	\$1,500	\$3,000	20	40	\$60	\$2,400			\$5,400	200	400
2" Bulk Transfer Hose	100	lin. ft.	\$15	\$1,500	0	0	\$60	\$0			\$1,500	1.5	150
Grounding Reel	2	ea	\$200	\$400	2	4	\$60	\$240			\$640	20	40
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Key Control System	1	ea	\$1,000	\$1,000	10	10	\$80	\$800			\$1,800	100	100
Dispensing Tank Control Panel	2	ea	\$5,000	\$10,000	20	40	\$80	\$3,200			\$13,200	100	200
Level Switches	10	ea	\$1,000	\$10,000	5	50	\$80	\$4,000			\$14,000	50	500
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$10,000	\$10,000	40	40	\$80	\$3,200			\$13,200	300	300

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Conduit, Conductors, & Devices	1	lump	\$10,000	\$10,000	20	20	\$80	\$1,600			\$11,600	2000	2000
MISCELLANEOUS													
Concrete strip Footings	3	cu.yd.	\$500	\$1,500	7	21	\$60	\$1,260			\$2,760	600	1800
Secondary Containment Areas	1	ea	\$30,000	\$30,000	150	150	\$60	\$9,000			\$39,000	25000	25000
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$50,000		\$50,000		0
Welder/Compr/Misc Tool Rent	1	lump							\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump							\$8,000		\$8,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	100	hr			1	100	\$80	\$8,000			\$8,000		0
Crew Travel Time	60	hr			1	60	\$80	\$4,800			\$4,800		0
Crew Airfares	3	trips	\$2,000						\$6,000		\$6,000		0
Crew Per Diem	150	mn.dy	\$42						\$6,300		\$6,300		0
Housing Rent	1	mo	\$2,500						\$2,500		\$2,500		0
FREIGHT													
Barge Freight Seattle - Hollis	213945	lb.	\$0.60							\$128,367			213,945
Truck Freight Hollis to Thorne Bay	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$406,380		2,985		\$190,037	\$80,300	\$148,367	\$825,084		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	80	lin.ft.	\$10.50	\$840	0.50	40	\$60	\$2,400			\$3,240	15.00	1200
TANK UPGRADES													
Pipe Mounting Brackets, Etc	1	ls	\$1,000	\$1,000	0	0	\$0	\$0			\$1,000	1000	1000
Emergency Vents	4	ea	\$300	\$1,200	2	8	\$60	\$480			\$1,680	75	300
Pressure/Vacuum/Whistle Vents	4	ea	\$250	\$1,000	2	8	\$60	\$480			\$1,480	20	80
Clock Type Gauges	4	ea	\$280	\$1,120	2	8	\$60	\$480			\$1,600	20	80
PIPING SYSTEM													
2" Sch 80 Welded	400	lin. ft.	\$7.00	\$2,800	0.20	80	\$60	\$4,800			\$7,600	5	2000
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	4	ea	\$125	\$500	1	4	\$60	\$240			\$740	10	40
2" Flanged Check Valves	4	ea	\$200	\$800	1	4	\$60	\$240			\$1,040	30	120
2" Flanged Ball Valves	4	ea	\$200	\$800	1	4	\$60	\$240			\$1,040	30	120
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$600	\$600	4	4	\$60	\$240			\$840	20	20
Pipeline Filter	4	ea	\$500	\$2,000	4	16	\$60	\$960			\$2,960	20	80
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	4	ea	\$1,200	\$4,800	6	24	\$60	\$1,440			\$6,240	100	400
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Level Switches	4	ea	\$1,000	\$4,000	5	20	\$80	\$1,600			\$5,600	50	200
Remote Signal Cable in Conduit	400	lin. ft.	\$1.50	\$600	0.05	20	\$80	\$1,600			\$2,200	0.2	80
Area Lighting	1	lump	\$3,000	\$3,000	40	40	\$80	\$3,200			\$6,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$15,000	\$15,000	0	0	\$60	\$0			\$15,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
FREIGHT													11,080
Barge Freight Seattle - Hollis	11080	lb.	\$0.60							\$6,648			
Truck Freight Hollis to Thorne Bay	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$2,500							\$2,500			
Airplane freight	2	ea.	\$2,500							\$5,000			
CONSTRUCTION SUB-TOTAL				\$69,310		697		\$49,300	\$30,980	\$19,148	\$168,738		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Grading	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
TANKS													
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	2	ea	\$250	\$500	2	4	\$60	\$240			\$740	20	40
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Relocate Tank	1	ea	\$0	\$0	10	10	\$60	\$600			\$600		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
2" UL listed Hose	200	lin. ft.	\$5.00	\$1,000	0.10	20	\$60	\$1,200			\$2,200	3	600
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$600	\$600	4	4	\$60	\$240			\$840	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	1	ea	\$1,200	\$1,200	6	6	\$60	\$360			\$1,560	100	100
Mechanical Dispnsr	1	ea	\$3,000	\$3,000	20	20	\$80	\$1,600			\$4,600	400	400
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Concrete strip Footings	3	cu.yd.	\$500	\$1,500	7	21	\$60	\$1,260			\$2,760	600	1800
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	40	hr			1	40	\$80	\$3,200			\$3,200		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													8,585
Barge Freight Seattle - Hollis	8585	lb.	\$0.60							\$5,151			
Truck Freight Hollis to Thorne Bay	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$2,500							\$2,500			
Airplane freight	2	ea.	\$2,500							\$5,000			
CONSTRUCTION SUB-TOTAL				\$50,030		538		\$38,360	\$30,980	\$17,651	\$137,021		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	80	lin.ft.	\$10.50	\$840	0.50	40	\$60	\$2,400			\$3,240	15.00	1200
TANKS													
New 6,000 Gal Dbl Wall	1	ea	\$25,000	\$25,000	0	0	\$60	\$0			\$25,000		0
Pipe Mounting Brackets, Etc	1	ls	\$1,500	\$1,500	0	0	\$0	\$0			\$1,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
1" Sch 160 Welded Above Grade	50	lin. ft.	\$5.00	\$250	0.10	5	\$60	\$300			\$550	3	150
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	100	lin. ft.	\$1.50	\$150	0.05	5	\$80	\$400			\$550	0.2	20
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	500	500
MISCELLANEOUS													
Concrete strip Footings	2	cu.yd.	\$500	\$1,000	7	14	\$60	\$840			\$1,840	600	1200
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$500		\$500		0
Rent/Mobilize Heavy Equip	1	lump	\$10,000						\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													18,675
Barge Freight Seattle - Hollis	18675	lb.	\$0.60							\$11,205			
Truck Freight Hollis to Coffman	1	lump	\$10,000							\$10,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$71,270		598		\$42,560	\$28,980	\$36,205	\$179,015		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Prep and Grading	1	lump	\$0	\$0	60	60	\$60	\$3,600			\$3,600		0
6' Chain-Link Fence	80	lin.ft.	\$10.50	\$840	0.50	40	\$60	\$2,400			\$3,240	15.00	1200
TANKS													
New 5,000 Gal Dbl Wall, dual Product	1	ea	\$25,000	\$25,000	0	0	\$60	\$0			\$25,000	11000	11000
Pressure/Vacuum/Whistle Vents	2	ea	\$250	\$500	2	4	\$60	\$240			\$740	20	40
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Relocate Tank	1	ea	\$0	\$0	10	10	\$60	\$600			\$600		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$600	\$600	4	4	\$60	\$240			\$840	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	1	ea	\$1,200	\$1,200	6	6	\$60	\$360			\$1,560	100	100
Mechanical Dispnsr	1	ea	\$3,000	\$3,000	20	20	\$80	\$1,600			\$4,600	400	400
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Concrete strip Footings	2	cu.yd.	\$500	\$1,000	7	14	\$60	\$840			\$1,840	600	1200
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	40	hr			1	40	\$80	\$3,200			\$3,200		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													19,435
Barge Freight Seattle - Hollis	19435	lb.	\$0.60							\$11,661			
Truck Freight Hollis to Coffman	1	lump	\$10,000							\$10,000			
Tool Mob/De-Mob	1	ea.	\$2,500							\$2,500			
Airplane freight	2	ea.	\$2,500							\$5,000			
CONSTRUCTION SUB-TOTAL				\$73,770		577		\$40,700	\$30,980	\$29,161	\$174,611		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Site Preparation	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
6' Chain-Link Fence (Project Total)	80	lin.ft.	\$10.50	\$840	0.50	40	\$60	\$2,400			\$3,240	15.00	1200
TANKS													
New 6,000 Gal Dbl Wall	1	ea	\$25,000	\$25,000	0	0	\$60	\$0			\$25,000		0
New 100 gallon Day Tank System	1	ea	\$10,000	\$10,000	40	40	\$60	\$2,400			\$12,400	1000	1000
Pipe Mounting Brackets, Etc	1	ls	\$1,500	\$1,500	0	0	\$0	\$0			\$1,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Buried	100	lin. ft.	\$7.00	\$700	0.20	20	\$60	\$1,200			\$1,900	5	500
1" Sch 160 Welded Above Grade	50	lin. ft.	\$5.00	\$250	0.10	5	\$60	\$300			\$550	3	150
Misc Strut & Pipe Clamps	1	lump	\$500	\$500	60	60	\$60	\$3,600			\$4,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
2" Flanged Ball Valves	1	ea	\$200	\$200	1	1	\$60	\$60			\$260	30	30
Misc Threaded Ball Valves	1	lump	\$300	\$300	10	10	\$60	\$600			\$900	50	50
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	1	ea	\$300	\$300	1	1	\$60	\$60			\$360	40	40
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
2" Fill Limiters	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
Pipeline Filter	1	ea	\$500	\$500	4	4	\$60	\$240			\$740	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Level Switches	3	ea	\$1,000	\$3,000	5	15	\$80	\$1,200			\$4,200	50	150
Remote Signal Cable in Conduit	100	lin. ft.	\$1.50	\$150	0.05	5	\$80	\$400			\$550	0.2	20
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	500	500
MISCELLANEOUS													
Concrete strip Footings	2	cu.yd.	\$500	\$1,000	7	14	\$60	\$840			\$1,840	600	1200
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	600	600
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$500		\$500		0
Rent/Mobilize Heavy Equip	1	lump	\$10,000						\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump	\$5,000						\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump	\$5,000						\$5,000		\$5,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Superintendent Overhd	80	hr			1	80	\$80	\$6,400			\$6,400		0
Crew Travel Time	24	hr			1	24	\$80	\$1,920			\$1,920		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	40	mn.dy	\$42						\$1,680		\$1,680		0
Housing Rent	40	mn.dy	\$70						\$2,800		\$2,800		0
FREIGHT													19,675
Barge Freight Seattle - Hollis	19675	lb.	\$0.60							\$11,805			
Truck Freight Hollis to Kasaan	1	lump	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$81,270		638		\$44,960	\$28,980	\$31,805	\$187,015		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Clear & Prep Site	1	lump	\$0	\$0	300	300	\$60	\$18,000			\$18,000		0
Foundation Pad	150	CY	\$25.00	\$3,750	0.250	38	\$60	\$2,250			\$6,000		0
6' Chain-Link Fence	150	lin.ft.	\$10.50	\$1,575	0.50	75	\$60	\$4,500			\$6,075	15.00	2250
TANKS													
New 5,000 Gal Double Wall	2	ea	\$22,000	\$44,000	0	0	\$60	\$0			\$44,000	9000	18000
Pipe Mounting Brackets, Etc	1	ls	\$5,000	\$5,000	0	0	\$0	\$0			\$5,000	1000	1000
Emergency Vents	4	ea	\$300	\$1,200	2	8	\$60	\$480			\$1,680	75	300
Pressure/Vacuum/Whistle Vents	2	ea	\$250	\$500	2	4	\$60	\$240			\$740	20	40
Clock Type Gauges	2	ea	\$280	\$560	2	4	\$60	\$240			\$800	20	40
Place Tanks	2	ea	\$0	\$0	30	60	\$60	\$3,600			\$3,600		0
PIPING SYSTEM													
3" Sch 40 Welded Buried	50	lin. ft.	\$8.00	\$400	0.20	10	\$60	\$600			\$1,000	5	250
2" Sch 80 Welded Above Grade	100	lin. ft.	\$7.00	\$700	0.10	10	\$60	\$600			\$1,300	3	300
Misc Strut & Pipe Clamps	1	lump	\$2,500	\$2,500	60	60	\$60	\$3,600			\$6,100	400	400
Flexible Connectors	4	ea	\$125	\$500	1	4	\$60	\$240			\$740	10	40
3" Flanged Check Valves	2	ea	\$200	\$400	1	2	\$60	\$120			\$520	30	60
Flanged Ball Valves	2	ea	\$200	\$400	1	2	\$60	\$120			\$520	30	60
Misc Threaded Ball Valves	2	lump	\$300	\$600	10	20	\$60	\$1,200			\$1,800	50	100
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	2	ea	\$300	\$600	1	2	\$60	\$120			\$720	40	80
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
3" Fill Limiters	2	ea	\$800	\$1,600	4	8	\$60	\$480			\$2,080	20	40
Pipeline Filter	2	ea	\$1,200	\$2,400	4	8	\$60	\$480			\$2,880	20	40
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Bulk Transfer Cabinet	1	ea	\$5,500	\$5,500	40	40	\$60	\$2,400			\$7,900	1500	1500
Bulk Transfer Pumps	2	ea	\$1,500	\$3,000	20	40	\$60	\$2,400			\$5,400	200	400
2" Bulk Transfer Hose	100	lin. ft.	\$15	\$1,500	0	0	\$60	\$0			\$1,500	1.5	150
Grounding Reel	2	ea	\$200	\$400	2	4	\$60	\$240			\$640	20	40
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Key Control System	1	ea	\$1,000	\$1,000	10	10	\$80	\$800			\$1,800	100	100
Dispensing Tank Control Panel	2	ea	\$5,000	\$10,000	20	40	\$80	\$3,200			\$13,200	100	200
Level Switches	2	ea	\$1,000	\$2,000	5	10	\$80	\$800			\$2,800	50	100
Remote Signal Cable in Conduit	100	lin. ft.	\$1.50	\$150	0.05	5	\$80	\$400			\$550	0.2	20
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Concrete strip Footings	5	cu.yd.	\$500	\$2,500	7	35	\$60	\$2,100			\$4,600	600	3000
Secondary Containment Areas	1	ea	\$30,000	\$30,000	150	150	\$60	\$9,000			\$39,000	25000	25000
Spill Response Supplies	1	lump	\$15,000	\$15,000	0	0	\$60	\$0			\$15,000	3000	3000
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$10,000	\$10,000	0	0	\$60	\$0			\$10,000	500	500
OVERHEAD													

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$20,000		\$20,000		0
Welder/Compr/Misc Tool Rent	1	lump							\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump							\$8,000		\$8,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	100	hr			1	100	\$80	\$8,000			\$8,000		0
Crew Travel Time	60	hr			1	60	\$80	\$4,800			\$4,800		0
Crew Airfares	2	trips	\$2,000						\$4,000		\$4,000		0
Crew Per Diem	90	mn.dy	\$42						\$3,780		\$3,780		0
Housing Rent	1	mo	\$2,500						\$2,500		\$2,500		0
FREIGHT													92,615
Barge Freight Seattle - Hollis	92615	lb.	\$0.60							\$55,569			
Truck Freight Hollis to Kasaan	1	LS	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$182,185		1,373		\$91,450	\$45,780	\$75,569	\$394,984		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Clear & Prep Site	1	lump	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
Foundation Pad	50	CY	\$25.00	\$1,250	0.250	13	\$60	\$750			\$2,000		0
6' Chain-Link Fence	60	lin.ft.	\$10.50	\$630	0.50	30	\$60	\$1,800			\$2,430	15.00	900
TANKS													
New 4,000 Gal Double Wall	1	ea	\$17,000	\$17,000	0	0	\$60	\$0			\$17,000	6000	6000
New 100 gallon Day Tank System	1	ea	\$10,000	\$10,000	40	40	\$60	\$2,400			\$12,400	1000	1000
Pipe Mounting Brackets, Etc	1	ls	\$2,500	\$2,500	0	0	\$0	\$0			\$2,500	1000	1000
Emergency Vents	2	ea	\$300	\$600	2	4	\$60	\$240			\$840	75	150
Pressure/Vacuum/Whistle Vents	1	ea	\$250	\$250	2	2	\$60	\$120			\$370	20	20
Clock Type Gauges	1	ea	\$280	\$280	2	2	\$60	\$120			\$400	20	20
Place Tanks	1	ea	\$0	\$0	30	30	\$60	\$1,800			\$1,800		0
PIPING SYSTEM													
2" Sch 80 Welded Above Grade	50	lin. ft.	\$7.00	\$350	0.10	5	\$60	\$300			\$650	3	150
Misc Strut & Pipe Clamps	1	lump	\$1,500	\$1,500	60	60	\$60	\$3,600			\$5,100	400	400
Flexible Connectors	2	ea	\$125	\$250	1	2	\$60	\$120			\$370	10	20
2" Flanged Check Valves	1	ea	\$150	\$150	1	1	\$60	\$60			\$210	30	30
Flanged Ball Valves	2	ea	\$200	\$400	1	2	\$60	\$120			\$520	30	60
Misc Threaded Ball Valves	2	lump	\$300	\$600	10	20	\$60	\$1,200			\$1,800	50	100
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
2" Strainers	2	ea	\$250	\$500	1	2	\$60	\$120			\$620	40	80
1" Flanged PRV	1	ea	\$475	\$475	1	1	\$60	\$60			\$535	10	10
2" Fill Limiters	2	ea	\$500	\$1,000	4	8	\$60	\$480			\$1,480	20	40
Pipeline Filter	1	ea	\$1,200	\$1,200	4	4	\$60	\$240			\$1,440	20	20
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
Bulk Transfer Cabinet	1	ea	\$5,500	\$5,500	40	40	\$60	\$2,400			\$7,900	1500	1500
Bulk Transfer Pumps	2	ea	\$1,500	\$3,000	20	40	\$60	\$2,400			\$5,400	200	400
2" Bulk Transfer Hose	100	lin. ft.	\$15	\$1,500	0	0	\$60	\$0			\$1,500	1.5	150
Grounding Reel	2	ea	\$200	\$400	2	4	\$60	\$240			\$640	20	40
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Key Control System	1	ea	\$1,000	\$1,000	10	10	\$80	\$800			\$1,800	100	100
Dispensing Tank Control Panel	2	ea	\$5,000	\$10,000	20	40	\$80	\$3,200			\$13,200	100	200
Level Switches	2	ea	\$1,000	\$2,000	5	10	\$80	\$800			\$2,800	50	100
Remote Signal Cable in Conduit	100	lin. ft.	\$1.50	\$150	0.05	5	\$80	\$400			\$550	0.2	20
Area Lighting	1	lump	\$5,000	\$5,000	40	40	\$80	\$3,200			\$8,200	300	300
Conduit, Conductors, & Devices	1	lump	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	2000	2000
MISCELLANEOUS													
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Concrete strip Footings	3	cu.yd.	\$500	\$1,500	7	21	\$60	\$1,260			\$2,760	600	1800
Spill Response Supplies	1	lump	\$5,000	\$5,000	0	0	\$60	\$0			\$5,000	3000	3000
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$2,500	\$2,500	0	0	\$60	\$0			\$2,500	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Rent/Mobilize Heavy Equip	1	lump							\$10,000		\$10,000		0
Welder/Compr/Misc Tool Rent	1	lump							\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump							\$8,000		\$8,000		0
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	30	hr			1	30	\$80	\$2,400			\$2,400		0
Crew Travel Time	20	hr			1	20	\$80	\$1,600			\$1,600		0
Crew Airfares	1	trips	\$2,000						\$2,000		\$2,000		0
Crew Per Diem	50	mn.dy	\$42						\$2,100		\$2,100		0
Housing Rent	14	day	\$75						\$1,050		\$1,050		0
FREIGHT													37,745
Barge Freight Seattle - Hollis	37745	lb.	\$0.60							\$22,647			
Truck Freight Hollis to Klawock	1	LS	\$5,000							\$5,000			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$104,985		738		\$51,150	\$30,650	\$42,647	\$229,432		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Clear & Prep Site	1	lump	\$0	\$0	150	150	\$60	\$9,000			\$9,000		0
Pile Foundation	1	LS	\$300,000.00	\$300,000							\$300,000	75000.00	75000
6' Chain-Link Fence	600	lin.ft.	\$10.50	\$6,300	0.50	300	\$60	\$18,000			\$24,300	15.00	9000
TANKS													
New 5,000 Gal Double Wall	5	ea	\$22,000	\$110,000	0	0	\$60	\$0			\$110,000	9000	45000
Pipe Mounting Brackets, Etc	1	ls	\$5,000	\$5,000	0	0	\$0	\$0			\$5,000	1000	1000
Emergency Vents	10	ea	\$300	\$3,000	2	20	\$60	\$1,200			\$4,200	75	750
Pressure/Vacuum/Whistle Vents	10	ea	\$250	\$2,500	2	20	\$60	\$1,200			\$3,700	20	200
Clock Type Gauges	10	ea	\$280	\$2,800	2	20	\$60	\$1,200			\$4,000	20	200
Place Tanks	5	ea	\$0	\$0	30	150	\$60	\$9,000			\$9,000		0
PIPING SYSTEM													
3" Sch 40 Welded Buried	500	lin. ft.	\$8.00	\$4,000	0.20	100	\$60	\$6,000			\$10,000	5	2500
2" Sch 80 Welded Above Grade	300	lin. ft.	\$7.00	\$2,100	0.10	30	\$60	\$1,800			\$3,900	3	900
Misc Strut & Pipe Clamps	1	lump	\$2,500	\$2,500	60	60	\$60	\$3,600			\$6,100	400	400
Flexible Connectors	10	ea	\$125	\$1,250	1	10	\$60	\$600			\$1,850	10	100
3" Flanged Check Valves	5	ea	\$200	\$1,000	1	5	\$60	\$300			\$1,300	30	150
Flanged Ball Valves	5	ea	\$200	\$1,000	1	5	\$60	\$300			\$1,300	30	150
Misc Threaded Ball Valves	5	lump	\$300	\$1,500	10	50	\$60	\$3,000			\$4,500	50	250
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	5	ea	\$300	\$1,500	1	5	\$60	\$300			\$1,800	40	200
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
3" Fill Limiters	5	ea	\$800	\$4,000	4	20	\$60	\$1,200			\$5,200	20	100
Pipeline Filter	2	ea	\$1,200	\$2,400	4	8	\$60	\$480			\$2,880	20	40
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	5	ea	\$1,200	\$6,000	6	30	\$60	\$1,800			\$7,800	100	500
2" Bulk Transfer Hose	100	lin. ft.	\$15	\$1,500	0	0	\$60	\$0			\$1,500	1.5	150
Grounding Reel	2	ea	\$200	\$400	2	4	\$60	\$240			\$640	20	40
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Dispensing Tank Control Panel	1	ea	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	100	100
Level Switches	5	ea	\$1,000	\$5,000	5	25	\$80	\$2,000			\$7,000	50	250
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$10,000	\$10,000	40	40	\$80	\$3,200			\$13,200	300	300
Conduit, Conductors, & Devices	1	lump	\$10,000	\$10,000	20	20	\$80	\$1,600			\$11,600	2000	2000
MISCELLANEOUS													
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$15,000	\$15,000	0	0	\$60	\$0			\$15,000	3000	3000
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$10,000	\$10,000	0	0	\$60	\$0			\$10,000	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$50,000		\$50,000		0
Welder/Compr/Misc Tool Rent	1	lump							\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump							\$8,000		\$8,000		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	100	hr			1	100	\$80	\$8,000			\$8,000		0
Crew Travel Time	60	hr			1	60	\$80	\$4,800			\$4,800		0
Crew Airfares	3	trips	\$2,000						\$6,000		\$6,000		0
Crew Per Diem	150	mn.dy	\$42						\$6,300		\$6,300		0
Housing Rent	2	mo	\$2,500						\$5,000		\$5,000		0
FREIGHT													145,395
Barge Freight Seattle - Ketchikan	145395	lb.	\$0.60							\$87,237			
Barge Freight Ketchikan - Pt. Baker	145395	lb.	\$0.30							\$43,619			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	2	ea.	\$5,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$538,650		1,471		\$97,260	\$82,800	\$145,856	\$864,566		

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
SITE WORK													
Clear & Prep Site	1	lump	\$0	\$0	150	150	\$60	\$9,000			\$9,000		0
Pile Foundation	1	LS	\$270,000.00	\$270,000							\$270,000	70000.00	70000
6' Chain-Link Fence	600	lin.ft.	\$10.50	\$6,300	0.50	300	\$60	\$18,000			\$24,300	15.00	9000
TANKS													
New 5,000 Gal Double Wall	4	ea	\$22,000	\$88,000	0	0	\$60	\$0			\$88,000	9000	36000
Pipe Mounting Brackets, Etc	1	ls	\$5,000	\$5,000	0	0	\$0	\$0			\$5,000	1000	1000
Emergency Vents	10	ea	\$300	\$3,000	2	20	\$60	\$1,200			\$4,200	75	750
Pressure/Vacuum/Whistle Vents	10	ea	\$250	\$2,500	2	20	\$60	\$1,200			\$3,700	20	200
Clock Type Gauges	10	ea	\$280	\$2,800	2	20	\$60	\$1,200			\$4,000	20	200
Place Tanks	5	ea	\$0	\$0	30	150	\$60	\$9,000			\$9,000		0
PIPING SYSTEM													
3" Sch 40 Welded Buried	500	lin. ft.	\$8.00	\$4,000	0.20	100	\$60	\$6,000			\$10,000	5	2500
2" Sch 80 Welded Above Grade	300	lin. ft.	\$7.00	\$2,100	0.10	30	\$60	\$1,800			\$3,900	3	900
Misc Strut & Pipe Clamps	1	lump	\$2,500	\$2,500	60	60	\$60	\$3,600			\$6,100	400	400
Flexible Connectors	10	ea	\$125	\$1,250	1	10	\$60	\$600			\$1,850	10	100
3" Flanged Check Valves	5	ea	\$200	\$1,000	1	5	\$60	\$300			\$1,300	30	150
Flanged Ball Valves	5	ea	\$200	\$1,000	1	5	\$60	\$300			\$1,300	30	150
Misc Threaded Ball Valves	5	lump	\$300	\$1,500	10	50	\$60	\$3,000			\$4,500	50	250
2" Actuated Ball Valves	1	ea	\$2,500	\$2,500	2	2	\$60	\$120			\$2,620	35	35
3" Strainers	5	ea	\$300	\$1,500	1	5	\$60	\$300			\$1,800	40	200
1" Flanged PRV	2	ea	\$475	\$950	1	2	\$60	\$120			\$1,070	10	20
3" Fill Limiters	5	ea	\$800	\$4,000	4	20	\$60	\$1,200			\$5,200	20	100
Pipeline Filter	2	ea	\$1,200	\$2,400	4	8	\$60	\$480			\$2,880	20	40
PUMPS, DISPENSER, POWER, CONTROLS, ETC.													
Pump Control Panel	1	ea	\$10,000	\$10,000	100	100	\$80	\$8,000			\$18,000	200	200
3/4 HP Submersible Pumps	4	ea	\$1,200	\$4,800	6	24	\$60	\$1,440			\$6,240	100	400
2" Bulk Transfer Hose	100	lin. ft.	\$15	\$1,500	0	0	\$60	\$0			\$1,500	1.5	150
Grounding Reel	1	ea	\$200	\$200	2	2	\$60	\$120			\$320	20	20
Mechanical Dispnsr	2	ea	\$3,000	\$6,000	20	40	\$80	\$3,200			\$9,200	400	800
Dispensing Tank Control Panel	1	ea	\$5,000	\$5,000	20	20	\$80	\$1,600			\$6,600	100	100
Level Switches	4	ea	\$1,000	\$4,000	5	20	\$80	\$1,600			\$5,600	50	200
Remote Signal Cable in Conduit	300	lin. ft.	\$1.50	\$450	0.05	15	\$80	\$1,200			\$1,650	0.2	60
Area Lighting	1	lump	\$10,000	\$10,000	40	40	\$80	\$3,200			\$13,200	300	300
Conduit, Conductors, & Devices	1	lump	\$10,000	\$10,000	20	20	\$80	\$1,600			\$11,600	2000	2000
MISCELLANEOUS													
Signs & Valve Tags	1	lump	\$2,000	\$2,000	30	30	\$60	\$1,800			\$3,800	100	100
Spill Response Supplies	1	lump	\$15,000	\$15,000	0	0	\$60	\$0			\$15,000	3000	3000
Misc Hardware	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Misc Tools & Safety Gear	1	lump	\$1,500	\$1,500	0	0	\$60	\$0			\$1,500	200	200
Welding Rod, Gases, Etc.	1	lump	\$10,000	\$10,000	0	0	\$60	\$0			\$10,000	500	500
OVERHEAD													
ROW Legal Work	1	lump							\$2,500		\$2,500		0
Rent/Mobilize Heavy Equip	1	lump							\$50,000		\$50,000		0
Welder/Compr/Misc Tool Rent	1	lump							\$5,000		\$5,000		0
Project Diesel Fuel/Gasoline	1	lump							\$8,000		\$8,000		0

ITEM	QUAN	UNIT	UNIT COST	MATL COST	UNIT HRS	LAB HRS	LAB RATE	LABOR COST	CONTR COST	FREIGHT COST	TOTAL COST	UNIT WT	TOTAL WT(#)
Commission System & Training	30	hr			1	30	\$80	\$2,400			\$2,400		0
Superintendent Overhd	75	hr			1	75	\$80	\$6,000			\$6,000		0
Crew Travel Time	60	hr			1	60	\$80	\$4,800			\$4,800		0
Crew Airfares	3	trips	\$2,000						\$6,000		\$6,000		0
Crew Per Diem	130	mn.dy	\$42						\$5,460		\$5,460		0
Housing Rent	2	mo	\$2,500						\$5,000		\$5,000		0
FREIGHT													119,225
Barge Freight Seattle - Ketchikan	119225	lb.	\$0.60							\$71,535			
Barge Freight Ketchikan - P. Protection	119225	lb.	\$0.30							\$35,768			
Tool Mob/De-Mob	1	ea.	\$5,000							\$5,000			
Airplane freight	1	ls	\$10,000							\$10,000			
CONSTRUCTION SUB-TOTAL				\$484,250		1,433		\$94,380	\$81,960	\$122,303	\$782,893		

SOUTHEAST BULK FUEL UPGRADE PROJECT

SPCC PLANS