PROJECT: **DATE: FEB 28, 2020**

ADDRESS:

REV: 0

								LABOR RATE		$ 115
SR. NO.	DESCRIPTION	QUANTITY	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT COST	MATERIAL COST	LABOR RATE	LABOR HOURS	LABOR HOURS COST	TOTAL COST
	HVAC ESTIMATE										
CHILLED WATER FLOW PIPE											
Sch 80, ERW or Seamless, ASTM A53 or A106, Fitting: Forged Steel, 300 Psig WOG Malleable Iron, Screwed. (Assumed)											
1	32 mm Dia Chilled Water Flow Pipe	344	10%	378	M		$ -	$ 115		$ -	$ -
2	40 mm Dia Chilled Water Flow Pipe	79	10%	87	M		$ -	$ 115		$ -	$ -
3	50 mm Dia Chilled Water Flow Pipe	70	10%	77	M		$ -	$ 115		$ -	$ -
4	65 mm Dia Chilled Water Flow Pipe	164	10%	180	M		$ -	$ 115		$ -	$ -
5	80 mm Dia Chilled Water Flow Pipe	54	10%	60	M		$ -	$ 115		$ -	$ -
6	100 mm Dia Chilled Water Flow Pipe	28	10%	31	M		$ -	$ 115		$ -	$ -
7	150 mm Dia Chilled Water Flow Pipe	39	10%	42	M		$ -	$ 115		$ -	$ -
CHILLED WATER FLOW PIPE INSULATION											
50 mm Thick, Glass Mineral Wool Fiber Insulation. (Assumed)											
1	32 mm Dia Chilled Water Flow Pipe	344	10%	378	M		$ -	$ 115		$ -	$ -
2	40 mm Dia Chilled Water Flow Pipe	79	10%	87	M		$ -	$ 115		$ -	$ -
3	50 mm Dia Chilled Water Flow Pipe	70	10%	77	M		$ -	$ 115		$ -	$ -
4	65 mm Dia Chilled Water Flow Pipe	164	10%	180	M		$ -	$ 115		$ -	$ -
5	80 mm Dia Chilled Water Flow Pipe	54	10%	60	M		$ -	$ 115		$ -	$ -
6	100 mm Dia Chilled Water Flow Pipe	28	10%	31	M		$ -	$ 115		$ -	$ -
7	150 mm Dia Chilled Hot Water Flow Pipe	39	10%	42	M		$ -	$ 115		$ -	$ -
CHILLED WATER FLOW PIPE FITTING											
ELBOW											
1	32 mm Dia Chilled Water Flow 90 Deg Elbow	155	0%	155	EA		$ -	$ 115		$ -	$ -
2	40 mm Dia Chilled Water Flow 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -
3	50 mm Dia Chilled Water Flow 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -
4	65 mm Dia Chilled Water Flow 90 Deg Elbow	1	0%	1	EA		$ -	$ 115		$ -	$ -
5	80 mm Dia Chilled Water Flow 90 Deg Elbow	4	0%	4	EA		$ -	$ 115		$ -	$ -
6	100 mm Dia Chilled Water Flow 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -
7	150 mm Dia Chilled Water Flow 90 Deg Elbow	11	0%	11	EA		$ -	$ 115		$ -	$ -
TEE											
1	32 mm Dia Chilled Water Flow Tee	13	0%	13	EA		$ -	$ 115		$ -	$ -
2	40 / 32 mm Dia Chilled Water Flow Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -
3	50 / 32 mm Dia Chilled Water Flow Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -

4	50 mm Dia Chilled Water Flow Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -
5	65 / 32 mm Dia Chilled Water Flow Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -
6	65 / 50 mm Dia Chilled Water Flow Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -
7	80 / 40 mm Dia Chilled Water Flow Tee	3	0%	3	EA		$ -	$ 115		$ -	$ -
8	80 / 50 mm Dia Chilled Water Flow Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -
9	100 / 40 mm Dia Chilled Water Flow Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -
10	100 / 50 mm Dia Chilled Water Flow Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -
11	100 / 50 mm Dia Chilled Water Flow Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -
12	100 / 65 mm Dia Chilled Water Flow Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -
13	100 / 80 mm Dia Chilled Water Flow Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -
14	150 mm Dia Chilled Water Flow Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -
REDUCER											
1	40 / 32 mm Dia Chilled Water Flow Reducer	4	0%	4	EA		$ -	$ 115		$ -	$ -
2	50 / 32 mm Dia Chilled Water Flow Reducer	7	0%	7	EA		$ -	$ 115		$ -	$ -
3	65 / 32 mm Dia Chilled Water Flow Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -
4	65 / 40 mm Dia Chilled Water Flow Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -
5	80 / 50 mm Dia Chilled Water Flow Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -
6	100 / 65 mm Dia Chilled Water Flow Reducer	2	0%	2	EA		$ -	$ 115		$ -	$ -
7	150 / 100 mm Dia Chilled Water Flow Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -
CHILLED WATER RETURN PIPE											
Sch 80, ERW or Seamless, ASTM A53 or A106, Fitting: Forged Steel, 300 Psig WOG Malleable Iron, Screwed. (Assumed)											
1	32 mm Dia Chilled Water Return Pipe	338	10%	372	M		$ -	$ 115		$ -	$ -
2	40 mm Dia Chilled Water Return Pipe	79	10%	87	M		$ -	$ 115		$ -	$ -
3	50 mm Dia Chilled Water Return Pipe	69	10%	76	M		$ -	$ 115		$ -	$ -
4	65 mm Dia Chilled Water Return Pipe	165	10%	181	M		$ -	$ 115		$ -	$ -
5	80 mm Dia Chilled Water Return Pipe	54	10%	59	M		$ -	$ 115		$ -	$ -
6	100 mm Dia Chilled Water Return Pipe	27	10%	30	M		$ -	$ 115		$ -	$ -
7	150 mm Dia Chilled Water Return Pipe	34	10%	38	M		$ -	$ 115		$ -	$ -
CHILLED WATER RETURN PIPE INSULATION											
50 mm Thick, Glass Mineral Wool Fiber Insulation. (Assumed)											
1	32 mm Dia Chilled Water Return Pipe	338	10%	372	M		$ -	$ 115		$ -	$ -
2	40 mm Dia Chilled Water Return Pipe	79	10%	87	M		$ -	$ 115		$ -	$ -
3	50 mm Dia Chilled Water Return Pipe	69	10%	76	M		$ -	$ 115		$ -	$ -
4	65 mm Dia Chilled Water Return Pipe	165	10%	181	M		$ -	$ 115		$ -	$ -
5	80 mm Dia Chilled Water Return Pipe	54	10%	59	M		$ -	$ 115		$ -	$ -
6	100 mm Dia Chilled Water Return Pipe	27	10%	30	M		$ -	$ 115		$ -	$ -
7	150 mm Dia Chilled Water Return Pipe	34	10%	38	M		$ -	$ 115		$ -	$ -

CHILLED WATER RETURN PIPE FITTING												
ELBOW												
1	32 mm Dia Chilled Water Return 90 Deg Elbow	155	0%	155	EA		$ -	$ 115		$ -	$ -	
2	40 mm Dia Chilled Water Return 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -	
3	50 mm Dia Chilled Water Return 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -	
4	65 mm Dia Chilled Water Return 90 Deg Elbow	1	0%	1	EA		$ -	$ 115		$ -	$ -	
5	80 mm Dia Chilled Water Return 90 Deg Elbow	4	0%	4	EA		$ -	$ 115		$ -	$ -	
6	100 mm Dia Chilled Water Return 90 Deg Elbow	3	0%	3	EA		$ -	$ 115		$ -	$ -	
7	150 mm Dia Chilled Water Return 90 Deg Elbow	15	0%	15	EA		$ -	$ 115		$ -	$ -	
TEE												
1	32 mm Dia Chilled Water Return Tee	13	0%	13	EA		$ -	$ 115		$ -	$ -	
2	40 / 32 mm Dia Chilled Water Return Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -	
3	50 / 32 mm Dia Chilled Water Return Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -	
4	50 mm Dia Chilled Water Return Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -	
5	65 / 32 mm Dia Chilled Water Return Tee	15	0%	15	EA		$ -	$ 115		$ -	$ -	
6	65 / 50 mm Dia Chilled Water Return Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -	
7	80 / 40 mm Dia Chilled Water Return Tee	3	0%	3	EA		$ -	$ 115		$ -	$ -	
8	80 / 50 mm Dia Chilled Water Return Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -	
9	100 / 40 mm Dia Chilled Water Return Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -	
10	100 / 65 mm Dia Chilled Water Return Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -	
11	100 / 80 mm Dia Chilled Water Return Tee	1	0%	1	EA		$ -	$ 115		$ -	$ -	
12	150 mm Dia Chilled Water Return Tee	2	0%	2	EA		$ -	$ 115		$ -	$ -	
REDUCER												
1	40 / 32 mm Dia Chilled Water Return Reducer	4	0%	4	EA		$ -	$ 115		$ -	$ -	
2	50 / 32 mm Dia Chilled Water Return Reducer	7	0%	7	EA		$ -	$ 115		$ -	$ -	
3	65 / 32 mm Dia Chilled Water Return Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -	
4	65 / 40 mm Dia Chilled Water Return Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -	
5	80 / 50 mm Dia Chilled Water Return Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -	
6	100 / 65 mm Dia Chilled Water Return Reducer	2	0%	2	EA		$ -	$ 115		$ -	$ -	
7	150 / 100 mm Dia Chilled Water Return Reducer	1	0%	1	EA		$ -	$ 115		$ -	$ -	
TEMPERATURE GAUGE												
1	Temperature Gauge	8	0%	8	EA		$ -	$ 115		$ -	$ -	
TEST POINT												
1	Pressure / Temperature Test Point	130	0%	130	EA		$ -	$ 115		$ -	$ -	
FLOW SWITCH												
1	Flow Switch	2	0%	2	EA		$ -	$ 115		$ -	$ -	

SENSOR												
1	Floow And Return Temperature Sensors	4	0%	4	EA		$ -	$ 115		$ -	$ -	
STRAINER												
1	32 mm Strainer	7	0%	7	EA		$ -	$ 115		$ -	$ -	
DRAIN COCK												
1	32 mm Drain Cock	42	0%	42	EA		$ -	$ 115		$ -	$ -	
VALVE												
1	32 mm Air Vent Valve	42	0%	42	EA		$ -	$ 115		$ -	$ -	
2	32 mm Isolation Valve	47	0%	47	EA		$ -	$ 115		$ -	$ -	
3	40 mm Isolation Valve	2	0%	2	EA		$ -	$ 115		$ -	$ -	
4	50 mm Isolation Valve	5	0%	5	EA		$ -	$ 115		$ -	$ -	
5	65 mm Isolation Valve	13	0%	13	EA		$ -	$ 115		$ -	$ -	
6	100 mm Isolation Valve	2	0%	2	EA		$ -	$ 115		$ -	$ -	
7	150 mm Isolation Valve	14	0%	14	EA		$ -	$ 115		$ -	$ -	
8	Motorized 32 mm 2-Way Valve	35	0%	35	EA		$ -	$ 115		$ -	$ -	
9	Motorized 32 mm 3-Way Valve	7	0%	7	EA		$ -	$ 115		$ -	$ -	
10	32 mm Isolating Regulator Valve	50	0%	50	EA		$ -	$ 115		$ -	$ -	
11	32 mm Double Regulating Valve	4	0%	4	EA		$ -	$ 115		$ -	$ -	
12	40 mm Double Regulating Valve	2	0%	2	EA		$ -	$ 115		$ -	$ -	
13	50 mm Double Regulating Valve	5	0%	5	EA		$ -	$ 115		$ -	$ -	
14	65 mm Isolating Regulator Valve	2	0%	2	EA		$ -	$ 115		$ -	$ -	
15	150 mm Double Regulating Valve	2	0%	2	EA		$ -	$ 115		$ -	$ -	
PIPE SUPPORT												
1	32 mm Adjustable Clevis Hanger	68	0%	68	EA		$ -	$ 115		$ -	$ -	
2	40 mm Adjustable Clevis Hanger	15	0%	15	EA		$ -	$ 115		$ -	$ -	
3	50 mm Adjustable Clevis Hanger	14	0%	14	EA		$ -	$ 115		$ -	$ -	
4	65 mm Adjustable Clevis Hanger	32	0%	32	EA		$ -	$ 115		$ -	$ -	
5	80 mm Adjustable Clevis Hanger	10	0%	10	EA		$ -	$ 115		$ -	$ -	
6	100 mm Adjustable Clevis Hanger	6	0%	6	EA		$ -	$ 115		$ -	$ -	
7	150 mm Adjustable Clevis Hanger	8	0%	8	EA		$ -	$ 115		$ -	$ -	
8	10 mm Full Threaded Rod	139	0%	139	EA		$ -	$ 115		$ -	$ -	
9	12 mm Full Threaded Rod	14	0%	14	EA		$ -	$ 115		$ -	$ -	
									TOTAL MATERIAL COST		$	-
									TOTAL LABORS' COST		$	-
									TOTAL COST		$	-
									OVERHEADS & PROFIT	**25%**	$	-
									TOTAL BID		$	-

SCOPE OF ESTIMATE:	
I	**SUPPLY & INSTALLATION**
1	Chilled Water Flow Pipe W/ Fittings
2	Chilled Water Return Pipe W/ Fittings
3	Temperature Gauge
4	Test Point
5	Flow Switch
6	Sensors
7	Strainer
8	Drain Cock
9	Valves
10	Pipe Supports
II	**NOTES**
1	Specification file was not given in the drawing set so we assumed material and Insulation for piping.