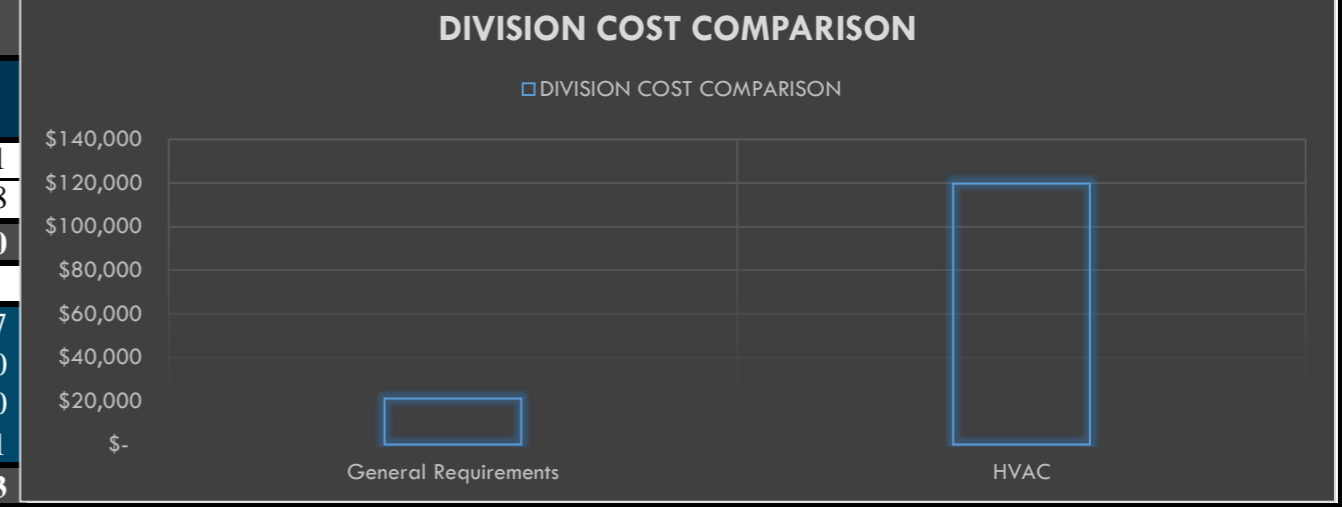


GENERAL SUMMARY



Prepared for: Texas
Project ID:
Scope: HVAC
No. Of Floors: 1
Date: 29-Nov-23

BUILDING GSF		14,353	
DIVISION NO	DESCRIPTION	TOTAL DIV. COST	TOTAL DIV. COST (PER SF)
1000	General Requirements	\$ 21,000	\$ 1
23000	HVAC	\$ 119,619	\$ 8
TOTAL TRADE COST		\$ 140,619	\$ 10
OVERHEAD AND PROFIT			
	15%	\$ 21,093	\$ 1.47
INSURANCE	3%	\$ 4,219	\$ 0
CONTINGENCY	5%	\$ 7,031	\$ 0
TAX	8.25%	\$ 6,793	\$ 1
SUGGESTED BID		\$ 179,754	\$ 13



DETAILED BREAKDOWN OF ITEMS

Prepared for: Texas
 Project ID:
 Scope: HVAC



Date: 29-Nov-23

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	WASTAGE	QUANTITY W/ WASTAGE	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
GENERAL REQUIREMENTS													
1			Permits	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
2			Supervision and Coordination	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ 9,500.00	\$ 9,500.00
3			Submittals and Shop drawings	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
4			Final Cleaning	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ 2,500.00	\$ 2,500.00
5			Mobilization Costs	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ 5,500.00	\$ 5,500.00
6			Temporary Control & Facilities	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ 3,500.00	\$ 3,500.00
7			Scaffolding	LS	1	0%	1	0.000	\$ -	\$ -	\$ -	\$ -	\$ -
												SUBTOTAL \$	21,000
HVAC													
FLEXIBLE DUCT													
8			6" Dia Flexible Duct	LF	6	10%	7	0.062	\$ 78.00	\$ 4.84	\$ 1.85	\$ 6.69	\$ 45.38
9			8" Dia Flexible Duct	LF	22	10%	24	0.074	\$ 78.00	\$ 5.77	\$ 2.48	\$ 8.25	\$ 200.97
10			10" Dia Flexible Duct	LF	46	10%	50	0.090	\$ 78.00	\$ 7.02	\$ 3.40	\$ 10.42	\$ 522.55
REFRIGERANT PIPE													
Type "ACR" Copper Pipe													
11			3/8" Dia Refrigerant Liquid Pipe	LF	33	10%	36	0.064	\$ 78.00	\$ 4.99	\$ 1.65	\$ 6.64	\$ 239.28
12			5/8" Dia Refrigerant Suction Pipe	LF	33	10%	36	0.064	\$ 78.00	\$ 4.99	\$ 1.65	\$ 6.64	\$ 239.28
1" Thick Flexible Elastomeric Cellular Thermal , Insulation, ASTM C534, ARMAFLEX ULTRA													
13			3/8" Dia Refrigerant Liquid Pipe	LF	33	10%	36	0.022	\$ 78.00	\$ 1.71	\$ 2.73	\$ 4.44	\$ 160.05
14			5/8" Dia Refrigerant Suction Pipe	LF	33	10%	36	0.022	\$ 78.00	\$ 1.71	\$ 2.73	\$ 4.44	\$ 160.05
REFRIGERANT PIPE FITTINGS													
ELBOW													
15			3/8" Dia Refrigerant Liquid Pipe 90 Deg Elbow	EA	7	0%	7	0.421	\$ 78.00	\$ 32.84	\$ 6.01	\$ 38.85	\$ 271.94
16			5/8" Dia Refrigerant Suction Pipe 90 Deg Elbow	EA	7	0%	7	0.421	\$ 78.00	\$ 32.84	\$ 5.89	\$ 38.73	\$ 271.10
CONDENSATE DRAIN PIPE													
Schedule 40 PVC Pipe W/ Galvanized Steel Malleable Iron Screwed Fittings													
17			3/4" Dia Condensate Drain Pipe	LF	23	10%	25	0.051	\$ 78.00	\$ 4.00	\$ 0.72	\$ 4.72	\$ 118.19
18			1" Dia Condensate Drain Pipe	LF	78	10%	86	0.068	\$ 78.00	\$ 5.33	\$ 1.34	\$ 6.67	\$ 574.18
19			1-1/4" Dia Condensate Drain Pipe	LF	95	10%	105	0.076	\$ 78.00	\$ 5.90	\$ 1.68	\$ 7.58	\$ 795.60
1" Thick Flexible Elastomeric Cellular Thermal , Insulation, ASTM C534, ARMAFLEX ULTRA													
20			3/4" Dia Condensate Drain Pipe	LF	23	10%	25	0.022	\$ 78.00	\$ 1.71	\$ 2.73	\$ 4.44	\$ 111.33
21			1" Dia Condensate Drain Pipe	LF	78	10%	86	0.022	\$ 78.00	\$ 1.71	\$ 2.73	\$ 4.44	\$ 382.52
22			1-1/4" Dia Condensate Drain Pipe	LF	95	10%	105	0.022	\$ 78.00	\$ 1.71	\$ 2.73	\$ 4.44	\$ 466.33
REFRIGERANT PIPE FITTINGS													
ELBOW													
23			3/4" Dia Condensate Drain Pipe 90 Deg Elbow	EA	3	0%	3	0.088	\$ 78.00	\$ 6.85	\$ 1.84	\$ 8.69	\$ 26.07
24			1" Dia Condensate Drain Pipe 90 Deg Elbow	EA	12	0%	12	0.107	\$ 78.00	\$ 8.37	\$ 2.19	\$ 10.56	\$ 126.77
25			1-1/4" Dia Condensate Drain Pipe 90 Deg Elbow	EA	6	0%	6	0.122	\$ 78.00	\$ 9.52	\$ 3.00	\$ 12.52	\$ 75.10
26			1-1/4" Dia Condensate Drain Pipe 45 Deg Elbow	EA	2	0%	2	0.122	\$ 78.00	\$ 9.52	\$ 3.00	\$ 12.52	\$ 25.03
TEE													
27			1-1/4" / 1" Dia Condensate Drain Pipe Tee	EA	2	0%	2	0.189	\$ 78.00	\$ 14.75	\$ 3.87	\$ 18.62	\$ 37.24
REDUCER													
28			1-1/4" / 1" Dia Condensate Drain Pipe Reducer	EA	2	0%	2	0.189	\$ 78.00	\$ 14.75	\$ 3.87	\$ 18.62	\$ 37.24
AIR DEVICES													

DETAILED BREAKDOWN OF ITEMS

Prepared for: Texas
 Project ID:
 Scope: HVAC



Date: 29-Nov-23

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	WASTAGE	QUANTITY W/ WASTAGE	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
29			A: Supply Air Diffuser, TITUS TMS-AA, 6" Dia Neck Size, Type: Louvered Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling Or Gypsum. Refer To Plans	EA	1	0%	1	0.500	\$ 78.00	\$ 39.00	\$ 56.50	\$ 95.50	\$ 95.50
30			A: Supply Air Diffuser, TITUS TMS-AA, 8" Dia Neck Size, Type: Louvered Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling Or Gypsum. Refer To Plans	EA	9	0%	9	0.550	\$ 78.00	\$ 42.90	\$ 64.00	\$ 106.90	\$ 962.10
31			A: Supply Air Diffuser, TITUS TMS-AA, 10" Dia Neck Size, Type: Louvered Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling Or Gypsum. Refer To Plans	EA	14	0%	14	0.588	\$ 78.00	\$ 45.83	\$ 81.00	\$ 126.83	\$ 1,775.55
32			B: Return/Exhaust Air Grille, TITUS PAR-AA, 8"x8" Neck Size, Type: Perforated Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling. Provide 22"x22" Neck Unless Otherwise Noted. Provide O.B.D. For Ducted Exhaust.	EA	4	0%	4	0.550	\$ 78.00	\$ 42.90	\$ 68.00	\$ 110.90	\$ 443.60
33			B: Return/Exhaust Air Grille, TITUS PAR-AA, 10"x10" Neck Size, Type: Perforated Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling. Provide 22"x22" Neck Unless Otherwise Noted. Provide O.B.D. For Ducted Exhaust.	EA	6	0%	6	0.600	\$ 78.00	\$ 46.80	\$ 79.00	\$ 125.80	\$ 754.80
34			B: Return/Exhaust Air Grille, TITUS PAR-AA, 24"x24" Face Size, Type: Perforated Face Remarks: 24"x24" Face, Aluminum Construction With Frame For Lay-In Ceiling. Provide 22"x22" Neck Unless Otherwise Noted. Provide O.B.D. For Ducted Exhaust.	EA	6	0%	6	0.663	\$ 78.00	\$ 51.68	\$ 153.50	\$ 205.18	\$ 1,231.05
35			C: Supply Air Grille, TITUS 300FL, 10"x10" Face Size, Type: Sidewall Remarks: Aluminum Construction With Frame For Surface Mount. 3/4" Blade Spacing, Double Deflection With Front Blades Parallel To Long Dimension. Provide O.B.D.	EA	1	0%	1	0.600	\$ 78.00	\$ 46.80	\$ 79.00	\$ 125.80	\$ 125.80
36			C: Supply Air Grille, TITUS 300FL, 12"x12" Face Size, Type: Sidewall Remarks: Aluminum Construction With Frame For Surface Mount. 3/4" Blade Spacing, Double Deflection With Front Blades Parallel To Long Dimension. Provide O.B.D.	EA	2	0%	2	0.625	\$ 78.00	\$ 48.75	\$ 93.22	\$ 141.97	\$ 283.94
37			D: Return Air Grille, TITUS 350FL, 10"x10" Face Size, Type: Sidewall Remarks: Aluminum Construction With Frame For Surface Mount. 3/4" Blade Spacing, 35° Deflection With Blades Parallel To Long Dimension. Provide O.B.D. For Ducted Exhaust.	EA	1	0%	1	0.600	\$ 78.00	\$ 46.80	\$ 79.00	\$ 125.80	\$ 125.80
38			D: Return Air Grille, TITUS 350FL, 18"x12" Face Size, Type: Sidewall Remarks: Aluminum Construction With Frame For Surface Mount. 3/4" Blade Spacing, 35° Deflection With Blades Parallel To Long Dimension. Provide O.B.D. For Ducted Exhaust.	EA	1	0%	1	0.638	\$ 78.00	\$ 49.73	\$ 111.00	\$ 160.73	\$ 160.73
39			E: Supply Air Diffuser, TITUS DL, 18"x16" Neck Size, Type: Drum Louver Remarks: Aluminum Frame With Aluminum Drum And Opposed Blade Damper.	EA	12	0%	12	0.638	\$ 78.00	\$ 49.73	\$ 128.00	\$ 177.73	\$ 2,132.70

DETAILED BREAKDOWN OF ITEMS

Prepared for: Texas
 Project ID:
 Scope: HVAC



Date: 29-Nov-23

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	WASTAGE	QUANTITY W/ WASTAGE	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
57			EF-1: Exhaust Fan, GREENHECK G-097-VG, Type/Drive: Cent/Direct, Interlock: EMCS, CFM (Min./Max.): 150, Ext. S.P. (IN. W.G): 0.700, Horsepower: 1/4, Fan Speed (RPM): 1,695, Sones (Max): 9.7, Volts/PH/HZ: 115/1/60 Notes: 1. External Static Pressure Does Not Account For Losses Due To Filters, Housing, Nor Accessories. 2. Provide With 12" Prefabricated Roof Curb, Weatherproof Disconnect Switch, And Aluminum Bird Screen. 3. Provide With Motorized Damper Interlocked With Fan Operation Such That Damper Shall Open When Fan Is Energized And Shut When Fan Is De-Energized. Damper Shall Be Installed In Accessible Location. 4. Provide With Direct Drive, Electronically Commutated Fan Motor (ECM).	EA	1	0%	1	3.560	\$ 78.00	\$ 277.68	\$ 1,053.53	\$ 1,331.21	\$ 1,331.21
58			EF-2: Exhaust Fan, GREENHECK G-097-VG, Type/Drive: Cent/Direct, Interlock: EMCS, CFM (Min./Max.): 125, Ext. S.P. (IN. W.G): 0.500, Horsepower: 1/4, Fan Speed (RPM): 1,175, Sones (Max): 5.1, Volts/PH/HZ: 115/1/60 Notes: 1. External Static Pressure Does Not Account For Losses Due To Filters, Housing, Nor Accessories. 2. Provide With 12" Prefabricated Roof Curb, Weatherproof Disconnect Switch, And Aluminum Bird Screen. 3. Provide With Motorized Damper Interlocked With Fan Operation Such That Damper Shall Open When Fan Is Energized And Shut When Fan Is De-Energized. Damper Shall Be Installed In Accessible Location. 4. Provide With Direct Drive, Electronically Commutated Fan Motor (ECM).	EA	1	0%	1	3.560	\$ 78.00	\$ 277.68	\$ 1,053.53	\$ 1,331.21	\$ 1,331.21
59			EF-3: Exhaust Fan, GREENHECK G-098-VG, Type/Drive: Cent/Direct, Interlock: EMCS, CFM (Min./Max.): 300, Ext. S.P. (IN. W.G): 0.700, Horsepower: 1/4, Fan Speed (RPM): 1,365, Sones (Max): 7.3, Volts/PH/HZ: 115/1/60 Notes: 1. External Static Pressure Does Not Account For Losses Due To Filters, Housing, Nor Accessories. 2. Provide With 12" Prefabricated Roof Curb, Weatherproof Disconnect Switch, And Aluminum Bird Screen. 3. Provide With Motorized Damper Interlocked With Fan Operation Such That Damper Shall Open When Fan Is Energized And Shut When Fan Is De-Energized. Damper Shall Be Installed In Accessible Location. 4. Provide With Direct Drive, Electronically Commutated Fan Motor (ECM).	EA	1	0%	1	3.560	\$ 78.00	\$ 277.68	\$ 1,053.53	\$ 1,331.21	\$ 1,331.21
			EXHAUST FAN ACCESSORIES										
60			10"x10" Motorized Damper	EA	3	0%	3	0.750	\$ 78.00	\$ 58.50	\$ 189.21	\$ 247.71	\$ 743.13
			DAMPERS										
61			6" Dia Opposed Blade Type Volume Damper	EA	5	0%	5	0.412	\$ 78.00	\$ 32.14	\$ 43.18	\$ 75.32	\$ 376.58
62			8" Dia Opposed Blade Type Volume Damper	EA	9	0%	9	0.420	\$ 78.00	\$ 32.76	\$ 66.00	\$ 98.76	\$ 888.84
63			10" Dia Opposed Blade Type Volume Damper	EA	12	0%	12	0.680	\$ 78.00	\$ 53.04	\$ 89.92	\$ 142.96	\$ 1,715.52
64			14"x14" Volume Damper	EA	2	0%	2	0.780	\$ 78.00	\$ 60.84	\$ 216.51	\$ 277.35	\$ 554.70

DETAILED BREAKDOWN OF ITEMS

Prepared for: Texas
 Project ID:
 Scope: HVAC



Date: 29-Nov-23

SR #	Drawing #	Detail #	DESCRIPTION	UNIT	QUANTITY	WASTAGE	QUANTITY W/ WASTAGE	UNIT MANHOUR	HOURLY WAGE	LABOR COST	MAT. COST	UNIT COST	SUB COST
			DUCT WEIGHT										
65			Galvanized Sheet Metal Duct	LB	3679	10%	4047	0.042	\$ 78.00	\$ 3.28	\$ 4.10	\$ 7.38	\$ 29,847.02
			DUCT INSULATION										
66			1-1/2" Thick External Glass Mineral Wool Duct Wrap Insulation	SF	2968	10%	3265	0.030	\$ 78.00	\$ 2.34	\$ 2.67	\$ 5.01	\$ 16,356.10
			DUCT LINER										
67			1" Thick Acoustical Duct Liner Insulation	SF	139	10%	153	0.034	\$ 78.00	\$ 2.65	\$ 4.25	\$ 6.90	\$ 1,055.24
			MISCELLANEOUS										
68			Door Contact	EA	1	0%	1	0.266	\$ 78.00	\$ 20.75	\$ 35.49	\$ 56.24	\$ 56.24
69			Combination Temperature/Humidity Sensor	EA	4	0%	4	0.620	\$ 78.00	\$ 48.36	\$ 88.00	\$ 136.36	\$ 545.44
70			Thermostat	EA	2	0%	2	0.600	\$ 78.00	\$ 46.80	\$ 81.00	\$ 127.80	\$ 255.60
71			Wall Mounted CO2 Sensor	EA	2	0%	2	0.525	\$ 78.00	\$ 40.95	\$ 67.00	\$ 107.95	\$ 215.90
			PVC COUPLING										
72			3/4" Dia	EA	2	0%	2	0.120	\$ 78.00	\$ 9.36	\$ 2.99	\$ 12.35	\$ 24.70
73			1" Dia	EA	7	0%	7	0.125	\$ 78.00	\$ 9.75	\$ 3.51	\$ 13.26	\$ 92.82
74			1-1/4" Dia	EA	9	0%	9	0.140	\$ 78.00	\$ 10.92	\$ 3.65	\$ 14.57	\$ 131.13
			PIPE SUPPORTS										
75			3/8" Dia Adjustable Clevis Hanger	EA	6	0%	6	0.032	\$ 78.00	\$ 2.50	\$ 1.21	\$ 3.71	\$ 22.24
76			5/8" Dia Adjustable Clevis Hanger	EA	6	0%	6	0.035	\$ 78.00	\$ 2.73	\$ 1.65	\$ 4.38	\$ 26.28
77			3/4" Dia Adjustable Clevis Hanger	EA	4	0%	4	0.062	\$ 78.00	\$ 4.84	\$ 2.02	\$ 6.86	\$ 27.42
78			1" Dia Adjustable Clevis Hanger	EA	13	0%	13	0.075	\$ 78.00	\$ 5.85	\$ 2.45	\$ 8.30	\$ 107.90
79			1-1/4" Dia Adjustable Clevis Hanger	EA	16	0%	16	0.089	\$ 78.00	\$ 6.94	\$ 2.85	\$ 9.79	\$ 156.67
80			3/8" Dia Threaded Rod (1 Each = 1 Feet)	EA	45	0%	45	0.150	\$ 78.00	\$ 11.70	\$ 11.85	\$ 23.55	\$ 1,059.75
			DUCT SUPPORTS										
81			3/8" Threaded Rod	EA	154	0%	154	0.150	\$ 78.00	\$ 11.70	\$ 11.85	\$ 23.55	\$ 3,626.70
82			1" x 22 Ga. Strap	EA	77	0%	77	0.068	\$ 78.00	\$ 5.30	\$ 4.98	\$ 10.28	\$ 791.87
SUBTOTAL												\$ 119,619	
PROJECTED COST												\$140,619	
OVERHEAD AND PROFIT												15%	\$21,093
INSURANCE												3%	\$4,219
CONTINGENCY												5%	\$7,031
TAX												8.25%	\$6,793
SUGGESTED BID												\$179,754	

BREAKDOWN OF DUCT ITEMS

Prepared for: **Texas**
 Project ID:
 Scope: **HVAC**



Date: **29-Nov-23**

SR #	DESCRIPTION	UNIT	QUANTIT Y	WASTAGE	QUANTITY W/ WASTAGE
HVAC					
GALVANIZED SHEET METAL DUCT					
1	6" Dia Supply Air Duct	LF	7	10%	8
2	8" Dia Supply Air Duct	LF	26	10%	29
3	10" Dia Supply Air Duct	LF	69	10%	76
4	12" Dia Supply Air Duct	LF	14	10%	15
5	24" Dia Supply Air Duct	LF	75	10%	83
6	10"x10" Supply Air Duct	LF	47	10%	52
7	12"x12" Supply Air Duct	LF	51	10%	57
8	14"x14" Supply Air Duct	LF	65	10%	72
9	16"x16" Supply Air Duct	LF	20	10%	22
10	18"x16" Supply Air Duct	LF	15	10%	16
11	18"x18" Supply Air Duct	LF	10	10%	11
12	22"x20" Supply Air Duct	LF	20	10%	23
13	28"x14" Supply Air Duct	LF	18	10%	19
14	8"x8" Return Air Duct	LF	11	10%	12
15	10"x10" Return Air Duct	LF	19	10%	20
16	12"x12" Return Air Duct	LF	53	10%	58
17	14"x14" Return Air Duct	LF	19	10%	21
18	18"x18" Return Air Duct	LF	17	10%	19
19	20"x20" Return Air Duct	LF	21	10%	24
20	24"x18" Return Air Duct	LF	14	10%	16
21	26"x16" Return Air Duct	LF	16	10%	18
22	40"x28" Return Air Duct	LF	15	10%	17
23	12"x12" Transfer Air Duct (Liner)	LF	26	10%	28
24	18"x12" Transfer Air Duct (Liner)	LF	7	10%	8
25	8"x8" Exhaust Air Duct	LF	3	10%	4
26	10"x10" Exhaust Air Duct	LF	77	10%	84
27	8" Dia Dryer Vent Duct	LF	31	10%	34