

SR. NO.	DESCRIPTION	QUANTITY	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT COST	MATERIAL COST	LABOR RATE	LABOR HOURS	LABOR HOURS COST	TOTAL COST
PROCESS ESTIMATE											
DRINKING WATER PIPE											
Stainless Steel 304L W/ ASTM Rating A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.											
1	1-1/2" Dia Drinking Water Pipe	47	10%	51	FT		\$ -	\$ 75		\$ -	\$ -
2	3" Dia Drinking Water Pipe	43	10%	47	FT		\$ -	\$ 75		\$ -	\$ -
3	4" Dia Drinking Water Pipe	263	10%	289	FT		\$ -	\$ 75		\$ -	\$ -
4	6" Dia Drinking Water Pipe	31	10%	34	FT		\$ -	\$ 75		\$ -	\$ -
5	8" Dia Drinking Water Pipe	80	10%	88	FT		\$ -	\$ 75		\$ -	\$ -
DRINKING WATER PIPE INSULATION											
1/2" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
1	1-1/2" Dia Drinking Water Pipe	47	10%	51	FT		\$ -	\$ 75		\$ -	\$ -
3/4" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
2	3" Dia Drinking Water Pipe	43	10%	47	FT		\$ -	\$ 75		\$ -	\$ -
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
3	4" Dia Drinking Water Pipe	263	10%	289	FT		\$ -	\$ 75		\$ -	\$ -
4	6" Dia Drinking Water Pipe	31	10%	34	FT		\$ -	\$ 75		\$ -	\$ -
5	8" Dia Drinking Water Pipe	80	10%	88	FT		\$ -	\$ 75		\$ -	\$ -
DRINKING WATER PIPE FITINGS											
ELBOW											
1	1-1/2" Dia Drinking Water Pipe 90 Deg Elbow	4	0%	4	EA		\$ -	\$ 75		\$ -	\$ -
2	3" Dia Drinking Water Pipe 90 Deg Elbow	4	0%	4	EA		\$ -	\$ 75		\$ -	\$ -
3	4" Dia Drinking Water Pipe 90 Deg Elbow	22	0%	22	EA		\$ -	\$ 75		\$ -	\$ -
4	6" Dia Drinking Water Pipe 90 Deg Elbow	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
5	8" Dia Drinking Water Pipe 90 Deg Elbow	3	0%	3	EA		\$ -	\$ 75		\$ -	\$ -
TEE											
1	4" Dia Drinking Water Pipe Tee	2	0%	2	EA		\$ -	\$ 75		\$ -	\$ -
2	8" / 6" Dia Drinking Water Pipe Tee	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
FILTERED WATER PIPE											

Stainless Steel 304L W/ ASTM Rating A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.										
1	3" Dia Filtered Water Pipe	21	10%	23	FT	\$ -	\$ 75	\$ -	\$ -	
2	6" Dia Filtered Water Pipe	30	10%	33	FT	\$ -	\$ 75	\$ -	\$ -	
3	8" Dia Filtered Water Pipe	43	10%	47	FT	\$ -	\$ 75	\$ -	\$ -	
FILTERED WATER PIPE INSULATION										
3/4" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.										
1	3" Dia Filtered Water Pipe	21	10%	23	FT	\$ -	\$ 75	\$ -	\$ -	
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.										
2	6" Dia Filtered Water Pipe	30	10%	33	FT	\$ -	\$ 75	\$ -	\$ -	
3	8" Dia Filtered Water Pipe	43	10%	47	FT	\$ -	\$ 75	\$ -	\$ -	
FILTERED WATER PIPE FITTINGS										
ELBOW										
1	8" Dia Filtered Water Pipe 90 Deg Elbow	1	0%	1	EA	\$ -	\$ 75	\$ -	\$ -	
2	6" Dia Filtered Water Pipe 90 Deg Elbow	6	0%	6	EA	\$ -	\$ 75	\$ -	\$ -	
3	3" Dia Filtered Water Pipe 90 Deg Elbow	2	0%	2	EA	\$ -	\$ 75	\$ -	\$ -	
TEE										
1	8" Dia Filtered Water Pipe Tee	2	0%	2	EA	\$ -	\$ 75	\$ -	\$ -	
2	8" / 6" Dia Filtered Water Pipe Tee	2	0%	2	EA	\$ -	\$ 75	\$ -	\$ -	
REDUCER										
1	8" / 3" Dia Filtered Water Pipe Reducer	1	0%	1	EA	\$ -	\$ 75	\$ -	\$ -	
2	8" / 6" Dia Filtered Water Pipe Reducer	1	0%	1	EA	\$ -	\$ 75	\$ -	\$ -	
REVERSE OSMOSIS WATER PIPE										
304L Stainless Steel Sch10S, (ASTM A312) Pipe (ANSI B36.19), 150# 304 stainless Socket Weld (ASTM A403) (ANSI 16.3), or Butt-Weld same Sch as pipe (ASTM A403) (TIG). Fittings										
1	1-1/2" Dia Reverse Osmosis Water Pipe	8	10%	9	FT	\$ -	\$ 75	\$ -	\$ -	
REVERSE OSMOSIS WATER PIPE INSULATION										
1/2" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.										
1	1-1/2" Dia Reverse Osmosis Water Pipe	8	10%	9	FT	\$ -	\$ 75	\$ -	\$ -	
REVERSE OSMOSIS WATER PIPE FITTINGS										
ELBOW										

1	1-1/2" Dia Reverse Osmosis Water Pipe 90 Deg Elbow	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
PRODUCT WATER PIPE											
Stainless Steel 304L W/ ASTM Rating A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.											
1	4" Dia Product Water Pipe	654	10%	719	FT		\$ -	\$ 75		\$ -	\$ -
PRODUCT WATER PIPE INSULATION											
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
1	4" Dia Product Water Pipe	654	10%	719	FT		\$ -	\$ 75		\$ -	\$ -
PRODUCT WATER PIPE FITTING											
ELBOW											
1	4" Dia Product Water Pipe 90 Deg Elbow	21	0%	21	EA		\$ -	\$ 75		\$ -	\$ -
CIP SUPPLY PIPE											
Stainless Steel 304L W/ ASTM Rating A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.											
1	3" Dia Clean In Place Supply Pipe	112	10%	123	FT		\$ -	\$ 75		\$ -	\$ -
2	4" Dia Clean In Place Supply Pipe	27	10%	29	FT		\$ -	\$ 75		\$ -	\$ -
3	6" Dia Clean In Place Supply Pipe	41	10%	46	FT		\$ -	\$ 75		\$ -	\$ -
CIP SUPPLY PIPE INSULATION											
3/4" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
1	3" Dia Clean In Place Supply Pipe	112	10%	123	FT		\$ -	\$ 75		\$ -	\$ -
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
2	4" Dia Clean In Place Supply Pipe	27	10%	29	FT		\$ -	\$ 75		\$ -	\$ -
3	6" Dia Clean In Place Supply Pipe	41	10%	46	FT		\$ -	\$ 75		\$ -	\$ -
CIP SUPPLY PIPE FITTING											
ELBOW											
1	3" Dia Clean In Place Supply Pipe 90 Deg Elbow	13	0%	13	EA		\$ -	\$ 75		\$ -	\$ -
2	4" Dia Clean In Place Supply Pipe 45 Deg Elbow	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
3	4" Dia Clean In Place Supply Pipe 90 Deg Elbow	7	0%	7	EA		\$ -	\$ 75		\$ -	\$ -
4	6" Dia Clean In Place Supply Pipe 90 Deg Elbow	4	0%	4	EA		\$ -	\$ 75		\$ -	\$ -
TEE											
1	6" / 3" Dia Clean In Place Supply Pipe Tee	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -

CIP RETURN PIPE										
Stainless Steel 304L W/ ASTM Rating A269, Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service.										
1	2" Dia Clean In Place Return Pipe	8	10%	9	FT		\$ -	\$ 75	\$ -	\$ -
2	4" Dia Clean In Place Return Pipe	536	10%	589	FT		\$ -	\$ 75	\$ -	\$ -
3	6" Dia Clean In Place Return Pipe	20	10%	22	FT		\$ -	\$ 75	\$ -	\$ -
CIP RETURN PIPE INSULATION										
3/4" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.										
1	2" Dia Clean In Place Return Pipe	8	10%	9	FT		\$ -	\$ 75	\$ -	\$ -
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.										
2	4" Dia Clean In Place Return Pipe	536	10%	589	FT		\$ -	\$ 75	\$ -	\$ -
3	6" Dia Clean In Place Return Pipe	20	10%	22	FT		\$ -	\$ 75	\$ -	\$ -
CIP RETURN PIPE FITTING										
ELBOW										
1	2" Dia Clean In Place Return Pipe 90 Deg Elbow	1	0%	1	EA		\$ -	\$ 75	\$ -	\$ -
2	4" Dia Clean In Place Return Pipe 90 Deg Elbow	12	0%	12	EA		\$ -	\$ 75	\$ -	\$ -
3	6" Dia Clean In Place Return Pipe 90 Deg Elbow	2	0%	2	EA		\$ -	\$ 75	\$ -	\$ -
TEE										
1	4" Dia Clean In Place Return Pipe Tee	1	0%	1	EA		\$ -	\$ 75	\$ -	\$ -
2	4" / 2" Dia Clean In Place Return Pipe Tee	1	0%	1	EA		\$ -	\$ 75	\$ -	\$ -
3	6" Dia Clean In Place Return Pipe Tee	1	0%	1	EA		\$ -	\$ 75	\$ -	\$ -
REDUCER										
1	6" / 4" Dia Clean In Place Return Pipe Reducer	2	0%	2	EA		\$ -	\$ 75	\$ -	\$ -
CITY WATER PIPE										
304L Stainless Steel Sch10S, (ASTM A312) Pipe (ANSI B36.19), 150# 304 stainless Socket Weld (ASTM A403) (ANSI 16.3), or Butt-Weld same Sch as pipe (ASTM A403) (TIG). Fittings										
1	1-1/2" Dia City Water Pipe	49	10%	54	FT		\$ -	\$ 75	\$ -	\$ -
304L Stainless Steel Sch10S, (ASTM A312) Pipe (ANSI B36.19), Butt-Weld same Sch as pipe (MSS SP-43), (ASTM A403) (TIG) Fittings										
2	2-1/2" Dia City Water Pipe	33	10%	36	FT		\$ -	\$ 75	\$ -	\$ -
3	6" Dia City Water Pipe	11	10%	12	FT		\$ -	\$ 75	\$ -	\$ -
4	8" Dia City Water Pipe	69	10%	76	FT		\$ -	\$ 75	\$ -	\$ -
5	10" Dia City Water Pipe	170	10%	187	FT		\$ -	\$ 75	\$ -	\$ -
CITY WATER PIPE INSULATION										

1/2" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
1	1-1/2" Dia City Water Pipe	49	10%	54	FT		\$ -	\$ 75		\$ -	\$ -
3/4" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
2	2-1/2" Dia City Water Pipe	33	10%	36	FT		\$ -	\$ 75		\$ -	\$ -
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
3	6" Dia City Water Pipe	11	10%	12	FT		\$ -	\$ 75		\$ -	\$ -
4	8" Dia City Water Pipe	69	10%	76	FT		\$ -	\$ 75		\$ -	\$ -
5	10" Dia City Water Pipe	170	10%	187	FT		\$ -	\$ 75		\$ -	\$ -
CITY WATER PIPE FITTING											
ELBOW											
1	1-1/2" Dia City Water Pipe 90 Deg Elbow	4	0%	4	EA		\$ -	\$ 75		\$ -	\$ -
2	2-1/2" Dia City Water Pipe 90 Deg Elbow	5	0%	5	EA		\$ -	\$ 75		\$ -	\$ -
3	6" Dia City Water Pipe 90 Deg Elbow	2	0%	2	EA		\$ -	\$ 75		\$ -	\$ -
4	8" Dia City Water Pipe 90 Deg Elbow	5	0%	5	EA		\$ -	\$ 75		\$ -	\$ -
5	10" Dia City Water Pipe 90 Deg Elbow	10	0%	10	EA		\$ -	\$ 75		\$ -	\$ -
TEE											
1	10" / 6" Dia City Water Pipe Tee	2	0%	2	EA		\$ -	\$ 75		\$ -	\$ -
2	10" / 8" Dia City Water Pipe Tee	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
FLUSH WATER PIPE											
304L Stainless Steel Sch10S, (ASTM A312) Pipe (ANSI B36.19), 150# 304 stainless Socket Weld (ASTM A403) (ANSI 16.3), or Butt-Weld same Sch as pipe (ASTM A403) (TIG). Fittings											
1	6" Dia Flush Pipe	54	10%	59	FT		\$ -	\$ 75		\$ -	\$ -
FLUSH WATER PIPE INSULATION											
1" Thick Closed Cell Rigid Polyurethane (Polyisocyanurate), Dow Plastics Trymer 2000 (or approved equal) with a density of not less than 2.0 lb/ft3 and k value of not greater than 0.19 BTU-in/hr*ft2*°F @ 75°F.											
1	6" Dia Flush Pipe	54	10%	59	FT		\$ -	\$ 75		\$ -	\$ -
FLUSH WATER PIPE FITTINGS											
ELBOW											
1	6" Dia Flush Pipe 45 Deg Elbow	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
2	6" Dia Flush Pipe 90 Deg Elbow	5	0%	5	EA		\$ -	\$ 75		\$ -	\$ -
TEE											
1	6" Dia Flush Pipe Tee	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -

1-1/2" Thick All steam pipe up to 150 psig shall be covered with a molded, high temperature, abuse-resistant pipe insulation composed of hydrous calcium silicate for use on systems operating up to 1200°F (ASTM C 533 Type I). Johns Manville Thermo-12 Gold, or approved equal.											
1	2" Dia Steam Pipe	142	10%	156	FT		\$ -	\$ 75		\$ -	\$ -
2" Thick All steam pipe up to 150 psig shall be covered with a molded, high temperature, abuse-resistant pipe insulation composed of hydrous calcium silicate for use on systems operating up to 1200°F (ASTM C 533 Type I). Johns Manville Thermo-12 Gold, or approved equal.											
2	3" Dia Steam Pipe	29	10%	32	FT		\$ -	\$ 75		\$ -	\$ -
STEAM PIPE FITINGS											
ELBOW											
1	2" Dia Steam Pipe 90 Deg Elbow	11	0%	11	EA		\$ -	\$ 75		\$ -	\$ -
2	3" Dia Steam Pipe 90 Deg Elbow	5	0%	5	EA		\$ -	\$ 75		\$ -	\$ -
TEE											
1	2" Dia Steam Pipe Tee	4	0%	4	EA		\$ -	\$ 75		\$ -	\$ -
2	3" Dia Steam Pipe Tee	1	0%	1	EA		\$ -	\$ 75		\$ -	\$ -
3	3" / 2" Dia Steam Pipe Tee	3	0%	3	EA		\$ -	\$ 75		\$ -	\$ -
STAINLESS STEEL PIPE COUPLINGS											
1	1-1/4" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Socket Weld. (ASTM A182)	5	0%	5	EA		\$ -	\$ 75		\$ -	\$ -
2	1-1/2" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Socket Weld. (ASTM A182)	6	0%	6	EA		\$ -	\$ 75		\$ -	\$ -
3	2" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Socket Weld. (ASTM A182)	15	0%	15	EA		\$ -	\$ 75		\$ -	\$ -
STAINLESS STEEL PIPE FLANGES											
1	2-1/2" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	3	0%	3	EA		\$ -	\$ 75		\$ -	\$ -
2	3" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	21	0%	21	EA		\$ -	\$ 75		\$ -	\$ -
3	4" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	147	0%	147	EA		\$ -	\$ 75		\$ -	\$ -
4	6" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	26	0%	26	EA		\$ -	\$ 75		\$ -	\$ -
5	8" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	38	0%	38	EA		\$ -	\$ 75		\$ -	\$ -
6	10" Dia Class 150# RF 304 Stainless, (ANSI B16.5) Slip-On or Weld-Neck.	17	0%	17	EA		\$ -	\$ 75		\$ -	\$ -
PIPE SUPPORT											
1	Adjustable Roller supports Copper B3122 series or equal with saddle B3161/B3162 series.	278	0%	278	EA		\$ -	\$ 75		\$ -	\$ -
2	Protection Sheild Saddle (Grinnell Fig.617 Or Equal)	278	0%	278	EA		\$ -	\$ 75		\$ -	\$ -

TOTAL MATERIAL COST	\$	-
TOTAL MANHOURS' COST	\$	-
TOTAL COST	\$	-
OVERHEADS & PROFIT	25%	\$
TOTAL BID	\$	-

SCOPE OF ESTIMATE:

I SUPPLY & INSTALLATION

1	DRINKING WATER PIPE W/FITTINGS
2	FILTERED WATER PIPE W/FITTINGS
3	REVERSE OSMOSIS WATER PIPE W/FITTINGS
4	PRODUCT WATER PIPE W/FITTINGS
5	CIP RETURN PIPE W/FITTINGS
6	CIP SUPPLY PIPE W/FITTINGS
7	CITY WATER PIPE W/FITTINGS
8	FLUSH WATER PIPE W/FITTINGS
9	BACKWASH PIPE W/ FITTINGS
10	WASTE WATER PIPE W/FITTINGS
11	STEAM PIPE W/FITTINGS
12	PIPE COUPLING/FLANGES
13	PIPE SUPPORTS

Electrical Estimators Group