



**2024
WORLDWIDE
INDUSTRIAL/COMMERCIAL
CONSTRUCTION SCHEDULE
OF RATES**



0

1 DIVISION 0

Introduction and Calibration Factors: includes the following:
 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.

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DIVISION 00

Cost Models / Cost Benchmarks (23 Number) includes cost and quantity data on the following:
 Power Station Cost Model.
 Crude Oil Distillation Complex.
 High Rise Apartment Building Cost Model.
 Waste Water Treatment Cost Model.
 EPCM Home Office Billing Rate Sheet.
 Consumer Products Facility.
 Steel Production Cost Model.
 Beverage Production Facility Cost Model.
 Petro – Chemical Cost Model.
 78 # Engineering / Construction Cost Benchmarks.
 Class A Office Building
 UK Pharmaceutical Facility
 Clean Warehouse - Belgium
 Regional Airport
 Shopping Mall
 Clean Warehouse Facility / Soap Production Facility
 Bus & Heavy Truck Tire Facility
 Call Center & Solar Facility
 Bio / Pharmaceutical Facility

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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

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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

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DIVISION 03

Concrete Work: includes schedule of rates for:

Concrete
Formwork
Reinforcement
Precast Concrete
Grouting

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DIVISION 04

Masonry: includes schedule of rates for:

Brickwork
Masonry
Refractory

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DIVISION 05

Metals: includes schedule of rates for:

Structural Steel
Metal Joists
Metal Framing
Miscellaneous Iron
Metal Decking

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DIVISION 06

Wood and Plastics: includes schedule of rates for:

Rough Carpentry
Finish Carpentry
Carpentry Specialties

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DIVISION 07

Thermal and Moisture Protection: includes schedule of rates for:
Damp proofing and Waterproofing
Thermal Protection
Roofing Systems
Caulking & Sealants

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DIVISION 08

Doors and Windows: includes schedule of rates for:
Wood and Plastic Doors
Metal Doors and Frames
Windows
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DIVISION 09

Finishes: includes schedule of rates for:
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Tile
Terrazzo
Ceilings
Flooring
Wall Finishes
Acoustical Treatment
Painting and Coatings

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DIVISION 10

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

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Equipment: includes schedule of rates for:
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Industrial and Process Equipment
Laboratory Equipment
Material Handling Equipment

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Furnishings: includes schedule of rates for:
Furniture
Manufactured Casework

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Special Construction: includes schedule of rates for:
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Radiation Protection
Storage Tanks
Security Access and Surveillance

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Conveying Systems: includes schedule of rates for:
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Escalators and Moving Walks
Hoists and Cranes

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DIVISION 15

Mechanical Work: includes schedule of rates for:

Building Services Piping

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Process Piping

Fire Protection Piping

Heating, Ventilating & Air Conditioning Equipment

Ductwork

Insulation

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DIVISION 16

Electrical Work: includes schedule of rates for:

Electrical Equipment / Transformers

Cable / Control wire

Conduit

Cable tray

Communications

Instrumentation and Controls

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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

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ABOUT THE FIRM

Introduction and Calibration factors

The global construction industry has exhibited extraordinary flexibility and resilience over the last three years, dealing with three major events: (1) the Covid Pandemic, (2) and ongoing war in Europe, and (3) sky-high inflation. This publication, the 2024 World-wide Industrial / Commercial Construction Schedule of Rates Yearbook is conceivably the most authoritative and up to date estimating tool specific to the topic of Industrial and Commercial unit price (schedule of rates) estimating. The main benefits of this publication are that it is easily understood and it can be used immediately to compile accurate detailed or semi-detailed construction cost estimates. Note the Term: Construction Schedule of Rates is a term widely used in Europe and the rest of the world, in North America this methodology or approach is usually referred to as Unit Price Estimating, both these terms are interchangeable when utilizing this publication.

The following Divisions 1 - 17 contain U.S. unit costs for materials, labor (union application) and construction equipment for construction work associated with industrial and commercial construction work applicable for 2024. This publication answers the questions and issues that are needed in order to produce an accurate domestic or international cost estimate. This reference guide is appropriate for construction professionals who are familiar or who are possibly new to the topic of detailed unit price estimating (schedule of rates estimating). This method can be best described in the following manner - The total construction project (the construction effort or work items) is broken down

into smaller distinct work scope items – i.e. a number of single line items (the construction project may consist of 100's or possibly 1,000's of these particular line items). A “unit price cost” (schedule of rates) is determined for each scope item, i.e. line item, the appropriate unit price cost is selected from this publication. The unit price is then multiplied by the “take-off quantity,” i.e. the actual number of doors or windows

needed in the facility, the cubic yards of concrete or the length of pipe required; these quantities are more often than not depicted on the architectural / engineering drawings. They are “taken-off” the architectural / general arrangement drawings by counting each door or by measuring the footage of pipe depicted on the drawings (think of the take-off list as a shopping list

of items that will need to be purchased or fabricated to complete the construction work depicted on the drawings and further described in the specifications), it is many times further described in (the scope of work statement). This action then establishes the construction cost for each work item (line item). All of the line item costs are then summed up to obtain the total installed cost (TIC) for the project being reviewed or estimated. To summarize the above statement - the total cost of a building / facility is the summary / collection of the “taken-off” quantities multiplied by the related unit cost price detailed in this publication.

The unit cost method of estimating (schedule of rates) is a “proven” reasonably uncomplicated method of determining final construction costs; nevertheless it is a time consuming effort (there is software available and computerized tools that can significantly speed

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licensing requirements.

- Differing specifications and standards.
- Labor and local statutory employment costs in the specific overseas country.
- Material costs (Engineered and Bulk items).
- Government rules and regulations regarding purchasing local labor, materials / production equipment.
- Ability to purchase local engineered items (materials, production equipment) in the specific country being considered.
- General Conditions – Preliminaries / Field establishment and indirect cost differences.
- Import duties and tariffs.
- Inflation and escalation difference.
- The cost of construction equipment V's it USA equivalent.
- Overseas freight forwarding costs.
- Currency exchange disparity.
- The utilization of construction equipment V's its high usage in the USA.
- Expatriate costs, if required.
- Local GST / VAT Taxes.

The purchase cost of land is not considered as part of the International Location factor, neither is future escalation.

FINAL CONSIDERATIONS

An experienced construction cost estimator can usually, without too much difficulty, compile a cost estimate of a specific construction project in their own city, state, or country utilizing their own cost estimating tools or utilizing cost estimating annual cost estimating reference books and databases they are accustomed to using or by obtaining quotes from local sub-contractors. Completing an international cost estimate (assuming the project is outside the cost estimator's home country and comfort zone) is much more of a challenge; hopefully this publication will serve as a "useful tool" in supporting the cost estimator with current cost estimating data that will help ease this challenge.

To complete a Unit Price Estimate / Schedule of Rates the following basic engineering, architectural / engineering deliverables are many times required:

- A detailed scope of work statement.
- Completed or partially completed general arrangement drawings (usually 35% - 70% complete).
- Sketches / Foundation details
- A "preliminary" major equipment and instrumentation list
- A site visit would greatly assist the estimating effort
- Completed or partially completed Specifications
- A milestone schedule / bar chart – depicting the projects major milestones (start and finish dates for Detailed Design, Procurement and Construction)

As was stated earlier, a unit price estimate (schedule of rates estimate) is the most accurate estimating method used in the construction industry, however it is a time consuming / expensive effort to complete (typically the detailed design needs to be well advanced – perhaps 35% - 70% complete to make the unit cost estimate a useful control tool). A Unit Price estimate / Schedule of Rates are used for the most part for competitive bidding purposes, for determining the cost of change orders or for completing a not to exceed budget. The publisher has made every effort to collect and assemble the most current cost data available when compiling this database; we have made a detailed effort to include as many items as possible that are germane to industrial and commercial construction projects in North America and overseas. We intend to add additional line items and data to this database in the forthcoming years, to make this database as all encompassing as possible. We appreciate any comments and feedback specific to these unit prices / schedule of rates and location factors.

HOW TO USE THE INTERNATIONAL AL COUNTRY NORTH AMERICAN CALIBRATION / LOCATION FACTORS:

1. Review the scope of work to be estimated.
2. Complete the quantity take-off of the work to be accomplished (For example: the number of doors, the length of pipe, the cubic yards of concrete, the tons of structural steel etc.).
3. Choose the appropriate schedule of rates / unit

Location (Calibration) Factors

INTERNATIONAL VALUES COMPARED TO WASHINGTON D.C. (BASE OF 1.00)

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
1	Afghanistan		0.91 - 0.96	0.75 - 0.85
2	Albania		0.89 - 0.93	0.84 - 0.88
3	Algeria		0.90 - 0.95	0.85 - 0.88
4	Angola		0.92 - 0.97	0.70 - 0.78
5	Argentina		0.92 - 0.95	0.86 - 0.91
6	Armenia		0.90 - 0.94	0.85 - 0.88
7	Australia	Melbourne	1.01	0.97
	Australia	Perth	1.01	0.97
	Australia	Sydney	1.01	0.97
8	Austria		1.03	1.00
9	Azerbaijan		0.93 - 0.97	0.86 - 0.90
10	Bahrain		0.92 - 0.95	0.90 - 0.92
11	Bangladesh		0.90 - 0.93	0.86 - 0.90
12	Belarus		0.93 - 0.96	0.88 - 0.92
13	Belgium		0.99 - 1.03	0.96 - 0.99
14	Belize		0.93 - 0.95	0.86 - 0.90
15	Benin		0.92 - 0.98	0.84 - 0.89
16	Bhutan		0.91 - 0.96	0.82 - 0.85
17	Bolivia		0.92 - 0.94	0.82 - 0.88
18	Bosnia		0.90 - 0.95	0.88 - 0.90
19	Botswana		0.92 - 0.98	0.80 - 0.82
20	Brasil		0.93 - 0.98	0.89 - 0.92
21	Bulgaria		0.93 - 0.96	0.87 - 0.92
22	Burkina Faso		0.92 - 0.98	0.83 - 0.88
23	Burundi		0.92 - 0.98	0.83 - 0.88
24	Cambodia		0.92 - 0.96	0.83 - 0.86
25	Cameroon		0.92 - 0.98	0.81 - 0.85
26	Canada	Calgary AL	1.03 - 1.05	1.00 - 1.04
	Canada	Charlottetown PEI	0.96 - 0.98	0.95
	Canada	Edmonton AL	1.03 - 1.05	1.00 - 1.03
	Canada	Fort McMurray AL	1.30 - 1.45	1.04 - 1.10
	Canada	Halifax NS	0.96 - 0.98	0.96
	Canada	Hamilton ONT	0.96 - 0.99	0.96
	Canada	Laval QUE	0.95 - 0.97	0.95
	Canada	Lethbridge AL	0.97 - 1.00	0.94 - 0.97
	Canada	London ONT	0.96 - 0.99	0.96
	Canada	Moncton NB	0.95 - 0.97	0.94
	Canada	Montreal QUE	0.96 - 0.98	0.95
	Canada	Quebec City QUE	0.96 - 0.98	0.95
	Canada	Regina SASK	0.96 - 0.98	0.94 - 0.96
	Canada	Sarnia ONT	0.96 - 0.99	0.96
	Canada	St Johns NFL	0.96 - 0.98	0.94 - 0.97
	Canada	Toronto ONT	0.97 - 0.99	0.95 - 0.97
	Canada	Whitehorse YUK	0.98 - 1.03	0.95 - 0.98
	Canada	Winnipeg MAN	0.96 - 0.98	0.92 - 0.95

USA CITY	LOCATION FACTOR
PENNSYLVANIA (continued)	
Pottstown	.95
Quakertown	.93
Reading	.95
Scranton	.95
Yardley	.98
York	.94
West Chester	.96
PUERTO RICO	
San Juan	.94
RHODE ISLAND	
Newport	.96
Providence	.97
SOUTH CAROLINA	
Charleston	.83
Columbia	.82
Greenville	.83
SOUTH DAKOTA	
Rapid City	.84
Sioux Falls	.85
TENNESSEE	
Chattanooga	.86
Clarksville	.85
Cleveland	.85
Jackson	.84
Knoxville	.88
Memphis	.87
Murfreesboro	.84
Nashville	.87
Sweetwater	.85
TEXAS	
Abilene	.90
Amarillo	.89
Austin	.94
Beaumont / Port Arthur / Sabine Pass	.92
Corpus Christi	.91
Dallas	.93
El Paso	.88
Fort Worth	.91
Houston	.94
Kennedy	.90
Lubbock	.89
Midland	.89
San Antonio	.91
Victoria	.90
Waco	.90

USA CITY	LOCATION FACTOR
UTAH	
Ogden	.90
Provo	.90
Salt Lake City	.92
VERMONT	
Brattleboro	.93
Burlington	.95
St Albans	.93
VIRGINIA	
Chatham	.85
Hopewell	.90
Norfolk	.87
Richmond	.91
Roanoke	.87
WASHINGTON	
Bellingham	.93
Ferndale	.92
Seattle	.97
Spokane	.94
Tacoma	.93
WEST VIRGINIA	
Charleston	.89
Huntington	.88
Hurricane	.87
Institute	.88
Parkersburg	.86
Wheeling	.89
WISCONSIN	
Green Bay	.93
Madison	.92
Milwaukee	.95
WYOMING	
Casper	.86
Cheyenne	.87
Gillett	.86

The above USA city indexes / location factors are intended for calibrating building / facility costs. The base / standard benchmark city is Washington, D.C; i.e. which is fixed at a value of 1.00. Less built up areas close to major cities, i.e. suburbs outside major cities generally have a lower cost basis than major city center costs by 1 – 5 basis points. Remote locations, such as, Anchorage or Fairbanks in Alaska, will generally have, to a greater degree,

(20) BUS & HEAVY TRUCK TIRE PRODUCTION FACILITY - INDIANA USA
194,560 SF MID-2022 COST BASIS
10 ACRES SITE ADJACENT TO EXISTING PRODUCTION FACILITY

#	SCOPE OF WORK - DESCRIPTION	\$ COST	COST / SF
1	General Conditions / Preliminaries / Site Offices - Mob - Demob	4,387,500	22.55
2	Demolition of existing structure	105,000	0.54
3	Site works, Earthworks, Excavations, Utility Services, Site Roads, Ponds, Wells, Fencing & Employee Parking area	3,659,300	18.81
4	Facility Foundations - Concrete, Formwork, Rebar, Polished Floor	2,878,200	14.79
5	Structural Steel / Micl steel	6,770,840	34.80
6	Finish & Rough Carpentry - Cabinets	158,202	0.81
7	Exterior Enclosure (Inc. Metal Siding, Roof, Exterior Windows & Doors) 6 Truck Loading Docks	5,703,260	29.31
8	Internal Office Partitions & Doors, Finishes, Toilets Stalls, Reception Area & 7 Offices - Cubicles & 2 Conference Room - Security - Medical Station - Truck Driver waiting area	1,860,300	9.56
9	Re-Furbished Production Equipment from other location	852,000	4.38
10	Production Equipment / Support items (Tanks, Blenders, Extruders, Vats, Pumps, Molds, Heat Exchangers, Forklifts, Charging Stations)	13,297,500	68.35
11	Mechanical Systems - Plumbing, Process Pipe, HVAC, AHU's, Natural Gas, Fire Protection, Toiles & Safety Showers	8,222,175	42.26
12	Electrical / Instrumentation, Control Room, Bar Coding, CCTV's Security Systems & Fire Alarms	7,041,986	36.19
13	Start Up & Commissioning	209,391	1.08
14	BAR Insurance, Bonds, Fees & OH&P	3,395,560	17.45
15	Contingency / Management Reserve	5,500,000	28.27
16	S/T	64,041,214	329.16
17	Detailed Design & EPC HO Support / Procurement activities	6,049,999	31.10
18	Project / Construction Management & Project Controls	3,412,875	17.54
19	Owner Front End Design & Oversight	775,000	3.98
20	TOTAL FACILITY COST	74,279,088	381.78

	2024 Division 5 - Structural Steel / Metals - Union	Unit	Material	Labor	Construction Equipment	Total
76	Erected A 36 Heavy steel fabricated with welded connections (Minimum)	TON	4,064	226	43	4,333
77	Erected A 36 Heavy steel fabricated with welded connections (Maximum)	TON	4,749	410	87	5,246
78	Erected A 36 Heavy steel fabricated with bolted connections (Minimum)	TON	4,228	252	48	4,528
79	Erection rule of thumb add 5% - 12.5% of fabricated cost to determine erection cost	%				
80	A 36 Steel Fabricated and delivered to site - USA Average price for 150 ton project - not erected (Maximum)	TON	2,896			2,896
81	Ditto	POUND	1.45			1.45
82	A 36 Steel Fabricated and delivered to site - USA Average price for 150 ton project - not erected (Minimum)	TON	2,522			2,522
83	Ditto	POUND	1.26			1.26
84	A 36 Steel Fabricated and delivered to site & installed price - USA Average price for 150 ton project	TON	4,454			4,454
85	Ditto	POUND	2.23			2.23
86	Structural steel columns and beams under 25 pounds per LF of member	TON	4,776	977	449	6,202
87	Ditto	POUND	2.39	0.49	0.22	3.10
88	Ditto between 25 and 50 pounds per LF of member	TON	3,988	781	359	5,127
89	Ditto	POUND	1.99	0.39	0.18	2.56
90	Ditto between 50 and 100 pounds per LF of member	TON	3,299	647	297	4,243
91	Ditto	POUND	1.65	0.32	0.15	2.12
92	Structural steel in pipe racks (Maximum)	TON	3,347	1,073	493	4,912
93	Ditto	POUND	1.67	0.54	0.25	2.46
94	Structural steel in pipe racks (Minimum)	TON	2,986	670	308	3,965
95	Ditto	POUND	1.49	0.34	0.15	1.98
96	Structural steel tubular square columns under 25 pounds per LF of member (Maximum)	TON	3,900	678	312	4,890
97	Ditto (Minimum)	TON	3,282	560	257	4,099
98	Structural steel tubular square columns under 25 pounds per LF of member (Maximum)	POUND	1.99	0.35	0.16	2.49
99	Ditto (Minimum)	POUND	1.67	0.29	0.13	2.09

	2024 Division 5 - Structural Steel / Metals - Union	Unit	Material	Labor	Construction Equipment	Total
359	Steel trench covers including embedded frames	POUND	2.37	2.80	0.20	5.38
	Window Guards / Metal Wire Mesh Security Partitions					
360	Galvanized steel mesh window guards	SF	13.45	1.01	0.14	14.60
361	Steel grating on steel frame	SF	22.83	0.77	0.11	23.71
362	Ditto aluminum with aluminum frame	SF	34.38	1.11	0.16	35.65
363	Metal mesh & frame grill, heavy duty application for storage / security	SF	25.66	8.27	1.18	35.10
364	Metal mesh, partitions, ditto, medium application	SF	6.36	4.86	0.69	11.90
	Roof / Ceiling Hatches					
365	Belco type galv roof hatch, 36" x 48" including framing	EACH	1,008.55	354.44	19.84	1,382.82
366	Ditto, 36" x 60"	EACH	1,366.12	403.69	22.60	1,792.41
367	Ditto, 36" x 72"	EACH	1,668.69	452.47	25.33	2,146.48
368	Aluminum roof cover 48" square including curbing and framing	EACH	1,301.94	392.68	21.98	1,716.60
369	Ceiling hatch, 30" x 36" including framing	EACH	412.59	301.27	16.86	730.72
370	Ditto 36" square ditto	EACH	501.52	316.79	17.73	836.04
	Miscellaneous Steel / Structural items					
371	Angle / channel door frames including bolt ups	POUND	3.98	0.56	0.03	4.58
372	Steel lintels - installed	POUND				3.75
373	Emergency / Fire escape - ladders per floor	EACH				4,585
374	General carbon steel framing and fabrications	POUND				4.65
375	General stainless steel framing and fabrications	POUND				6.85
376	General aluminum framing and fabrications	POUND				9.65
377	Sun screen - aluminum	SF	44.93	9.99	2.28	57.19
378	Stair nosing's	LF	8.76	9.98	0.56	19.29
379	Stainless steel corridor wall rail, 1/2"	LF	49.77	12.87	0.72	63.36
380	Floor expansion joint, 1" wide	LF	44.14	15.92	0.89	60.95
381	Wall Expansion joint, 1" wide	LF	29.46	19.38	1.08	49.93
382	Roof expansion joint, 1 wide"	LF	62.58	18.83	1.05	82.46
383	Wheel type corner guards	LF	98.01	30.30	1.70	130.01
384	Expansion joint covers wall 1 1/2' wide	LF	47.13	11.44	0.94	59.50
385	Ditto floor	LF	52.72	11.78	0.96	65.46

	2024 Division 11 - Equipment - Union	Unit	Material	Labor	Constr Equipt	Total
90	Electric Oven - single - self clean (Minimum)	EACH	1,527.26	53.80	2.96	1,584.02
91	Electric range 5.3 CF with 4 # radiant elements including electrical hook up	EACH	1,361.25	4.30	0.24	1,365.79
92	Epoxy resin - acid resistant cabinet top 24" wide x 1/2" thick	LF	219.88	4.30	0.24	224.42
93	Epoxy resin - acid resistant cabinet top 24" wide x 3/4" thick	LF	278.89	5.72	0.31	284.92
94	File cabinet - steel with enamel paint finish 24" long x 60" high x 24" deep with 5 drawers	EACH	697.23	2.79	0.15	700.17
95	File cabinet - steel with enamel paint finish 36" long x 60" high x 24" deep with 5 drawers	EACH	1,394.46	2.79	0.15	1,397.40
96	File cabinet - wood 36" long x 60" high x 24" deep with 5 drawers	EACH	1,477.46	3.30	0.18	1,480.94
97	Filing modular storage systems metal - 36" high x 30" wide	LF	574.38	141.22	7.77	723.37
98	Flexible metal hoses - 2" dia	LF	22.11	147.94	10.64	180.70
99	Flexible metal hoses - 3" dia	LF	23.95	114.32	8.22	146.50
100	Flexible metal hoses - 4" dia	LF	28.41	174.84	12.58	215.83
101	Flexible reinforced rubber hoses - 2" dia	LF	11.95	147.94	10.64	170.54
102	Flexible reinforced rubber hoses - 3" dia	LF	12.95	158.03	11.37	182.35
103	Flexible reinforced rubber hoses - 4" dia	LF	15.36	147.94	10.64	173.94
104	French door refrigerator 28.5 CF including electrical hook up	EACH	4,846.63	32,783.14	1,803.25	39,433.02
105	Front loading steam dryer 7.4 CF including electrical / plumbing hook up	EACH	2,265.99	24,377.20	1,340.88	27,984.07
106	Front loading washer 3.5 CF 1050 RPM including electrical / plumbing hook up	EACH	1,112.24	470.73	25.89	1,608.87
107	Gas fired clothes dryer including electrical hook up (Maximum)	EACH	1,411.06	248.82	13.69	1,673.56
108	Gas fired clothes dryer including electrical hook up (Minimum)	EACH	971.14	1,566.31	86.16	2,623.60
109	Gas range 5 CF / 30 " high 1,500 BTU burner including piping and electrical hook up	EACH	1,245.05	248.82	13.69	1,507.55
110	Gas range 5 CF 1,400 BTU burner including piping and electrical hook up	EACH	1,087.34	1,257.53	69.17	2,414.04
111	Gasoline / petrol station - 2 island with 6 pumps - dispensing 3 grades of product with underground storage tanks - excludes office and canopies (Maximum)	EACH	970,916	958.28	77.04	971,951
112	Gasoline / petrol station - 2 island with 6 pumps - dispensing 3 grades of product with underground storage tanks - excludes office and canopies (Maximum)	EACH	715,024	1,042.34	83.80	716,150
113	Glove box - 8 -12 gloves (Maximum)	EACH	36,066	806.97	44.39	36,917

	2024 Division 15 - Mechanical Work - Union	Unit of Measure	Material	Labor	Construction Equipment	Total
261	Hot water heater / tank - glass lined - gas fired - 50 gallon - 40,000 BTU's	EACH	925.94	264.69	33.77	1,224.39
262	Hot water heater / tank - glass lined - gas fired - 80 gallon - 60,000 BTU's	EACH	1,620.39	298.19	38.04	1,956.62
263	Hot water heater / tank - glass lined - gas fired - 160 gallon - 100,000 BTU's	EACH	3,196.58	381.95	48.73	3,627.26
	Pumps (refer to Division 17 for additional pump related data)					
264	Horizontal magnetic drive pump FRP- 5 - 120 GPM 1" dia outlet - 1" dia inlet c/w 1/3 HP motor	EACH	1,078.40	80.40	5.13	1,163.93
265	Ditto 1 1/2" outlet - 1 1/2" inlet c/w 3/4 HP motor	EACH	1,587.30	100.50	6.41	1,694.21
266	Ditto 1 1/2" outlet - 2" inlet c/w 5 HP motor	EACH	4,123.19	234.51	14.96	4,372.66
267	Sewage ejector pump - single 1/2 HP motor - 2" dia discharge c/w tank and piping and electrical hook up	EACH	5,588.67	1,440.53	91.89	7,121.09
268	Sewage ejector pump - single 3/4 HP motor - 2" - 3" dia discharge c/w tank and piping and electrical hook up	EACH	9,432.89	1,594.64	101.72	11,129.25
269	Sewage ejector pump - single 1 HP motor - 2" - 3" dia discharge c/w tank and piping and electrical hook up	EACH	13,475.68	1,725.29	110.06	15,311.02
270	Sewage ejector pump - single 2 1/2 HP motor - 3" - 4" dia discharge c/w tank and piping and electrical hook up	EACH	14,924.64	1,993.30	127.15	17,045.09
271	Sewage ejector pump - single 5 HP motor - 3" - 4" dia discharge c/w tank and piping and electrical hook up	EACH	26,754.04	3,591.28	229.09	30,574.41
272	Sewage ejector pump - duplex 1 HP motor - 2" - 3" dia discharge c/w tank and piping and electrical hook up	EACH	11,073.12	1,380.23	88.05	12,541.40
273	Sewage ejector pump - duplex 2 1/2 HP motor - 3" - 4" dia discharge c/w tank and piping and electrical hook up	EACH	22,472.01	2,998.32	191.27	25,661.60

	2024 Division 17 - Major Equipment - Union	Unit	Material	Labor	Constr Equipt	Total
30	Agitator - including shaft / propeller / motor - side entry C.S. 50 HP (Minimum)	EACH	28,971.14	2,211.22	140.20	31,322.56
31	Add 22.5% for Stainless steel applications to C.S. values indicated above					
	Air Handlers					
32	Air handler 2,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	7,547.07	348.51	19.88	7,915.46
33	Air handler 5,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	14,066.96	649.19	37.03	14,753.18
34	Air handler 7,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	17,540.05	751.69	42.88	18,334.62
35	Air handler 10,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	20,095.66	820.02	46.77	20,962.46
36	Air handler 15,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	28,206.95	990.86	56.52	29,254.33
37	Air handler 20,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	31,556.22	1,332.54	76.01	32,964.77
38	Air handler 25,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	36,889.67	1,571.71	89.65	38,551.03
39	Air handler 50,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	71,277.13	2,870.09	163.71	74,310.93
40	Air handler multi-zone 2,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	10,319.12	420.26	23.97	10,763.35
41	Air handler multi-zone 5,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	13,726.97	553.52	31.57	14,312.06
42	Air handler multi-zone 7,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	19,103.11	782.44	44.63	19,930.18
43	Air handler multi-zone 10,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	24,253.11	990.86	56.52	25,300.49
44	Air handler multi-zone 12,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	30,155.32	1,093.37	62.36	31,311.05
45	Air handler multi-zone 15,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	36,308.00	1,161.70	66.26	37,535.97
46	Air handler multi-zone 20,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	48,092.18	1,332.54	76.01	49,500.73
47	Air handler multi-zone 25,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	58,928.30	2,050.06	116.93	61,095.30
48	Air handler multi-zone 50,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	106,184.98	3,040.92	173.45	109,399.36