



## VII ABOUT THE FIRM

### 0

#### 1 DIVISION 0:

##### **Introduction and Calibration Factors, includes the following:**

General introduction and retrofit and repair considerations.

Location (Calibration) Factors - International values compared to Washington D.C. (Base of 1.00). Calibrations in this application are used to adjust the unit prices / schedule of rates depicted in the following Divisions 1 – 17.

188 # International Cities Location / Calibration Factors.

General Conversion Values - Imperial to Metric Units.

Import Duties General Sales Tax / Value. Added Tax / Consumption Tax.

284 # USA Location (Calibration) Factors.

Detailed Design / Engineering / Architectural and CM Fees 51 # Facility Types.

Union Labor Costs.

USA and Canada State & Province Sales Tax / GST.

Inflation Cost Indexes.

(8) Calibration Tables

Examples

### 00

#### 49 DIVISION 00:

##### **Cost Models / Cost Benchmarks (21 Number)**

##### **includes cost and quantity data on the following:**

Retrofit – Upgrade Isotope / Radiation – Chemo Therapy Formulation Suite.

Retrofit and upgrade 333 # Apartments.

UK (Scotland) Facility - Refurbish existing laboratory in existing manufacturing campus.

Major Construction Activities.

Estimating Assessment Sheet.

Petro – Chemical Cost Model.

High Rise Apartment Building Cost Model.

Beverage / Candy Production Facility Cost Model.

Consumer Products Facility.

Crude Oil Distillation Complex.

EPCM Home Office Billing Rate Sheet

Power Station Cost Model.

Steel Production Cost Model.

Waste Water Treatment Cost Model.  
78 # Engineering / Construction Cost Benchmarks.  
Class A Office Building  
UK Pharmaceutical Facility  
Vaccine Facility Expansion and Modification  
Food and Beverage Production Facilities  
Refurbishment of Shopping Center  
Revamp of Shale Gas Facility

## 01

93

### **DIVISION 01:**

#### **General Requirements / General Conditions / Preliminaries:**

##### **includes cost data on the following:**

Rules of thumb  
Insurance Costs  
Protection of Completed Work  
Scaffolding  
Temporary Utilities, Structures & Fences  
Permits  
Testing / Inspection  
Surveys  
Bonds  
Site Staff / Field Personnel  
Construction Equipment Costs / Rental  
Temporary Construction Items

## 02

117

### **DIVISION 02:**

#### **Site Construction: includes schedule of rates for:**

Demolition (including asbestos)  
Excavation  
Rock removal  
Hardcore / Stone  
Shoring  
Planking & Strutting / Sheet Piling  
Foundation Piling  
Utilities  
Miscellaneous Site Improvements  
Paving  
Concrete Curbing  
Fencing  
Site Lighting  
Marine Work  
Underground Storage Tanks

## 03

- 147**    **DIVISION 03**  
**Concrete Work: includes schedule of rates for:**  
Concrete  
Formwork  
Reinforcement  
Precast Concrete  
Grouting

## 04

- 179**    **DIVISION 04**  
**Masonry: includes schedule of rates for:**  
Brickwork  
Masonry  
Refractory

## 05

- 193**    **DIVISION 05**  
**Metals: includes schedule of rates for:**  
Structural Steel  
Metal Joists  
Metal Framing  
Miscellaneous Iron  
Metal Decking

## 06

- 217**    **DIVISION 06**  
**Wood and Plastics: includes schedule of rates for:**  
Rough Carpentry  
Finish Carpentry  
Carpentry Specialties

## 07

- 229 **DIVISION 07**  
**Thermal and Moisture Protection: includes schedule of rates for:**  
Damp proofing and Waterproofing  
Thermal Protection  
Roofing Systems  
Caulking & Sealants

## 08

- 249 **DIVISION 08**  
**Doors and Windows: includes schedule of rates for:**  
Wood and Plastic Doors  
Metal Doors and Frames  
Windows  
Glazing / Glazed Curtain Walls  
Hardware

## 09

- 265 **DIVISION 09**  
**Finishes: includes schedule of rates for:**  
Plaster and Gypsum Board  
Tile  
Terrazzo  
Ceilings  
Flooring  
Wall Finishes  
Acoustical Treatment  
Painting and Coatings  
Other items

## 10

- 283 **DIVISION 10**  
**Specialties: includes schedule of rates for:**  
Visual Display Boards  
Compartments and Cubicles  
Louvers and Vents  
Wall and Corner Guards  
Miscellaneous Facility Specialties

## 11

- 293 DIVISION 11**  
**Equipment: includes schedule of rates for:**  
Maintenance Equipment  
Loading Dock Equipment  
Industrial and Process Equipment  
Laboratory Equipment  
Material Handling Equipment

## 12

- 311 DIVISION 12**  
**Furnishings: includes schedule of rates for:**  
Furniture  
Manufactured Casework

## 13

- 319 DIVISION 13**  
**Special Construction: includes schedule of rates for:**  
Pre-Engineered Buildings & Structures  
Radiation Protection  
Storage Tanks  
Security Access and Surveillance

## 14

- 333 DIVISION 14**  
**Conveying Systems: includes schedule of rates for:**  
Elevators  
Escalators and Moving Walks  
Hoists and Cranes

# 15

349

## DIVISION 15

**Mechanical Work: includes schedule of rates for:**

- Building Services Piping
- Plumbing Fixtures
- Process Piping
- Fire Protection Piping
- Heating, Ventilating & Air Conditioning Equipment
- Ductwork
- Insulation

# 16

461

## DIVISION 16

**Electrical Work: includes schedule of rates for:**

- Electrical Equipment / Transformers
- Cable / Control wire
- Conduit
- Cable tray
- Communications
- Instrumentation and Controls

# 17

510

## DIVISION 17

**Process Equipment / Major Equipment: includes schedule of rates for:**

- Agitators
- Air Handlers
- Boilers
- Chillers
- Compressors
- Condensers
- Conveyors
- Cooling Towers
- Ductwork
- Heat Exchangers
- Pumps
- Tanks

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
<b>CONTINUED</b>				
19	Botswana		0.90 - 0.95	0.67 - 0.78
20	Brasil		0.88 - 0.96	0.79 - 0.89
21	Bulgaria		0.90 - 0.95	0.80 - 0.85
22	Burkina Faso		0.88 - 0.95	0.67 - 0.77
23	Burundi		0.88 - 0.95	0.67 - 0.78
24	Cambodia		0.84 - 0.94	0.67 - 0.77
25	Cameroon		0.90 - 0.95	0.70 - 0.78
26	Canada	Calgary AL	1.05 - 1.10	1.00 - 1.05
	Canada	Charlottetown PEI	0.96 - 0.99	0.93
	Canada	Edmonton AL	1.04 - 1.13	1.00 - 1.05
	Canada	Fort McMurray AL	1.40 - 1.55	1.07 - 1.13
	Canada	Halifax NS	0.96 - 0.99	0.93
	Canada	Hamilton ONT	0.95 - 0.98	0.93
	Canada	Laval QUE	0.95 - 0.97	0.92
	Canada	Lethbridge AL	0.97 - 0.99	0.93 - 0.96
	Canada	London ONT	0.95 - 0.98	0.93
	Canada	Moncton NB	0.94 - 0.97	0.92 - 0.94
	Canada	Montreal QUE	0.96 - 0.98	0.95
	Canada	Quebec City QUE	0.96 - 0.98	0.93 - 0.96
	Canada	Regina SASK	0.96 - 0.98	0.93 - 0.95
	Canada	Sarnia ONT	0.95 - 0.98	0.93
	Canada	St Johns NFL	0.96 - 0.98	0.92 - 0.94
	Canada	Toronto ONT	0.97 - 0.99	0.94 - 0.96
	Canada	Whitehorse YUK	0.98 - 1.00	0.95 - 0.97
	Canada	Winnipeg MAN	0.95 - 0.97	0.92 - 0.94
	Canada	Windsor ONT	0.95 - 0.98	0.93
	Canada	Vancouver BC	1.00 - 1.03	0.98 - 1.01
	Canada	Victoria BC	0.97 - 1.00	0.95 - 0.97
27	Central African Republic		0.90 - 0.94	0.67 - 0.77
28	Chad		0.89 - 0.93	0.70 - 0.77
29	Chile		0.91 - 0.95	0.86 - 0.92
30	China	Beijing	0.90 - 0.95	0.80 - 0.85
	China	Chengdu	0.88 - 0.93	0.80 - 0.85
	China	Harbin	0.88 - 0.93	0.80 - 0.85
	China	Guangzhou	0.90 - 0.95	0.85 - 0.90
	China	Shanghai	0.90 - 0.95	0.85 - 0.90
31	Colombia		0.90 - 0.93	0.83 - 0.87
32	Congo Democratic Republic		0.90 - 0.94	0.67 - 0.77
33	Costa Rica		0.92 - 0.94	0.85 - 0.89
34	Cote D' Ivory		0.90 - 0.93	0.67 - 0.78
35	Croatia		0.90 - 0.95	0.86 - 0.89
36	Cuba		0.92 - 0.94	0.73 - 0.85
37	Cyprus		0.92 - 0.94	0.87 - 0.89
38	Czech Republic		0.89 - 0.93	0.87 - 0.89
39	Denmark		1.05 - 1.09	1.02 - 1.04
40	Dominican Republic		0.92 - 0.95	0.75 - 0.85

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
<b>CONTINUED</b>				
41	Ecuador		0.91 - 0.94	0.78 - 0.89
42	Egypt		0.86 - 0.94	0.83 - 0.87
43	El Salvador		0.92 - 0.94	0.82 - 0.88
44	Eritrea		0.88 - 0.93	0.67 - 0.77
45	Estonia		0.90 - 0.94	0.85 - 0.90
46	Ethiopia		0.89 - 0.93	0.67 - 0.77
47	Finland		1.06 - 1.10	1.02 - 1.05
48	France	Bordeaux	0.97 - 1.02	0.95
	France	Lyon	0.97 - 1.03	0.95
	France	Marseille / Fos	0.97 - 1.01	0.95
	France	Nice	0.98 - 1.02	0.96
	France	Paris	1.00 - 1.05	0.96 - 0.98
49	Gabon		0.89 - 0.94	0.67 - 0.77
50	Gambia (The)		0.89 - 0.93	0.67 - 0.77
51	Georgia		0.92 - 0.95	0.70 - 0.80
52	Germany	Berlin	1.01 - 1.04	0.96 - 0.98
	Germany	Hamburg	1.01 - 1.04	0.96 - 0.98
	Germany	Munich	1.02 - 1.05	0.98 - 1.00
53	Ghana		0.89 - 0.94	0.67 - 0.77
54	Greece		0.91 - 0.93	0.87 - 0.89
55	Guatemala		0.91 - 0.94	0.79 - 0.89
56	Guinea - Bissau		0.90 - 0.93	0.66 - 0.77
57	Guinea		0.88 - 0.92	0.66 - 0.77
58	Guyana		0.85 - 0.94	0.68 - 0.78
59	Haiti		0.87 - 0.93	0.65 - 0.77
60	Honduras		0.90 - 0.93	0.79 - 0.89
61	Hong Kong		0.90 - 0.93	0.87 - 0.89
62	Hungary		0.88 - 0.92	0.86
63	India		0.85 - 0.92	0.80 - 0.85
64	Indonesia		0.75 - 0.86	0.71 - 0.74
65	Iran		0.87 - 0.93	0.68 - 0.77
66	Iraq		0.88 - 0.96	0.72 - 0.78
67	Ireland	Cork	0.95 - 1.02	0.92 - 0.96
	Ireland	Dublin	0.95 - 1.03	0.97
	Ireland	Galway	0.95 - 1.00	0.92 - 0.96
68	Israel		0.92 - 0.94	0.90
69	Italy	Bari	0.93 - 0.96	0.89 - 0.91
	Italy	Milan	0.94 - 0.99	0.91 - 0.93
	Italy	Rome	0.94 - 0.98	0.91 - 0.93
70	Jamaica		0.89 - 0.93	0.82 - 0.87
71	Japan	Osaka	1.05 - 1.07	1.02 - 1.04
	Japan	Tokyo	1.06 - 1.11	1.04 - 1.06
	Japan	Yokohama	1.05 - 1.07	1.03 - 1.05
72	Jordan		0.88 - 0.92	0.83 - 0.87
73	Kazakhstan		0.89 - 0.96	0.80 - 0.87
74	Kenya		0.90 - 0.95	0.67 - 0.80
75	Kyrgyzstan		0.90 - 0.93	0.82 - 0.88



#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
<b>CONTINUED</b>				
76	Kuwait		0.92 - 0.97	0.90 - 0.92
77	Laos		0.83 - 0.94	0.67 - 0.77
78	Latvia		0.92 - 0.95	0.86 - 0.90
79	Lebanon		0.90 - 0.95	0.85 - 0.89
80	Libya		0.91 - 0.94	0.85 - 0.88
81	Lithuania		0.91 - 0.96	0.87 - 0.90
82	Madagascar		0.88 - 0.94	0.66 - 0.77
83	Malawi		0.89 - 0.93	0.66 - 0.77
84	Malaysia		0.83 - 0.92	0.80 - 0.84
85	Mali		0.87 - 0.94	0.66 - 0.77
86	Malta		0.90 - 0.95	0.85 - 0.90
87	Mexico		0.84 - 0.92	0.79 - 0.84
88	Mongolia		0.89 - 0.93	0.71 - 0.86
89	Morocco		0.89 - 0.95	0.84 - 0.88
90	Mozambique		0.88 - 0.94	0.67 - 0.77
91	Myanmar		0.85 - 0.93	0.65 - 0.75
92	Namibia		0.88 - 0.94	0.65 - 0.77
93	Nepal		0.89 - 0.94	0.69 - 0.81
94	Netherlands The		1.00 - 1.05	0.97 - 0.99
95	New Zealand		1.01 - 1.04	0.98
96	Nicaragua		0.89 - 0.94	0.79 - 0.89
97	Niger		0.88 - 0.93	0.67 - 0.77
98	Nigeria		0.93 - 0.98	0.80 - 0.86
99	Norway	Bergen	1.10 - 1.16	1.05
	Norway	Oslo	1.12 - 1.17	1.06
	Norway	Stavanger	1.10 - 1.16	1.05
100	Oman		0.93 - 0.98	0.90
101	Panama		0.89 - 0.93	0.79 - 0.87
102	Pakistan		0.87 - 0.93	0.72 - 0.78
103	Paraguay		0.89 - 0.94	0.79 - 0.88
104	Peru		0.89 - 0.95	0.79 - 0.89
105	Philippines		0.86 - 0.93	0.72 - 0.80
106	Poland		0.91 - 0.94	0.91
107	Portugal		0.89 - 0.93	0.91
108	Romania		0.89 - 0.94	0.87
109	Russia	Moscow	0.94 - 0.97	0.90 - 0.93
	Russia	Nizhnyi Novgorod	0.92 - 0.95	0.89 - 0.92
	Russia	St Petersburg	0.92 - 0.96	0.89 - 0.92
	Russia	Vladivostok	0.92 - 0.96	0.89 - 0.92
110	Rwanda		0.88 - 0.93	0.66 - 0.77
111	Saudi Arabia		0.93 - 0.98	0.88 - 0.92
112	Senegal		0.88 - 0.94	0.68 - 0.78
113	Singapore		0.90 - 0.95	0.82 - 0.87
114	South Africa		0.92 - 0.95	0.80 - 0.88
115	South Korea		0.92 - 0.96	0.88 - 0.92
116	Spain		0.92 - 0.94	0.89 - 0.92
117	Sri Lanka		0.78 - 0.89	0.65 - 0.75

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
<b>CONTINUED</b>				
118	Sudan		0.88 - 0.95	0.67 - 0.79
119	Sweden		1.07 - 1.13	1.04 - 1.07
120	Switzerland		1.07 - 1.14	1.05 - 1.07
121	Syria		0.91 - 0.95	0.87 - 0.89
122	Tajikistan		0.89 - 0.94	0.83 - 0.90
123	Taiwan		0.90 - 0.94	0.87
124	Thailand		0.85 - 0.93	0.71 - 0.80
125	Togo		0.89 - 0.94	0.67 - 0.77
126	Tunisia		0.89 - 0.95	0.83 - 0.88
127	Turkey		0.89 - 0.94	0.88 - 0.92
128	U A E		0.93 - 0.98	0.90
129	Uganda		0.90 - 0.95	0.65 - 0.80
130	Ukraine		0.91 - 0.95	0.85 - 0.89
131	United Kingdom	Birmingham	1.03 - 1.06	0.99 - 1.02
	United Kingdom	Cambridge	1.03 - 1.07	0.99 - 1.03
	United Kingdom	Edinburgh	1.03 - 1.06	0.98 - 1.03
	United Kingdom	Liverpool / Speke	1.02 - 1.05	0.98 - 1.02
	United Kingdom	London	1.06 - 1.11	1.01 - 1.04
	United Kingdom	Manchester	1.03 - 1.07	0.99 - 1.03
	United Kingdom	Oxford	1.03 - 1.07	0.99 - 1.03
<b>132</b>	<b>United States</b>	<b>Washington DC</b>	<b>1.00</b>	<b>0.96</b>
		<b>Benchmarked Value</b>		
133	Uruguay		0.93 - 0.95	0.86 - 0.91
134	Uzbekistan		0.93 - 0.96	0.84 - 0.89
135	Venezuela		0.93 - 0.96	0.82 - 0.90
136	Vietnam		0.86 - 0.90	0.75 - 0.85
137	Yemen		0.89 - 0.95	0.79 - 0.88
138	Zambia		0.88 - 0.94	0.70 - 0.80
139	Zimbabwe		0.87 - 0.93	0.70 - 0.80

*NOTE: consider using an average of A and B above for a 5 or 4 Star Hotel / Resort or for a state of the art airport control tower.*

**Table #3**  
**GENERAL CONVERSION VALUES - IMPERIAL TO METRIC UNITS**

CONVERSION FACTOR	CONVERSION FACTOR
1 Acre = 4,047 M2	1 Hectare = 2.471 Acres
1 Foot = 30.48 Centimeters	1 Kilogram = 2.205 Pounds
1 Foot = 0.3048 Meters	1 Gallon = 3,785 Cubic Centimeters
1 Meter = 39.37 inches	1 Imperial Gallon = 1.20095 US Gallons
1 Meter = 1.094 Yards	1 Liter = 0.264 Gallons
1 Cubic Yard = 0.765 M3:	1 Square Foot = 0.0929 M2
1 M3 = 1.31 Cubic Yards:	1 Mile = 1.609 Kilometers
1 M = 3.28 Lineal Feet:	1 Square Kilometer = 247 Acres
1 M2 = 10.76 Square Feet:	1 Square Yard = 0.836 M2
1 Yard = 0.9144 M	1 Horse Power = 2,546 BTU per hour
1 Inch = 2.54 Centimeters	1 Square inch = 6.452 square centimeters
1 Pound = 0.454 kilograms	1 liter = 61.02 cubic inches
1 Meter per minute = 3.28 feet per minute	1 Meter per second = 3.28 feet per second
1 Cubic meter = 35.31 cubic feet	1 Cubic meter = 61,023 cubic inches

## Table #4

### IMPORT DUTIES GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX

COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
Afghanistan	In the order of 2.5% - 35%	2% - 5% Sales tax	Refer to Government website for additional information: 5% tax on fuel
Akrotiri	In the order of 1% - 10%	9%	Refer to Government website for additional information: Cyprus / UK possession
Albania	In the order of 1% - 12% of CIF value	20%	Refer to Govt website for additional info
Algeria	In the order of 1% - 15%	7% and 17%	Refer to Govt website for additional info
Andorra	In the order of 1% - 10%	4.5%	Refer to Govt website for additional info
Angola	In the order of 2.5% - 12%	10%	Refer to Govt website for additional info
Antigua & Barbuda	In the order of 1% - 10%	15%	Refer to Govt website for additional info
Argentina	In the order of 1% - 17%	21%	Refer to Govt website for additional info
Armenia	In the order of 1% - 10%	20%	Refer to Govt website for additional info
Ashmore & Cartier Islands	In the order of 0.5% - 10%	10%	Refer to Govt website for additional info
Australia	In the order of 2.5% - 17.5%	10% GST	Refer to Govt website for additional info
Austria	In the order of 2.5% - 20% of CIF value	20%	Refer to Govt website for additional info
Azerbaijan	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Bahamas	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Bahrain	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Bangladesh	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Barbados	In the order of 0% - 10%	17.5%	Refer to Govt website for additional info
Belarus	In the order of 10% - 50%	10% and 20%	Refer to Govt website for additional info
Belgium	In the order of 2.5% - 20%	21%	Refer to Govt website for additional info
Belize	In the order of 0% - 10%	10% VAT / GST	Refer to Govt website for additional info
Benin	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Bermuda	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Bhutan	In the order of 0% - 10%	10% and 15%	Refer to Government website for additional information: Sales tax
Bolivia	In the order of 0% - 10% of CIF value	10% and 13% (14.94% effective rate)	Refer to Govt website for additional info
Bosnia & Herzegovina	In the order of 0% - 10%	17%	Refer to Govt website for additional info
Botswana	In the order of 0% - 10%	12%	Refer to Govt website for additional info
Brazil	In the order of 0% - 35% Aver 17.5%	12% to 25% 1CMS / IPI Aver 17% 19% in Rio de Janerio	IPI / ICMS similar to VAT: Refer to Govt website for additional info
Bulgaria	In the order of 2.5% - 50%	7% and 20%	Refer to Govt website for additional info
Burkina Faso	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Burundi	In the order of 0% - 10%	17%	Refer to Govt website for additional info
Cameroon	In the order of 0% - 10%	19.25%	Refer to Govt website for additional info
Cambodia	In the order of 0% - 10%	10%	Refer to Govt website for additional info

COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
<b>CONTINUED</b>			
Canada	In the order of 2.5% - 20%	Each province has its own GST; refer to following table	Refer to Govt website for additional info
Cape Verde	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Central African Republic	In the order of 0% - 10%	19%	Refer to Govt website for additional info
Chad	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Chile	In the order of 2.5% - 20%	19%	Refer to Govt website for additional info
China	In the order of 2.5% - 30% Aver 7.5%	13% to 17%	Refer to Govt website for additional info
Colombia	In the order of 2.5% - 25%	16%	Refer to Govt website for additional info
Comoros	In the order of 0% - 10%	5% to 25%	Refer to Govt website for additional info
Congo, Democratic Republic of the	In the order of 0% - 10%	13%	Refer to Govt website for additional info
Congo, Republic of the	In the order of 0% - 10%	16%	Refer to Govt website for additional info
Costa Rica	In the order of 0% - 10%	13%	Refer to Govt website for additional info
Cote D'Ivoire	In the order of 2.5% - 30%	18% and 20%	Refer to Govt website for additional info
Croatia	In the order of 2.5% - 17.5%	10% and 23%	Refer to Govt website for additional info
Cuba	In the order of 0% - 10%	5%	Refer to Govt website for additional info
Cyprus	In the order of 2.5% - 20%	19%	Refer to Govt website for additional info
Curaco	In the order of 0% - 10%	5%	Refer to Govt website for additional info
Czech Republic	In the order of 2.5% - 25% Aver 12%	20%	Refer to Govt website for additional info
Denmark	In the order of 2.5% - 20%	25%	Refer to Govt website for additional info
Djibouti	In the order of 0% - 10%	7% sales tax	Refer to Govt website for additional info
Dominica	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Dominican Republic	In the order of 0% - 10%	16%	Refer to Govt website for additional info
Ecuador	In the order of 0% - 10%	12%	Refer to Govt website for additional info
Egypt	In the order of 2.5% - 20%	10%	Refer to Govt website for additional info
El Salvador	In the order of 0% - 10%	13%	Refer to Govt website for additional info
Equatorial Guinea	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Eritrea	In the order of 0% - 10%	4%	Refer to Govt website for additional info
Estonia	In the order of 2.5% - 20%	20%	Refer to Govt website for additional info
Ethiopia	In the order of 0% - 15%	15%	Refer to Govt website for additional info
Fiji	In the order of 0% - 10%	12.5%	Refer to Govt website for additional info
Falkland Islands	In the order of 2.5% - 20%	20%	Refer to Govt website for additional info
Finland	In the order of 2.5% - 20%	24%	Refer to Govt website for additional info
France	In the order of 2.5% - 20% Aver 4.5%	20%	Refer to Govt website for additional info
Gabon	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Gambia	In the order of 0% - 10%	15% Sales Tax	Refer to Govt website for additional info

COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
<b>CONTINUED</b>			
Gaza Strip	In the order of 0% - 10%	17%	Refer to Govt website for additional info
Georgia	In the order of 2.5% - 20%	18%	Refer to Govt website for additional info
Germany	In the order of 2.5% - 25%	19%	Refer to Govt website for additional info
Ghana	In the order of 2.5% - 15%	12.5%	Refer to Govt website for additional info
Gibraltar	In the order of 2.5% - 15%	zero	Refer to Govt website for additional info UK possession
Greece	In the order of 2.5% - 10%	23%	Refer to Govt website for additional info
Greenland	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Grenada	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Guam	In the order of 0% - 10%	4%	Refer to Govt website for additional info
Guadeloupe	In the order of 2.5% - 7.5%	2.1% and 8.5%	Refer to Govt website for additional info
Guatemala	In the order of 0% - 10%	12%	Refer to Govt website for additional info
Guinea	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Guinea-Bissau	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Guyana	In the order of 0% - 10%	16% Sales Tax	Refer to Govt website for additional info
Haiti	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Honduras	In the order of 0% - 10%	12%	Refer to Govt website for additional info
Hong Kong	In the order of 0% - 10%	0% GST	Refer to Govt website for additional info
Hungary	In the order of 2.5% - 50%	27%	Refer to Govt website for additional info
Iceland	In the order of 2.5% - 10% typically 4%	26%	Refer to Govt website for additional info
India	In the order of 2.5% - 60%	12.5%	Refer to Government website for additional information: CENVAT 16.48% Excise Tax 5% to 25%
Indonesia	In the order of 2.5% - 20% Aver 8%	10%	Refer to Govt website for additional info
Iran	In the order of 0% - 10%	4% Sales tax	Refer to Govt website for additional info
Iraq	In the order of 0% - 10%	15% CIT	Refer to Govt website for additional info
Ireland	In the order of 2.5% - 20%	23%	Refer to Govt website for additional info
Israel	In the order of 2.5% - 40%	16%	Refer to Govt website for additional info
Italy	In the order of 2.5% - 9% typically 5%	22%	Refer to Govt website for additional info
Jamaica	In the order of 2.5% - 20%	17.5%	Refer to Govt website for additional info
Japan	In the order of 2.5% - 20% Aver 6.25%	10% Consumption Tax	Refer to Govt website for additional info
Jersey	In the order of 2.5% - 10% typically 5%	5% GST	Refer to Govt website for additional info
Jordan	In the order of 0% - 10%	16%	Refer to Govt website for additional info
Kenya	In the order of 0% - 10%	16%	Refer to Govt website for additional info
Kuwait	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Kosovo	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Kyrgyzstan	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Lao (PDR)	In the order of 0% - 10%	5% and 10%	Refer to Govt website for additional info
Latvia	In the order of 2.5% - 20%	18% and 22%	Refer to Govt website for additional info
Lebanon	In the order of 2.5% - 25%	10%	Refer to Govt website for additional info

COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
<b>CONTINUED</b>			
Lesotho	In the order of 2.5% - 25%	14%	Refer to Govt website for additional info:
Liberia	In the order of 0% - 15%	5% to 7%	Refer to Govt website for additional info:
Libya	In the order of 0% - 10%	N/A	Refer to Govt website for additional info:
Liechtenstein	In the order of 0% - 10%	8%	Refer to Govt website for additional info: Administered by Switzerland
Lithuania	In the order of 2.5% - 20%	21%	Refer to Govt website for additional info:
Luxembourg	In the order of 2.5% - 15%	3% and 15%	Refer to Govt website for additional info:
Macau	In the order of 0% - 10%	N/A	Refer to Govt website for additional info:
Macedonia	In the order of 2.5% - 30%	5% and 18%	Refer to Govt website for additional info:
Madagascar	In the order of 0% - 10%	20%	Refer to Govt website for additional info:
Madeira & Azores	In the order of 2.5% - 20%	16%	Refer to Govt website for additional info:
Malawi	In the order of 0% - 10%	16.5%	Refer to Govt website for additional info:
Malaysia	In the order of 2.5% - 30%	5% & 10% GST	Refer to Govt website for additional info:
Maldives	In the order of 0% - 10%	N/A	Refer to Govt website for additional info:
Mali	In the order of 0% - 10%	18%	Refer to Govt website for additional info:
Malta	In the order of 2.5% - 10%	18%	Refer to Govt website for additional info:
Mauritania	-	14%	Refer to Govt website for additional info:
Mauritius	In the order of 2.5% - 10%	15%	Refer to Govt website for additional info:
Mexico	In the order of 2.5% - 20%	11% & 16% IVA	Refer to Govt website for additional info:
Micronesia	In the order of 0% - 10%	6% Sales Tax	Refer to Govt website for additional info:
Moldova	In the order of 0% - 10%	20%	Refer to Govt website for additional info:
Monaco	In the order of 2.5% - 10% typically 5%	19.6%	Same as Frances: Refer to Govt website for additional information
Mongolia	In the order of 2.5% - 20%	10% and 13%	Refer to Govt website for additional info:
Montenegro	In the order of 2.5% - 10% typically 5%	7% and 17%	Refer to Govt website for additional info:
Morocco	In the order of 2.5% - 50% typically 15%	10% and 20%	Refer to Govt website for additional info:
Mozambique	In the order of 0% - 10%	17%	Refer to Govt website for additional info:
Myanmar	In the order of 0% - 10%	10%	Refer to Govt website for additional info:
Namibia	In the order of 2.5% - 10%	15%	Refer to Govt website for additional info:
Nepal	In the order of 0% - 10%	13%	Refer to Govt website for additional info:
Netherlands	In the order of 2.5% - 20%	6% and 21%	Refer to Govt website for additional info:
New Caledonia	In the order of 0% - 10%	zero	Refer to Govt website for additional info:
New Zealand	In the order of 2.5% - 20%	15%	Refer to Govt website for additional info:
Nicaragua	In the order of 0% - 10%	15%	Refer to Govt website for additional info:
Niger	In the order of 0% - 10%	18%	Refer to Govt website for additional info:
Nigeria	In the order of 0% - 10%	5%	Refer to Govt website for additional info:
Norway	In the order of 2.5% - 20%	25%	Refer to Govt website for additional info:
Oman	In the order of 0% - 10%	2% to 5%	Refer to Govt website for additional info:
Pakistan	In the order of 0% - 10%	17%	Refer to Govt website for additional info:
Panama	In the order of 0% - 10%	7%	Refer to Govt website for additional info:
Papua New Guinea	In the order of 0% - 10%	10%	Refer to Govt website for additional info:



COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
<b>CONTINUED</b>			
Paraguay	In the order of 0% - 10%	10%	Refer to Govt website for additional info:
Peru	In the order of 0% - 10%	18%	Refer to Govt website for additional info:
Philippines	In the order of 2.5% - 20% Aver 14%	12%	Refer to Govt website for additional info
Pitcairn Islands	In the order of 0% - 10%	20%	Refer to Govt website for additional info
Poland	In the order of 2.5% - 20% Aver 7%	23%	Refer to Govt website for additional info
Portugal	In the order of 0% - 10%	23%	Refer to Govt website for additional info
Romania	In the order of 0% - 15%	24%, 9% and 5%	Refer to Govt website for additional info
Qatar	In the order of 0% - 10%	0%	Refer to Govt website for additional info
Russian Federation	In the order of 2.5% - 40% Aver 14.5%	18%	Refer to Govt website for additional info
Rwanda	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Samoa	In the order of 0% - 10%	12.5%	Refer to Govt website for additional info
Sao Tome & Principe	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Saudi Arabia	In the order of 0% - 5%	2.5% zakat	Refer to Govt website for additional info
Senegal	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Serbia	In the order of 0% - 10%	18%	Refer to Govt website for additional info
Seychelles	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Sierra Leone	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Singapore	In the order of 0% - 10% Aver 4%	7%	Refer to Govt website for additional info
Slovak Republic	In the order of 0% - 10%	19%	Refer to Govt website for additional info
Slovenia	In the order of 0% - 10%	20%	Refer to Govt website for additional info
Solomon Islands	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Somalia	In the order of 0% - 10%	10%	Refer to Govt website for additional info
South Africa	In the order of 0% - 10%	14%	Refer to Govt website for additional info
South Korea	In the order of 2.5% - 20% Average 7%	10%	Refer to Govt website for additional info
Southern Sudan	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Spain	In the order of 0% - 10%	21%	Refer to Govt website for additional info
Sri Lanka	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Sudan	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Suriname	In the order of 0% - 10%	10%	Refer to Govt website for additional info
Svalbard	In the order of 0% - 17%	zero	Refer to Govt website for additional info
Sweden	In the order of 0% - 10%	25%	Refer to Govt website for additional info
Swaziland	In the order of 0% - 10%	14% Sales Tax	Refer to Govt website for additional info
Switzerland	In the order of 2.5% - 20%	8%	Refer to Govt website for additional info
Syria	In the order of 2.5% - 25%	10%	Refer to Govt website for additional info
Taiwan (China)	In the order of 0% - 10%	5%	Refer to Govt website for additional info
Tajikistan	In the order of 0% - 15% of CIF value	20%	Refer to Govt website for additional info
Tanzania	In the order of 0% - 10%	20%	Refer to Govt website for additional info
Thailand	In the order of 0% - 15%	7%	Refer to Govt website for additional info

COUNTRY	DUTIES ON IMPORTED EQUIPMENT & MATERIALS	GENERAL SALES TAX / VALUE ADDED TAX / CONSUMPTION TAX	GENERAL NOTES
<b>CONTINUED</b>			
Togo	In the order of 0% - 15%	18%	Refer to Govt website for additional info
Tonga	In the order of 0% - 10%	5%	Refer to Govt website for additional info
Trinidad & Tobago	In the order of 0% - 10%	15%	Refer to Govt website for additional info
Tunisia	In the order of 2.5% - 20%	18%	Refer to Govt website for additional info
Turkey	In the order of 2.5% - 20% Aver 12.5% of CIF value	18%	Refer to Govt website for additional info
Turks & Caico Islands	In the order of 0% - 10%	zero	Refer to Govt website for additional info
Turkmenistan	In the order of 0% - 12%	20%	Refer to Govt website for additional info
Tuvalu	In the order of 0% - 10%	5%	Refer to Govt website for additional info
Uganda	In the order of 0% - 20%	18%	Refer to Govt website for additional info
Ukraine	In the order of 0% - 10%	20%	Refer to Govt website for additional info
United Arab Emirates	In the order of 0% - 10% of CIF value	zero	Refer to Govt website for additional info
United Kingdom	In the order of 2.5% - 20%	20%	VAT recently changed. Refer to Govt website for additional info
United States	In the order of 2.5% - 20%	Varies from State to State, refer to later table.	Refer to Govt website for additional info Other taxes include local city taxes and B & O taxes.
Uruguay	In the order of 2.5% - 20%	22%	Refer to Govt website for additional info
Uzbekistan	In the order of 0% - 10%	20%	Refer to Govt website for additional info
Vanuatu	In the order of 0% - 10%	12.5%	Refer to Govt website for additional info
Venezuela	In the order of 0% - 10%	12%	Refer to Govt website for additional info
Vietnam	In the order of 0% - 15% Aver 7.5%	10%	Refer to Govt website for additional info
West Bank	In the order of 0% - 10%	14.5% and 16%	Refer to Govt website for additional info
Yemen	In the order of 0% - 10%	5% GST	Refer to Govt website for additional info
Zambia	In the order of 0% - 10%	16%	Refer to Govt website for additional info
Zimbabwe	In the order of 0% - 10%	15%	Refer to Govt website for additional info



**USA CITY LOCATION (CALIBRATION) FACTORS:** for Industrial / Commercial construction facilities. (Table # 5) The following values are calibration or location factors for adjusting values from Washington D.C. to a specific USA: Location factors are based on 50% - 50% split of labor and materials applicable for both process plants and buildings. An

example of this is as follows; assume that you have estimated a building or facility utilizing this publication. The value you estimate was \$6,745,700, that value would be based on costs for Washington D.C. if the project was to be built in Anniston Alabama the cost would be \$6,745,700 X .85 = \$5,733,845

USA CITY	LOCATION FACTOR
<b>ALABAMA</b>	
Anniston	.85
Birmingham	.86
Decatur	.85
Dothan	.85
Huntsville	.86
Mobile	.88
Montgomery	.85
<b>ALASKA</b>	
Anchorage	1.25
Fairbanks	1.24
Juneau	1.22
<b>ARIZONA</b>	
Flagstaff	.86
Mesa	.85
Phoenix	.92
Prescott	.86
Tucson	.87
<b>ARKANSAS</b>	
Bentonville	.83
Fort Smith	.82
Little Rock	.83
Jonesboro	.82
Pine Bluffs	.82
<b>CALIFORNIA</b>	
Anaheim	1.06
Bakersfield	1.06
Eureka	1.06
Fresno	1.07
Long Beach	1.08
Los Angeles	1.14
Oakland	1.10
Oxnard	1.06
Riverside	1.06
Sacramento	1.07
San Diego	1.07
San Francisco	1.19

USA CITY	LOCATION FACTOR
<b>CALIFORNIA (continued)</b>	
San Jose	1.12
San Mateo	1.12
Santa Rosa	1.11
Stockton	1.06
Woody	1.04
VanNyys	1.06
<b>COLORADO</b>	
Colorado Springs	.92
Denver	.94
Ft Collins	.92
Gypsum	.90
Leadville	.91
Vail	.90
<b>CONNECTICUT</b>	
Hartford	1.07
New Haven	1.06
New London	1.06
Stamford	1.06
<b>D.C., CITY of WASHINGTON BASE CITY</b>	
Washington D.C.	1.00
<b>DELAWARE</b>	
Dover	.93
Newark	.95
Wilmington	.96
<b>FLORIDA</b>	
Celebration	.92
Daytona	.91
Fort Lauderdale	.87
Gainesville	.89
Jacksonville	.88
Miami	.89
Naples	.88
Orlando	.92
Panama City	.88
St. Petersburg	.88
Tampa	.91

#	RATIOS & PERCENTAGES	NORMAL RANGE
<b>CONTINUED</b>		
21	Royalties as a percentage of M.E. (I.S.B.L)	0.25 – 3.5%
22	Vendor assistance as percent of D.L.	0.1 – 0.25%
23	Home office engineering as percent T.I.C.	8-17%
24	Field supervision as percent D.L.	5-15%
25	Construction equipment as percent D.L.	12-20%
26	Construction fee as percent D.L.	3 - 9%
27	Construction fee as percent T.I.C.	1.25 - 4.0%
28	CM cost as percentage of T.I.C.	5 - 7.5%
29	Off sites, needs to be considered as a separate issue.	If limited / or no scope or data is available use 15-70% of the (I.S.B.L.) value. If multiplier is smaller / or greater than 3.0 – 5.50 a more in depth review should take place:
30	Overtime / shift work as a percentage of D.L	0 – 10%
31	Construction Management Fee	2 – 6% on pass through value:
32	Fabricate pipe offsite	20 – 40 hours / ton
33	Erect piping (2" and above)	100 – 200 hours / ton
34	Average cost per ton to fabricate and erect piping system	Average cost \$16,500 - \$23,500 per ton, average \$20,000 per ton

## (6) PETRO-CHEMICAL FACILITY

- USA South East
- 2010 Cost basis
- Direct Labor Cost \$5.16 Million
- All in labor rate for all trades \$67.70 / hour

### Table 6

CONSTRUCTION CATEGORY MAJOR EQUIPMENT (M.E.)	# OF ITEMS	MATERIAL	LABOR	TOTAL	%
Columns c/w trays	4	1,843,700	100,482	1,944,182	8.29%
Compressor	1	1,375,700	80,478	1,456,178	6.21%
Drums	6	493,000	31,429	524,429	2.24%
Furnace / Heaters	3	1,924,600	151,081	2,075,681	8.85%
Heat Exchangers	10	1,378,970	131,002	1,509,972	6.44%
Miscellaneous Equipment	3	43,400	2,715	46,115	0.20%
Reactors	3	439,500	34,061	473,561	2.02%
Pumps with motors	12	79,090	7,514	86,604	0.37%
Stack / Ducting	1	99,540	6,122	105,662	0.45%
Tanks	4	596,000	31,290	627,290	2.68%
S/T		8,273,500	576,173	8,849,673	37.75%
Freight (2.75%)		227,521	-	227,521	0.97%
<b>S/T</b>		<b>8,501,021</b>	<b>576,173</b>	<b>9,077,195</b>	<b>38.72%</b>

CONSTRUCTION CATEGORY MAJOR EQUIPMENT (M.E.)	# OF ITEMS	MATERIAL	LABOR	TOTAL	%
<b>CONTINUED</b>					
Site work	4.75 Acres	364,780	196,420	561,200	2.39%
Foundations / Stone / Concrete	3,288 CY	581,735	387,823	969,558	4.14%
Structural steel / Pipe racks	315 Ton	508,875	169,625	678,500	2.89%
Piping (Aver 6" diameter CS \$190/LF)	25,450 LF	3,013,319	1,807,991	4,821,310	20.57%
Instrumentation & Controls	830 Points	707,450	487,310	1,194,760	5.10%
Electrical S/S - MCC & cable / Cable tray		701,728	421,037	1,122,765	4.79%
Buildings - Control room & operator change area	4,800 SF	326,971	241,674	568,645	2.43%
Insulation / Refractory		156,744	141,816	298,560	1.27%
Painting		122,389	56,281	178,670	0.76%
<b>S/T</b>		<b>6,483,991</b>	<b>3,909,978</b>	<b>10,393,968</b>	<b>44.34%</b>
General Conditions / Site Establishment		344,700	327,450	672,150	2.87%
Construction Equipment / Scaffolding		110,430	337,600	448,030	1.91%
Small tools / Consumables		102,760	11,245	114,005	0.49%
<b>S/T</b>		<b>557,890</b>	<b>676,295</b>	<b>1,234,185</b>	<b>5.26%</b>
Detailed Design Work (\$89.50 Hour)	20,020 Hours	37,450	1,754,780	1,792,230	7.64%
Project / Construction / Procurement / PC Mgmt (\$102.00 Hour)	9,270 Hours	43,450	902,560	946,010	4.04%
<b>S/T</b>		<b>80,900</b>	<b>2,657,340</b>	<b>2,738,240</b>	<b>11.68%</b>
<b>TOTAL</b>		<b>15,623,802</b>	<b>7,819,786</b>	<b>23,443,588</b>	<b>100</b>
Major Equipment Multiplier TIC / M.E. Cost				2.76	
<b>OTHER PROJECT RELATED COSTS (NOT INCLUDED IN ABOVE)</b>				<b>\$ COST</b>	
Demolition				14,340	
Offsite tanks (3 # and pipe)				148,140	
Plant engineering service				17,650	
Extend lay down / hard standing area				14,700	
Guard services				15,450	
Fence 1,200' and gates				73,450	
Owners Oversight / Inspection	2,270 Hours			233,700	
Owner safety program / drug testing				26,300	
Tie In's (Plant Cost)				21,455	
Capitalized Spare Parts				22,500	
Early Engineering / Front End Studies				325,000	
Vendor Assistance Equipment & instrumentation integration				19,450	
Refurbish existing drums / heat exchangers, modify baffles and extend platforms				20,330	
Survey - ground conditions and location of existing services				12,580	
Permits				12,250	
<b>TOTAL</b>				<b>977,295</b>	

### (7) 25 FLOORS - 200 APARTMENTS

- Apartment Building
- Major N.E. USA City (not NY City) – Down-town location – 2008 Cost Basis:
  - 437,690 Total GSF
  - U/G Parking for 200 Vehicles

- Upgrades by tenants not included
- 8 units per floor 1,200 – 1,850 SF per unit
- Excludes land purchase

## Table 7

#	CATEGORY / ELEMENT	\$ COST IN MILLIONS	% OF TOTAL COST	COST PER UNIT
1	General Conditions / Preliminaries (CM staff)	5.592	6.99%	
2	Demolition	0.552	0.69%	
3	Excavation for basement	0.629	0.79%	
4	Piling / caissons	1.328	1.66%	
5	Landscaping / plantings	0.063	0.08%	
6	Exterior paving	0.168	0.21%	
7	Concrete structure (Concrete frame & P.C. floors)	19.792	24.74%	
8	Structural steel (framing)	0.792	0.99%	
9	Steel stairs	0.614	0.77%	
10	Carpentry	0.715	0.89%	
11	Cabinets / millwork (foyer - lobby)	0.104	0.13%	
12	Membrane roof	0.527	0.66%	
13	Roofing pavers etc	0.021	0.03%	
14	Roof screen	0.225	0.28%	
15	Garage doors	0.087	0.11%	
16	Doors / frames / lobby entrance	2.448	3.06%	
17	Door furniture	0.187	0.23%	
18	Caulking	0.153	0.19%	
19	Windows / Ext doors	3.144	3.93%	
20	Internal walls / ceiling	5.835	7.29%	
21	Tile work	1.656	2.07%	
22	Ceiling treatments	0.350	0.44%	
23	Carpet / wood floors	1.170	1.46%	
24	Paint	0.908	1.13%	
25	Kitchen cabinets	0.901	1.13%	
26	Kitchen appliances	0.691	0.86%	
27	Miscellaneous louvers	0.105	0.13%	
28	Signs	0.057	0.07%	
29	Toilet Fixtures	0.487	0.61%	
30	Fire Protection	1.313	1.64%	
31	Plumbing (including some fixtures)	5.101	6.38%	\$25,505
32	HVAC	5.311	6.64%	\$26,555
33	Trash chute	0.140	0.17%	
34	Blinds / Drapes / WT	0.211	0.26%	
35	Mail boxes	0.083	0.10%	
36	Washer / dryer venting	0.281	0.35%	
37	Elevators (2 #)	1.747	2.18%	

#	CATEGORY / ELEMENT	\$ COST IN MILLIONS	% OF TOTAL COST	COST PER UNIT
<b>CONTINUED</b>				
38	Electrical	6.427	8.03%	\$32,135
39	Security system / CCTV / Misc. items	0.351	0.44%	
	Construction Cost	70.266	87.82%	
40	Insurance	0.842	1.05%	
41	Business Tax	0.275	0.34%	
42	Building permits	0.214	0.27%	
43	Bonding / Surety / Sub guard	1.175	1.47%	
44	CM Fee	2.350	2.94%	
	Construction Cost + above 5 items	75.122	93.89%	
45	A/E Fee (includes MEP and Structural)	4.890	6.11%	
	<b>Construction Cost A/E fees</b>	<b>80.012</b>	<b>100.00%</b>	<b>\$400,060</b>
	<b>Cost per SF</b>			<b>\$183</b>

## 8) BEVERAGE / CANDY PRODUCTS PRODUCTION AND R&D / QA RESEARCH CENTER

• 3 # Production Lines - 24.50 Acre Site N.E  
USA 2010 Cost Basis

### Table 8

FACILITY AREAS	SF	M2	# OF STAFF
Manufacturing 112,700 SF	112,700	10,474	50 - 65 operators on 3 shifts
Admin / Cafeteria 24,700 SF	24,700	2,296	50 - 65 staff - 8:00 AM - 5:00 PM
R&D / QA Laboratory 20,500 SF	20,500	1,905	50 - 70 staff - 8:00 AM - 5:00 PM
Warehouse 49,400	49,400	4,591	5 - 7 operators on 3 shifts
<b>TOTAL FACILITY FOOTPRINT</b>	<b>207,300</b>	<b>19,266</b>	

#	CSI DIVISION	SF	DIVISION \$ COST	SF / \$	%	\$ COST / M2
1	Preliminaries / Gen Conditions	207,300	4,591,695	22.15	6.87%	238.33
2	Site Work (Note 1)	207,300	2,415,045	11.65	3.61%	125.35
3	Concrete - Foundations & flatwork	207,300	4,653,885	22.45	6.97%	241.56
4	Masonry / Brickwork	207,300	986,748	4.76	1.48%	51.22
5	Metals - Structural steel / Metal Decking	207,300	4,237,212	20.44	6.34%	219.93
6	Woods & Plastic	207,300	735,915	3.55	1.10%	38.20
7	Thermal & moisture protection	207,300	3,248,391	15.67	4.86%	168.61
8	Doors & Windows	207,300	1,565,115	7.55	2.34%	81.24
9	Finishes	207,300	4,813,506	23.22	7.21%	249.85
10	Specialties - Fume hoods	207,300	609,462	2.94	0.91%	31.63
11	Production Equipment (tanks, blenders, packaging line)	207,300	5,481,012	26.44	8.20%	284.49
11A	Packaging Equipment	207,300	2,450,286	11.82	3.67%	127.18
11B	Vendor start up assistance	207,300	223,884	1.08	0.34%	11.62
11C	Lab. equipment / Cold rooms	207,300	400,089	1.93	0.60%	20.77

2017 Division 15 - Mechanical:		Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
979	Ditto 4" dia	EACH	20.67	42.28	4.02	66.96	23.62	53.66	5.10	82.38
980	Ditto 6" dia	EACH	48.31	56.96	5.41	110.68	55.21	72.29	6.87	134.37
981	HDPE 90 degree elbow 2" dia	EACH	7.72	18.50	1.76	27.97	8.82	23.48	2.23	34.53
982	Ditto 3" diameter	EACH	15.94	24.66	2.34	42.94	18.21	31.30	2.97	52.49
983	Ditto 4" diameter	EACH	21.42	32.88	3.12	57.42	24.48	41.74	3.96	70.18
984	Ditto 6" diameter	EACH	48.06	42.28	4.02	94.36	54.93	53.66	5.10	113.69
985	Piping / Victaulic coupling - 2" dia	EACH	22.88	18.50	1.39	42.76	26.14	23.48	1.76	51.38
986	Ditto 3" dia	EACH	30.93	18.50	1.39	50.82	35.35	23.48	1.76	60.59
987	Ditto 4" dia	EACH	43.57	18.50	1.39	63.46	49.80	23.48	1.76	75.04
988	Ditto 6" dia	EACH	75.61	24.52	1.84	101.96	86.41	31.12	2.33	119.86
989	Ditto 8" dia	EACH	119.13	24.52	1.84	145.49	136.15	31.12	2.33	169.60
990	Ditto 10" dia	EACH	182.43	35.23	2.64	220.30	208.49	44.72	3.35	256.56
991	Ditto 12" dia	EACH	204.20	35.23	2.64	242.08	233.37	44.72	3.35	281.44
<b>Process / Industrial Piping</b>										
	Carbon Steel A 106 sch 80 Complicated - small complex spools requiring significant shop and field welding (SBL) 1" dia pipe includes, pipe, fittings, fabrication, hangers and testing, excludes paint or insulation	LF	36.24	57.70	4.33	98.26	41.42	72.12	5.41	118.95
993	Ditto 1-1/2" dia	LF	37.75	88.35	6.63	132.73	43.14	110.44	8.28	161.86
994	Ditto 2" dia	LF	40.77	111.79	8.38	160.94	46.59	139.74	10.48	196.81
995	Ditto 3" dia	LF	42.28	158.67	11.90	212.85	48.32	198.34	14.88	261.53
996	Ditto 4" dia sch 40 A -106 or A - 53 ditto	LF	45.30	173.10	12.98	231.38	51.77	216.37	16.23	284.37
997	Ditto 6" dia ditto	LF	49.83	209.16	15.69	274.67	56.95	261.45	19.61	338.00
998	Ditto 8" dia ditto	LF	72.48	225.39	16.90	314.77	82.83	281.73	21.13	385.69
999	Ditto 10" dia ditto	LF	113.25	252.43	18.93	384.61	129.42	315.54	23.67	468.63
1000	Ditto 12" dia 0.375 wall thickness ditto	LF	122.30	299.31	22.45	444.07	139.78	374.14	28.06	541.98
1001	Ditto 14" dia ditto	LF	134.38	344.39	25.83	504.60	153.58	430.49	32.29	616.36
1002	Ditto 16" dia ditto	LF	166.09	391.27	29.35	586.71	189.82	489.09	36.68	715.59

2017 Division 15 - Mechanical:		Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
1003	Ditto 18" dia ditto	LF	218.94	421.92	31.64	672.51	250.22	527.40	39.56	817.18
1004	Ditto 20" dia ditto	LF	274.81	472.41	35.43	782.65	314.07	590.51	44.29	948.87
1005	Ditto 24" dia ditto	LF	344.27	544.53	40.84	929.64	393.45	680.67	51.05	1,125.16
1006	Ditto 30" dia ditto	LF	404.66	656.32	49.22	1,110.21	462.47	820.40	61.53	1,344.41
1007	Ditto 36" dia ditto	LF	510.36	736.66	55.17	1,301.19	583.27	919.57	68.97	1,571.81
1008	Carbon Steel A 106 sch 80 Less Complicated (ISBL) 20% - 40% less shop and field welding than above, 1" dia pipe includes, pipe, fittings, fabrication, hangars and testing, excludes paint or insulation	LF	29.90	44.72	3.35	77.97	34.17	55.90	4.19	94.26
1009	Ditto 1-1/2" dia	LF	31.14	68.47	5.14	104.75	35.59	86.59	6.42	127.60
1010	Ditto 2" dia	LF	33.63	86.64	6.50	126.77	38.44	108.30	8.12	154.86
1011	Ditto 3" dia	LF	34.88	122.97	9.22	167.07	39.86	153.71	11.53	205.10
1012	Ditto 4" dia sch 40 A -106 or A - 53 ditto	LF	37.37	134.15	10.06	181.58	42.71	167.69	12.58	222.97
1013	Ditto 6" dia ditto	LF	41.11	162.10	12.16	215.36	46.98	202.62	15.20	264.80
1014	Ditto 8" dia ditto	LF	59.79	174.67	13.10	247.57	68.34	218.34	16.38	303.05
1015	Ditto 10" dia ditto	LF	93.43	195.64	14.67	303.73	106.77	244.54	18.34	369.66
1016	Ditto 12" dia 0.375 wall thickness ditto	LF	100.90	231.97	17.40	350.27	115.32	289.96	21.75	427.02
1017	Ditto 14" dia ditto	LF	110.87	266.90	20.02	397.79	126.71	333.63	25.02	485.35
1018	Ditto 16" dia ditto	LF	137.03	303.23	22.74	463.00	156.60	379.04	28.43	564.07
1019	Ditto 18" dia ditto	LF	180.63	326.99	24.52	532.14	206.43	408.74	30.66	645.82
1020	Ditto 20" dia ditto	LF	226.72	366.12	27.46	620.29	259.10	457.65	34.32	751.07
1021	Ditto 24" dia ditto	LF	284.02	422.01	31.65	737.68	324.59	527.52	39.56	891.67
1022	Ditto 30" dia ditto	LF	333.85	508.65	38.15	880.65	381.54	636.81	47.69	1,065.04
1023	Ditto 36" dia ditto	LF	421.05	570.14	42.76	1,033.94	481.19	712.67	53.45	1,247.32



	2017 Division 15 - Mechanical: Union	Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
	Carbon Steel A 106 sch 80 Least Complicated - A high amount of rack and straight run piping (OSBL) 60% - 85% less shop and field welding than complicated piping referred to above 1" dia pipe includes, pipe, fittings, fabrication, hangers and testing.									
1024	excludes paint or insulation	LF	19.51	28.27	2.12	49.90	22.29	35.34	2.65	60.28
1025	Ditto 1-1/2" dia	LF	20.32	43.29	3.25	66.86	23.22	54.11	4.06	81.40
1026	Ditto 2" dia	LF	21.95	54.78	4.11	80.83	25.08	68.47	5.14	98.69
1027	Ditto 3" dia	LF	22.76	77.75	5.83	106.34	26.01	97.19	7.29	130.48
1028	Ditto 4" dia sch 40 A -106 or A - 53 ditto	LF	24.38	84.82	6.36	115.56	27.87	106.02	7.95	141.84
1029	Ditto 6" dia ditto	LF	26.82	102.49	7.69	137.00	30.65	128.11	9.61	168.37
1030	Ditto 8" dia ditto	LF	39.02	110.44	8.28	157.74	44.59	138.05	10.35	192.99
1031	Ditto 10" dia ditto	LF	60.96	123.69	9.28	193.93	69.67	154.61	11.60	235.88
1032	Ditto 12" dia 0.375 wall thickness ditto	LF	69.50	154.81	11.61	235.92	79.42	193.51	14.51	287.45
1033	Ditto 14" dia ditto	LF	76.36	178.12	13.36	267.84	87.27	222.65	16.70	326.62
1034	Ditto 16" dia ditto	LF	94.38	202.37	15.18	311.93	107.86	252.96	18.97	379.80
1035	Ditto 18" dia ditto	LF	124.41	218.22	16.37	359.00	142.18	272.78	20.46	435.42
1036	Ditto 20" dia ditto	LF	156.15	244.34	18.33	418.81	178.46	305.42	22.91	506.79
1037	Ditto 24" dia ditto	LF	195.62	281.64	21.12	498.38	223.56	352.05	26.40	602.02
1038	Ditto 30" dia ditto	LF	229.94	339.46	25.46	594.86	262.79	424.33	31.82	718.94
1039	Ditto 36" dia ditto	LF	290.00	380.49	28.54	699.03	331.42	475.62	35.67	842.71
	Pipe steel / chrome-moly sch 120 - 1" diameter includes fittings & hangers - testing and 2" casil aluminum jacketed insulation exclude, valves and painting (inside Battery Limits)	LF	62.03	207.61	15.57	285.21	70.89	259.52	19.46	349.87
1041	Ditto 2"	LF	133.28	260.39	19.53	413.20	152.32	325.49	24.41	502.22
1042	Ditto 4"	LF	222.79	376.37	28.23	627.39	254.62	470.47	35.29	760.37



	2017 Division 15 - Mechanical: Union	Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
1043	Ditto 6"	LF	368.87	421.03	31.58	821.47	421.56	526.29	39.47	987.32
1044	Pipe steel / chrome-moly sch 120 - 1" diameter includes fittings & hangars - testing and 2" casll aluminum jacketed insulation exclude, valves and painting (Outside Battery Limits)	LF	31.01	92.79	6.96	130.76	35.44	115.99	8.70	160.13
1045	Ditto 2"	LF	66.64	120.63	9.05	196.32	76.17	150.78	11.31	238.26
1046	Ditto 4"	LF	111.40	176.30	13.22	300.92	127.32	220.37	16.53	364.22
1047	Ditto 6"	LF	184.43	197.18	14.79	396.40	210.78	246.47	18.49	475.74
1048	Pipe steel / chrome-moly sch 80 - 1" diameter includes fittings & hangars - testing and 2" casll aluminum jacketed insulation exclude, valves and painting (Inside Battery Limits)	LF	41.74	181.66	13.62	237.03	47.70	227.08	17.03	291.81
1049	Ditto 2"	LF	89.69	227.84	17.09	334.61	102.50	284.80	21.36	408.66
1050	Ditto 4"	LF	149.92	329.33	24.70	503.95	171.34	411.66	30.87	613.87
1051	Ditto 6"	LF	248.22	368.40	27.63	644.25	283.68	460.50	34.54	778.71
1052	Pipe steel / chrome-moly sch 80 - 1" diameter includes fittings & hangars - testing and 2" casll aluminum jacketed insulation exclude, valves and painting (Outside Battery Limits)	LF	20.87	81.19	6.09	108.15	23.85	101.49	7.61	132.95
1053	Ditto 2"	LF	44.85	105.55	7.92	158.31	51.25	131.93	9.90	193.08
1054	Ditto 4"	LF	74.96	154.26	11.57	240.80	85.67	192.83	14.46	292.96
1055	Ditto 6"	LF	124.11	172.53	12.94	309.58	141.84	215.66	16.17	373.67
1056	Pipe steel / Forged steel - 1" diameter includes fittings and hangars, excludes valves and painting (Inside Battery Limits)	LF	14.98	92.63	6.95	114.55	17.12	115.78	8.68	141.59
1057	Ditto 2" dia	LF	21.44	118.99	8.92	149.35	24.51	148.73	11.16	184.40
1058	Ditto 3" dia	LF	34.21	184.89	13.87	232.97	39.10	231.11	17.33	287.55
1059	Ditto 4" dia	LF	36.89	208.69	15.65	261.23	42.17	260.86	19.56	322.59