

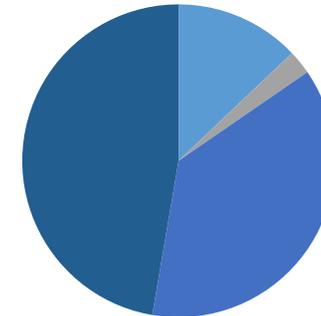
GENERAL SUMMARY

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
Project ID: 27072024
Scope: Mechanical & Plumbing
No. Of Floors: 1
Date: 7-Mar-25



BUILDING GSF 7776
1st Floor (SF) 3991
Roof (SF) 3785

DIVISION COST COMPARISON



General Requirements Existing Condition Plumbing HVAC

DIVISION NO	DESCRIPTION	TOTAL DIV. COST	TOTAL DIV. COST (PER SF)
plumbing	General Requirements	\$ 17,000	\$ 2
2000	Existing Condition	\$ 3,277	\$ 0
22000	Plumbing	\$ 49,057	\$ 6
23000	HVAC	\$ 62,248	\$ 8
TOTAL TRADE COST		\$ 131,582	\$ 17
OVERHEAD AND PROFIT	20%	\$ 26,316	\$ 3.38
INSURANCE	3%	\$ 3,947	\$ 0.51
CONTINGENCY	5%	\$ 6,579	\$ 0.85
TAX	10%	\$ 8,105	\$ 1.73
SUGGESTED BID		\$ 176,530	\$ 23

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
GENERAL REQUIREMENTS											
1			Permits	LS	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
2			Supervision and Coordination	LS	1	0.000	\$ -	\$ -	\$ -	\$ 6,500.00	\$ 6,500.00
3			Submittals and Shop drawings	LS	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
4			Final Cleaning	LS	1	0.000	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00
5			Mobilization Costs	LS	1	0.000	\$ -	\$ -	\$ -	\$ 7,000.00	\$ 7,000.00
6			Temporary Control & Facilities	LS	1	0.000	\$ -	\$ -	\$ -	\$ 1,500.00	\$ 1,500.00
7			Scaffolding	LS	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL											\$ 17,000
EXISTING CONDITIONS											
DEMOLITION											
8	PD101, PD111, PD121 & MD111		Existing Flue Pipe With Fitting To Be Removed	LF	13	0.135	\$ 70.00	\$ 9.45	\$ -	\$ 9.45	\$ 121.72
9			Existing Duct With Associated Accessories To Be Removed	LF	74	0.072	\$ 70.00	\$ 5.04	\$ -	\$ 5.04	\$ 371.90
10			Existing Plumbing Piping With Associated Fittings To Be Removed	LF	167	0.093	\$ 70.00	\$ 6.51	\$ -	\$ 6.51	\$ 1,088.86
11			Existing Shutoff Valve To Be Removed	EA	1	0.450	\$ 70.00	\$ 31.50	\$ -	\$ 31.50	\$ 31.50
12			Existing Sink With Associated Piping & Fittings To Be Removed	EA	2	1.875	\$ 70.00	\$ 131.25	\$ -	\$ 131.25	\$ 262.50
13			Existing Water Closet With Associated Fittings, Valve To Be Removed	EA	1	2.835	\$ 70.00	\$ 198.45	\$ -	\$ 198.45	\$ 198.45
14			Existing Diffuser To Be Removed	EA	6	0.900	\$ 70.00	\$ 63.00	\$ -	\$ 63.00	\$ 378.00
15			Existing Return Grille To Be Removed	EA	5	0.900	\$ 70.00	\$ 63.00	\$ -	\$ 63.00	\$ 315.00
16			Existing Exhaust Fan To Be Removed	EA	2	1.800	\$ 70.00	\$ 126.00	\$ -	\$ 126.00	\$ 252.00
REINSTALLATION											
17			Existing Gas Unit Heater To Be Removed And Retain For Reinstallation	EA	1	3.675	\$ 70.00	\$ 257.25	\$ -	\$ 257.25	\$ 257.25
SUBTOTAL											\$ 3,277
PLUMBING											
COLD WATER PIPE (BELOW GRADE)											
Type "L" Soft Copper Tube Pipe, ASTM B 88, With Wrought Copper, Solder Joint Fittings And Brazed Joints											
18			1-1/2" Dia Cold Water Pipe	LF	22		\$ 70.00	\$ -	\$ -	\$ -	\$ -
1/2" Thick Mineral Fiber, Preformed Pipe Insulation											
19			1-1/2" Dia Cold Water Pipe	LF	22		\$ 70.00	\$ -	\$ -	\$ -	\$ -
COLD WATER PIPE FITTINGS											
ELBOW											
20			1-1/2" Dia Cold Water Pipe 90 Deg Elbow	EA	3		\$ 70.00	\$ -	\$ -	\$ -	\$ -
TEE											
21			3" / 1-1/2" Dia Cold Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
COLD WATER PIPE (ABOVE GRADE)											

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
			Type "L" Hard Copper Tube Pipe, ASTM B 88, With Wrought Copper, Solder Joint Fittings And Soldered Joints								
22			1/2" Dia Cold Water Pipe	LF	49		\$ 70.00	\$ -	\$ -	\$ -	\$ -
23			3/4" Dia Cold Water Pipe	LF	179		\$ 70.00	\$ -	\$ -	\$ -	\$ -
24			1" Dia Cold Water Pipe	LF	43		\$ 70.00	\$ -	\$ -	\$ -	\$ -
25			1-1/2" Dia Cold Water Pipe	LF	57		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			1/2" Thick Mineral Fiber, Preformed Pipe Insulation								
26			1/2" Dia Cold Water Pipe	LF	49		\$ 70.00	\$ -	\$ -	\$ -	\$ -
27			3/4" Dia Cold Water Pipe	LF	179		\$ 70.00	\$ -	\$ -	\$ -	\$ -
28			1" Dia Cold Water Pipe	LF	43		\$ 70.00	\$ -	\$ -	\$ -	\$ -
29			1-1/2" Dia Cold Water Pipe	LF	57		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			COLD WATER PIPE FITTINGS								
			ELBOW								
30			1/2" Dia Cold Water Pipe 90 Deg Elbow	EA	11		\$ 70.00	\$ -	\$ -	\$ -	\$ -
31			3/4" Dia Cold Water Pipe 90 Deg Elbow	EA	22		\$ 70.00	\$ -	\$ -	\$ -	\$ -
32			1" Dia Cold Water Pipe 90 Deg Elbow	EA	11		\$ 70.00	\$ -	\$ -	\$ -	\$ -
33			1-1/2" Dia Cold Water Pipe 90 Deg Elbow	EA	4		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			TEE								
34			3/4" Dia Cold Water Pipe Tee	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
35			1" Dia Cold Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
36			1-1/2" Dia Cold Water Pipe Tee	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
37			3/4" / 1/2" Dia Cold Water Pipe Tee	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
38			1" / 3/4" Dia Cold Water Pipe Tee	EA	4		\$ 70.00	\$ -	\$ -	\$ -	\$ -
39			1-1/2" / 3/4" Dia Cold Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
40			1-1/2" / 1" Dia Cold Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			REDUCER								
41			3/4" / 1/2" Dia Cold Water Pipe Reducer	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
42			1" / 3/4" Dia Cold Water Pipe Reducer	EA	3		\$ 70.00	\$ -	\$ -	\$ -	\$ -
43			1-1/2" / 1" Dia Cold Water Pipe Reducer	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			HOT WATER PIPE (ABOVE GRADE)								
			Type "L" Hard Copper Tube Pipe, ASTM B 88, With Wrought Copper, Solder Joint Fittings And Soldered Joints								
44			1/2" Dia Hot Water Pipe	LF	44		\$ 70.00	\$ -	\$ -	\$ -	\$ -
45			3/4" Dia Hot Water Pipe	LF	71		\$ 70.00	\$ -	\$ -	\$ -	\$ -
46			1" Dia Hot Water Pipe	LF	9		\$ 70.00	\$ -	\$ -	\$ -	\$ -
47			1-1/2" Dia Hot Water Pipe	LF	119		\$ 70.00	\$ -	\$ -	\$ -	\$ -
48			2" Dia Hot Water Pipe	LF	8		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			1" Thick Mineral Fiber, Preformed Pipe Insulation								
49			1/2" Dia Hot Water Pipe	LF	44		\$ 70.00	\$ -	\$ -	\$ -	\$ -
50			3/4" Dia Hot Water Pipe	LF	71		\$ 70.00	\$ -	\$ -	\$ -	\$ -
51			1" Dia Hot Water Pipe	LF	9		\$ 70.00	\$ -	\$ -	\$ -	\$ -

1-1/2" Thick Mineral Fiber, Preformed Pipe Insulation

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
52			1-1/2" Dia Hot Water Pipe	LF	119		\$ 70.00	\$ -	\$ -	\$ -	\$ -
53			2" Dia Hot Water Pipe	LF	8		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			HOT WATER PIPE FITTINGS								
			ELBOW								
54			1/2" Dia Hot Water Pipe 90 Deg Elbow	EA	11		\$ 70.00	\$ -	\$ -	\$ -	\$ -
55			3/4" Dia Hot Water Pipe 90 Deg Elbow	EA	6		\$ 70.00	\$ -	\$ -	\$ -	\$ -
56			1" Dia Hot Water Pipe 90 Deg Elbow	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
57			1-1/2" Dia Hot Water Pipe 90 Deg Elbow	EA	9		\$ 70.00	\$ -	\$ -	\$ -	\$ -
58			2" Dia Hot Water Pipe 90 Deg Elbow	EA	5		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			TEE								
59			3/4" Dia Hot Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
60			3/4" / 1/2" Dia Hot Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
61			1" / 3/4" Dia Hot Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
62			1-1/2" / 1/2" Dia Hot Water Pipe Tee	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
63			1-1/2" / 3/4" Dia Hot Water Pipe Tee	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			REDUCER								
64			3/4" / 1/2" Dia Hot Water Pipe Reducer	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
65			1" / 3/4" Dia Hot Water Pipe Reducer	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
66			1-1/2" / 1" Dia Hot Water Pipe Reducer	EA	1		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			HOT WATER RETURN PIPE (ABOVE GRADE)								
			Type "L" Hard Copper Tube Pipe, ASTM B 88, With Wrought Copper, Solder Joint Fittings And Soldered Joints								
67			3/4" Dia Hot Water Return Pipe	LF	20		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			1" Thick Mineral Fiber, Preformed Pipe Insulation								
68			3/4" Dia Hot Water Return Pipe	LF	20		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			HOT WATER RETURN PIPE FITTINGS								
			ELBOW								
69			3/4" Dia Hot Water Return Pipe 90 Deg Elbow	EA	6		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			SANITARY PIPE (BELOW GRADE)								
			Solid Wall PVC Pipe With PVC Socket Fittings And Solvent Cemented Joints								
70			2" Dia Sanitary Pipe	LF	22		\$ 70.00	\$ -	\$ -	\$ -	\$ -
71			3" Dia Sanitary Pipe	LF	165		\$ 70.00	\$ -	\$ -	\$ -	\$ -
72			4" Dia Sanitary Pipe	LF	50		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			SANITARY PIPE FITTINGS								
			ELBOW								
73			4" Dia Sanitary Pipe 90 Deg Elbow	EA	2		\$ 70.00	\$ -	\$ -	\$ -	\$ -
74			3" Dia Sanitary Pipe 90 Deg Elbow	EA	18		\$ 70.00	\$ -	\$ -	\$ -	\$ -
75			2" Dia Sanitary Pipe 45 Deg Elbow	EA	6		\$ 70.00	\$ -	\$ -	\$ -	\$ -
76			3" Dia Sanitary Pipe 45 Deg Elbow	EA	16		\$ 70.00	\$ -	\$ -	\$ -	\$ -
			WYE								
77			2" Dia Sanitary Pipe Wye	EA	7		\$ 70.00	\$ -	\$ -	\$ -	\$ -

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
107	P-101, P-111, P-201, P-211, P-221, P-401, P-501 & P-901		SK-1: 1 Comp Lab Sink With Deck Mounted Eyewash Fixture, 22 GA, 300 Series Stainless Steel, Satin Finish 25x21.25x6.5 Single Drop In, 3-Faucet Hole Configuration. Stainless Steel Drain Body (DAYTON D1125), ELKAY/DAYTON D12512, Trim Basis Of Design: Deck Mounted Cast Brass Faucet With 5.25 Inch Swing GOOSENECK And 8 Inch Fixed Centers. 6" Wrist Blade Handles, CHICAGO FAUCETS 86-E3-319ABCP7, Activation: Manual. Remarks: Rough-In Sizes Refer To The Pipe Runout Size To Each Fixture. Provide Fittings And Accessories As Required For Final Connection. Notes: 1. Provide Deck Mounted Eyewash/Drench Hose Unit, Guardian G5002BP At This Location. Meets ANSI Z358.1 Requirements. Backflow Preventer On Hose Inlet. Two Spray Heads With DUXT Covers. Locking Clip On Squeeze Handle. 8 Foot Flexible Stainless Steel Hose. Undercounter Hose Bracket. Thermostatic Mixing Valve (GUARDIAN G6020) Located In Cabinet Below.	EA	5	3.450	\$ 70.00	\$ 241.50	\$ 1,549.05	\$ 1,790.55	\$ 8,952.75
108			SK-2: 2 Comp Lab Sink With Deck Mounted Eyewash Fixture, 22 GA, 300 Series Stainless Steel, Satin Finish 33x21.25x6.5 Double (Equal) Drop In, 3-Faucet Hole Configuration. Stainless Steel Drain Body 32 (DAYTON D1125), ELKAY/DAYTON D23321, Trim Basis Of Design: Deck Mounted Cast Brass Faucet With 5.25 Inch Swing GOOSENECK And 8 Inch Fixed Centers. 6" Wrist Blade Handles, CHICAGO FAUCETS 86-E3-319ABCP7, Activation: Manual. Remarks: Rough-In Sizes Refer To The Pipe Runout Size To Each Fixture. Provide Fittings And Accessories As Required For Final Connection. Notes: 1. Provide Deck Mounted Eyewash/Drench Hose Unit, Guardian G5002bp At This Location. Meets ANSI Z358.1 Requirements. Backflow Preventer On Hose Inlet. Two Spray Heads With DUXT Covers. Locking Clip On Squeeze Handle. 8 Foot Flexible Stainless Steel Hose. Undercounter Hose Bracket. Thermostatic Mixing Valve (GUARDIAN G6020) Located In Cabinet Below.	EA	1	3.550	\$ 70.00	\$ 248.50	\$ 1,706.06	\$ 1,954.56	\$ 1,954.56
109			SK-3: 1 Comp Kitchen Sink, 20 GA, 304 Stainless Steel, Brushed Satin Finish 25x22x7 Single Drop In, 3-Faucet Hole Configuration. Stainless Steel Drain Body (ELKAY LK99), ELKAY CR2522, Trim Basis Of Design: Deck Mounted Cast Brass Faucet With 9.5 Inch Swing Spout, 8 Inch CENTERSET. Single Handle Control, DELTA B1310LF, Activation: Manual. Remarks: Rough-In Sizes Refer To The Pipe Runout Size To Each Fixture.	EA	1	3.450	\$ 70.00	\$ 241.50	\$ 756.03	\$ 997.53	\$ 997.53

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
114			EWH-1: Electric Water Heater, AO SMITH DRE-80A-15, Service: Non-Potable Hot Water, Location: Mechanical Room, Mounting: Floor, Type: Electric Tank Type, Design Data, Recovery (GPH): 68, EWT (F): 50, LWT(F): 140, Temperature Rise (F): 90, Electrical Data, KW: 15, FLA: 41.6, V/PH/HZ: 208/3/60, MAX Operating Weight (LBS): 800 Remarks: A. Provide With Disconnect. B. Provide ASME Construction. C. Unit Shall Be Installed On A 4" Concrete Pad. Notes: 1. Provide THERM-X-TROL Thermal Expansion Tank, Diaphragm St-C Series ASME. MODEL ST-12C-DD.	EA	1	4.650	\$ 70.00	\$ 325.50	\$ 5,220.80	\$ 5,546.30	\$ 5,546.30
			ELECTRIC WATER HEATER DETAIL								
115			EXT-1, Expansion Tank, Bladder Type	EA	1	0.650	\$ 70.00	\$ 45.50	\$ 65.48	\$ 110.98	\$ 110.98
116			3/4" Dia Drain Valve With Hose Connection	EA	1	0.450	\$ 70.00	\$ 31.50	\$ 41.06	\$ 72.56	\$ 72.56
117			3/4" Dia Temperature & Pressure Relief Valve	EA	2	0.600	\$ 70.00	\$ 42.00	\$ 52.00	\$ 94.00	\$ 188.00
118			1" Dia Check Valve	EA	1	0.250	\$ 70.00	\$ 17.50	\$ 28.00	\$ 45.50	\$ 45.50
119			1" Dia Shutoff Valve	EA	3	0.300	\$ 70.00	\$ 21.00	\$ 31.02	\$ 52.02	\$ 156.06
120			2" Dia Shutoff Valve	EA	1	0.600	\$ 70.00	\$ 42.00	\$ 53.38	\$ 95.38	\$ 95.38
121			1" Dia Vacuum Relief Valve	EA	1	0.800	\$ 70.00	\$ 56.00	\$ 82.55	\$ 138.55	\$ 138.55
122			1" Dia TMV-1: Thermostatic Mixing Valve, Lead Free Bronze	EA	1	3.250	\$ 70.00	\$ 227.50	\$ 1,821.31	\$ 2,048.81	\$ 2,048.81
123			1" Dia Union	EA	2	0.400	\$ 70.00	\$ 28.00	\$ 48.00	\$ 76.00	\$ 152.00
124			2" Dia Union	EA	1	0.400	\$ 70.00	\$ 28.00	\$ 51.00	\$ 79.00	\$ 79.00
			TANKLESS WATER HEATER								
125			EWH-2: Tankless Water Heater, CHRONOMITE M-40L / 208, Service: Potable Hot Water, Location: Break Room, Mounting: Under Counter, Type: Instant-Flow, Design Data, Flow Rate (GPM): 1, EWT (F): 50, LWT (F): 110, Temperature Rise (F): 60, Electric Data, KW: 8.32, FLA: 40, V/PH/HZ: 208/1/60 Remarks: A. Digital Temperature Control With Fast Response. B. Field Adjustable Supply Temperature. Notes: 1. Provide CHRONOMITE 2095-1 Disconnect Switch	EA	1	3.450	\$ 70.00	\$ 241.50	\$ 485.83	\$ 727.33	\$ 727.33
			TANKLESS WATER HEATER DETAILS								
126			1/2" Dia Three Way Angle Stop Valve	EA	1	0.400	\$ 70.00	\$ 28.00	\$ 46.00	\$ 74.00	\$ 74.00
			PUMP								

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
127			P-1: Pump, XYLEM/BELL & GOSSETT NBF-9U/LW, Service: Hot Water Recirculation, Type: In-line, Location: Mechanical Room, Fluid Data, Temp (F): 120, Flow(GPM): 0.5, TDH (FT): 8, RPM: 2800, Electrical Data, Power: 41Watts, V/PH/HZ: 115/1/60, Max Operating Weight (LBS): 20 Remarks: A. Provide A Single Point-Of-Power. B. Provide With Disconnect. C. Provide Automatic Timer Kit TC-1 (115V/1PH/60HZ)	EA	1	3.220	\$ 70.00	\$ 225.40	\$ 481.25	\$ 706.65	\$ 706.65
			PUMP DETAIL								
128			3/4" Dia Strainer	EA	1	0.600	\$ 70.00	\$ 42.00	\$ 62.00	\$ 104.00	\$ 104.00
129			3/4" Dia Union	EA	2	0.250	\$ 70.00	\$ 17.50	\$ 29.00	\$ 46.50	\$ 93.00
130			3/4" Dia Cock Valve	EA	2	0.650	\$ 70.00	\$ 45.50	\$ 64.05	\$ 109.55	\$ 219.10
131			3/4" Dia Ball Valve	EA	2	0.250	\$ 70.00	\$ 17.50	\$ 33.99	\$ 51.49	\$ 102.98
132			3/4" Dia Check Valve	EA	1	0.250	\$ 70.00	\$ 17.50	\$ 26.00	\$ 43.50	\$ 43.50
133			Thermometer	EA	1	0.650	\$ 70.00	\$ 45.50	\$ 52.00	\$ 97.50	\$ 97.50
134			Pressure Gauge	EA	2	0.250	\$ 70.00	\$ 17.50	\$ 22.00	\$ 39.50	\$ 79.00
			MISCELLANEOUS								
135		Furnish By Owner, Install By Contractor	Wall Mounted RO Equipment	EA	1	4.250	\$ 70.00	\$ 297.50	\$ 3,384.00	\$ 3,681.50	\$ 3,681.50
136			2" Dia VTR: Vent Through Roof	EA	2	1.650	\$ 70.00	\$ 115.50	\$ 185.65	\$ 301.15	\$ 602.30
137			3" Dia Pipe Cap	EA	1	0.680	\$ 70.00	\$ 47.60	\$ 69.69	\$ 117.29	\$ 117.29
			CLEANOUTS & DRAINS								
138			3" Dia FD-1: Light Duty Floor Drain, Cast Iron Floor Drain, No-Hub	EA	2	2.150	\$ 70.00	\$ 150.50	\$ 610.00	\$ 760.50	\$ 1,521.00
139			3" Dia FCO: Floor Cleanout, JOSAM 41504	EA	5	2.150	\$ 70.00	\$ 150.50	\$ 605.00	\$ 755.50	\$ 3,777.50
140			4" Dia FCO: Floor Cleanout, JOSAM 41504	EA	1	2.320	\$ 70.00	\$ 162.40	\$ 625.00	\$ 787.40	\$ 787.40
			VALVES								
141			1/2" Dia Isolation Valve	EA	24	0.200	\$ 70.00	\$ 14.00	\$ 20.91	\$ 34.91	\$ 837.84
142			3/4" Dia Isolation Ball Valve	EA	1	0.250	\$ 70.00	\$ 17.50	\$ 26.60	\$ 44.10	\$ 44.10
143			3/4" Dia Check Valve	EA	1	0.250	\$ 70.00	\$ 17.50	\$ 26.00	\$ 43.50	\$ 43.50
144			1" Dia Shutoff Valve	EA	1	0.300	\$ 70.00	\$ 21.00	\$ 31.02	\$ 52.02	\$ 52.02
			PVC COUPLING								
145			1/2" Dia	EA	8						
146			3/4" Dia	EA	23						
147			1" Dia	EA	4						
148			1-1/2" Dia	EA	30						
149			2" Dia	EA	9						
150			3" Dia	EA	15						
151			4" Dia	EA	4						
			PIPE SUPPORT								
152			1/2" Dia Adjustable Clevis Hanger	EA	13						

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
153			3/4" Dia Adjustable Clevis Hanger	EA	54						
154			1" Dia Adjustable Clevis Hanger	EA	11						
155			1-1/4" Dia Adjustable Clevis Hanger	EA	13						
156			1-1/2" Dia Adjustable Clevis Hanger	EA	52						
157			2" Dia Adjustable Clevis Hanger	EA	7						
158			3/8" Dia Threaded Rod (1 Ea. = 1 FT)	EA	143	0.150	\$ 70.00	\$ 10.50	\$ 11.85	\$ 22.35	\$ 3,196.05
159			1/2" Dia Threaded Rod (1 Ea. = 1 FT)	EA	7	0.180	\$ 70.00	\$ 12.60	\$ 15.33	\$ 27.93	\$ 195.51
			TRENCHING & BACKFILLING								
160			Excavation & Backfilling (3' Deep x 1' Wide Trench) Including All Lab	CFT	708	0.085	\$ 70.00	\$ 5.95	\$ -	\$ 5.95	\$ 4,212.60
SUBTOTAL \$										49,057	

HVAC

FLEXIBLE DUCT											
161			4" Dia Flexible Duct	LF	5	0.047	\$ 72.00	\$ 3.38	\$ 4.15	\$ 7.53	\$ 34.81
162			6" Dia Flexible Duct	LF	21	0.062	\$ 72.00	\$ 4.46	\$ 4.93	\$ 9.39	\$ 200.98
163			8" Dia Flexible Duct	LF	31	0.089	\$ 72.00	\$ 6.41	\$ 6.00	\$ 12.41	\$ 379.57
164			10" Dia Flexible Duct	LF	36	0.114	\$ 72.00	\$ 8.21	\$ 7.45	\$ 15.66	\$ 558.57
CONDENSATE DRAIN PIPE											
		Assumed	Type "M" Copper Pipe								
165			3/4" Dia Condensate Drain Pipe	LF	13	0.103	\$ 72.00	\$ 7.42	\$ 4.40	\$ 11.82	\$ 158.44
		Assumed	1/2" Thick Armaflex Insulation								
166			3/4" Dia Condensate Drain Pipe	LF	13	0.022	\$ 72.00	\$ 1.58	\$ 2.18	\$ 3.76	\$ 50.47
CONDENSATE DRAIN FITTINGS											
ELBOW											
167			3/4" Dia Condensate Drain Pipe 90 Deg Elbow	EA	2	0.421	\$ 72.00	\$ 30.31	\$ 5.40	\$ 35.71	\$ 71.42
FLUE VENT PIPE											
		Assumed	Stainless Steel Metal Pipe								
168			4" Dia Flue Vent Pipe	LF	12	0.381	\$ 72.00	\$ 27.43	\$ 51.00	\$ 78.43	\$ 919.69
FLUE VENT FITTINGS											
ELBOW											
169			4" Dia Flue Vent Pipe 90 Deg Elbow	EA	1	4.330	\$ 72.00	\$ 311.76	\$ 60.50	\$ 372.26	\$ 372.26
AIR DEVICES											
170			S1: Supply Diffuser, TITUS OMNI, 24"x24" Face Size, 6" Dia Neck Size, Mounting: Lay-In, Material: Steel Notes: 1: Runouts To Air Device Shall Match Neck Size Unless Otherwise Noted	EA	4	1.250	\$ 72.00	\$ 90.00	\$ 159.00	\$ 249.00	\$ 996.00
171			S1: Supply Diffuser, TITUS OMNI, 24"x24" Face Size, 8" Dia Neck Size, Mounting: Lay-In, Material: Steel Notes: 1: Runouts To Air Device Shall Match Neck Size Unless Otherwise Noted	EA	5	1.250	\$ 72.00	\$ 90.00	\$ 159.00	\$ 249.00	\$ 1,245.00

DETAILED BREAKDOWN OF ITEMS

Prepared for: **Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168**
 Project ID: **27072024**
 Scope: **Mechanical & Plumbing**



Date: **7-Mar-25**

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
180	MH111 & MH121		CAV-01: Constant Air Volume, TRANE VCEF, Inlet Duct (In): 5, Primary Air Flow, Max (CFM): 205, MIN (CFM): 205, Heating Data, Air Flow (CFM): 205, Capacity (MBH): 5.1, KW: (KW): 1.5, Eat (F): 58, LAT (F): 81, Electrical Data, V/PH/HZ: 208/3/60 A. All Terminals Shall Be Pressure Independent Type. B. Maximum Ne Level Shall Be 30. C. Maximum Pressure Drop Shall Be 0.25 In-WC. D. Provide Control Power Transformer And Disconnect Switch. Heater Door Acting As Disconnect. E. Heating Coils Shall Have SCR Modulating Control.	EA	1	2.100	\$ 72.00	\$ 151.20	\$ 652.00	\$ 803.20	\$ 803.20
181			CAV-02: Constant Air Volume, TRANE VCEF, Inlet Duct (In): 8, Primary Air Flow, Max (CFM): 420, MIN (CFM): 420, Heating Data, Air Flow (CFM): 420, Capacity (CFM): 8.7, KW: (KW): 2.5, Eat (F): 58, LAT (F): 77, Electrical Data, V/PH/HZ: 208/3/60 A. All Terminals Shall Be Pressure Independent Type. B. Maximum Ne Level Shall Be 30. C. Maximum Pressure Drop Shall Be 0.25 In-WC. D. Provide Control Power Transformer And Disconnect Switch. Heater Door Acting As Disconnect. E. Heating Coils Shall Have SCR Modulating Control.	EA	1	3.250	\$ 72.00	\$ 234.00	\$ 1,195.98	\$ 1,429.98	\$ 1,429.98
182			CAV-03: Constant Air Volume, TRANE VCEF, Inlet Duct (In): 8, Primary Air Flow, Max (CFM): 460, MIN (CFM): 460, Heating Data, Air Flow (CFM): 460, Capacity (CFM): 10.3, KW: (KW): 3.0, Eat (F): 58, LAT (F): 78.5, Electrical Data, V/PH/HZ: 208/3/60 A. All Terminals Shall Be Pressure Independent Type. B. Maximum Ne Level Shall Be 30. C. Maximum Pressure Drop Shall Be 0.25 In-WC. D. Provide Control Power Transformer And Disconnect Switch. Heater Door Acting As Disconnect. E. Heating Coils Shall Have SCR Modulating Control.	EA	1	3.250	\$ 72.00	\$ 234.00	\$ 1,195.98	\$ 1,429.98	\$ 1,429.98
183			CAV-04: Constant Air Volume, TRANE VCEF, Inlet Duct (In): 6, Primary Air Flow, Max (CFM): 400, MIN (CFM): 400, Heating Data, Air Flow (CFM): 400, Capacity (CFM): 10.2, KW: (KW): 3.0, Eat (F): 58, LAT (F): 81.5, Electrical Data, V/PH/HZ: 208/3/60 A. All Terminals Shall Be Pressure Independent Type. B. Maximum Ne Level Shall Be 30. C. Maximum Pressure Drop Shall Be 0.25 In-WC. D. Provide Control Power Transformer And Disconnect Switch. Heater Door Acting As Disconnect. E. Heating Coils Shall Have SCR Modulating Control.	EA	1	3.250	\$ 72.00	\$ 234.00	\$ 1,195.98	\$ 1,429.98	\$ 1,429.98

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
187			RTU-01: Rooftop Unit, TRANE 0ABD096, Service: Laboratory Areas, Nominal Cooling Capacity (Tons): 8, Efficiency: 4.76, Outside Airflow, MIN. CFM: 590, Max. CFM: 590, Supply Fan Data, Airflow (CFM): 2745, Wheel Type: BC Plenum, ESP: (IN-WC): 1.0, TSP (IN-WC): 3.76, Fan Drive: Direct, BHP: 2.7, Motor HP: 5, VFD (Y/N): Y, Cooling Coil Data, Airflow (CFM): 2745, EAT DB/WB (F): 75.79/62.13, LAT DB/WB (F): 52.5/52.5, Design Capacity, Sensible (MBH): 69.7, Total (MBH): 76.7, Gas Heating Section, Heating Air Flow (CFM): 2745, Type: Indirect, Input (MBH): 50, Output (MBH): 40, Required Gas Inlet Pressure ("): 4.5-14.0, EAT (F): 50.0, LAT (F): 63.4, Filter Data, Pre Filters, Type: 2" Plated, MERV Rating: MERV 8, Primary Filters: Type: 4" Pleated, MERV Rating: 14, Electrical Data, MCA: 48.4, MOP: 70, V/PH/HZ: 208/3/60, Max Operating Weight (LBS): 1600 Notes: A. Provide A Single Point-Of-Power And Disconnect Switch. B. Provide Outside Air And Return Air Class 1a Dampers And Barometric Relief. C. Provide Variable Speed Drive On Fan Motor(S) As Indicated With Wiring, Between Motor And VFD, Inside Metal Conduit. D. Provide With Powered Convenience Outlet With Transformer Taken Off Ahead Of Unit Disconnect. E. Provide Digital Scroll Compressor On Primary Circuit. F. Provide Variable Speed Head Pressure For Low Ambient Control Down To 0°F. G. Provide Evaporator And Condenser Coils With Epoxy E-Coating	EA	1	15.000	\$ 72.00	\$ 1,080.00	\$ 11,950.00	\$ 13,030.00	\$ 13,030.00
			GAS EQUIPMENT CONNECTION DETAILS								
188			3/4" Dia Dirt Leg	EA	3	0.750	\$ 72.00	\$ 54.00	\$ 78.00	\$ 132.00	\$ 396.00
189			3/4" Dia Union	EA	6	0.300	\$ 72.00	\$ 21.60	\$ 32.00	\$ 53.60	\$ 321.60
190			3/4" Dia Regulator	EA	3	0.780	\$ 72.00	\$ 56.16	\$ 64.99	\$ 121.15	\$ 363.45
191			3/4" Dia Gas Shutoff Valve	EA	3	0.300	\$ 72.00	\$ 21.60	\$ 28.00	\$ 49.60	\$ 148.80
192			1-1/4" Dia Union	EA	2	0.250	\$ 72.00	\$ 18.00	\$ 32.00	\$ 50.00	\$ 100.00
193			1-1/4" Dia Regulator	EA	1	0.800	\$ 72.00	\$ 57.60	\$ 72.00	\$ 129.60	\$ 129.60
194			1-1/4" Dia Shutoff Valve	EA	1	0.600	\$ 72.00	\$ 43.20	\$ 65.00	\$ 108.20	\$ 108.20
			FAN								
195			EF-01: Exhaust Fan, GREENHECK G-09/-VG, Type: Down Blast,	EA	1	3.480	\$ 72.00	\$ 250.56	\$ 1,053.53	\$ 1,304.09	\$ 1,304.09
			DAMPERS								
196			4" Dia Volume Damper	EA	1	0.400	\$ 72.00	\$ 28.80	\$ 42.00	\$ 70.80	\$ 70.80
197			6" Dia Volume Damper	EA	4	0.500	\$ 72.00	\$ 36.00	\$ 52.00	\$ 88.00	\$ 352.00
198			8" Dia Volume Damper	EA	6	0.600	\$ 72.00	\$ 43.20	\$ 58.00	\$ 101.20	\$ 607.20
199			10" Dia Volume Damper	EA	4	0.650	\$ 72.00	\$ 46.80	\$ 66.00	\$ 112.80	\$ 451.20
200			8"x8" Volume Damper	EA	1	0.650	\$ 72.00	\$ 46.80	\$ 62.00	\$ 108.80	\$ 108.80
201			10"x10" Volume Damper	EA	4	0.880	\$ 72.00	\$ 63.36	\$ 88.00	\$ 151.36	\$ 605.44
202			14"x12" Volume Damper	EA	1	1.100	\$ 72.00	\$ 79.20	\$ 125.00	\$ 204.20	\$ 204.20

DETAILED BREAKDOWN OF ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila, WA 98168
 Project ID: 27072024
 Scope: Mechanical & Plumbing



Date: 7-Mar-25

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
			DUCT WEIGHT								
203			Galvanized Sheet Metal Duct, Comply With ASTM A653/A653M	LB	2089	0.038	\$ 72.00	\$ 2.74	\$ 4.10	\$ 6.84	\$ 14,279.72
			DUCT INSULATION								
204			2" Thick Mineral Fiber Blanket, Nominal Density, R6	SF	1868	0.028	\$ 72.00	\$ 2.02	\$ 2.58	\$ 4.60	\$ 8,584.41
			MISCELLANEOUS								
205			Thermostat	EA	8	0.750	\$ 72.00	\$ 54.00	\$ 66.00	\$ 120.00	\$ 960.00
			PIPE SUPPORTS								
206			3/4" Dia Adjustable Clevis Hanger	EA	1						
207			4" Dia Adjustable Clevis Hanger	EA	1						
208			3/8" Dia Threaded Rod (1 Ea. = 1 FT)	EA	1	0.150	\$ 72.00	\$ 10.80	\$ 11.85	\$ 22.65	\$ 22.65
209			5/8" Dia Threaded Rod (1 Ea. = 1 FT)	EA	1	0.180	\$ 72.00	\$ 12.96	\$ 15.25	\$ 28.21	\$ 28.21
			DUCT SUPPORTS								
210			3/8" Threaded Rod	EA	110	0.150	\$ 72.00	\$ 10.80	\$ 11.85	\$ 22.65	\$ 2,491.50
211			1" x 22 Ga. Strap	EA	55	0.068	\$ 72.00	\$ 4.90	\$ 4.98	\$ 9.88	\$ 543.18
SUBTOTAL \$										62,248	
PROJECTED COST											\$131,582
OVERHEAD AND PROFIT										20%	\$26,316
INSURANCE										3%	\$3,947
CONTINGENCY										5%	\$6,579
TAX										10%	\$8,105
SUGGESTED BID											\$176,530

BREAKDOWN OF DUCT ITEMS

Prepared for: Tukwila Lab Expansion, 12600 Interurban Ave. S. #120 Tukwila,
Project ID: 27072024
Scope: Mechanical & Plumbing



7-Mar-25

SR #	DESCRIPTION	UNIT	QUANTITY
HVAC			
GALVANIZED SHEET METAL DUCT			
1	4" Dia Supply Air Duct	LF	9
2	5" Dia Supply Air Duct	LF	5
3	6" Dia Supply Air Duct	LF	64
4	8" Dia Supply Air Duct	LF	48
5	10" Dia Supply Air Duct	LF	83
6	8"x8" Supply Air Duct	LF	14
7	8"x10" Supply Air Duct	LF	6
8	12"x10" Supply Air Duct	LF	14
9	12"x12" Supply Air Duct	LF	20
10	14"x14" Supply Air Duct	LF	13
11	16"x16" Supply Air Duct	LF	17
12	24"x16" Supply Air Duct	LF	21
13	8" Dia Return Air Duct	LF	29
14	10" Dia Return Air Duct	LF	5
15	8"x8" Return Air Duct	LF	8
16	10"x10" Return Air Duct	LF	35
17	12"x12" Return Air Duct	LF	42
18	14"x12" Return Air Duct	LF	65
19	14"x14" Return Air Duct	LF	19
20	20"x14" Return Air Duct	LF	10
21	24"x16" Return Air Duct	LF	19
22	6" Dia Exhaust Air Duct	LF	47
23	6"x6" Exhaust Air Duct	LF	4
24	12"x12" Exhaust Air Duct	LF	11