

Job Order Contracting

Standard Training Manual

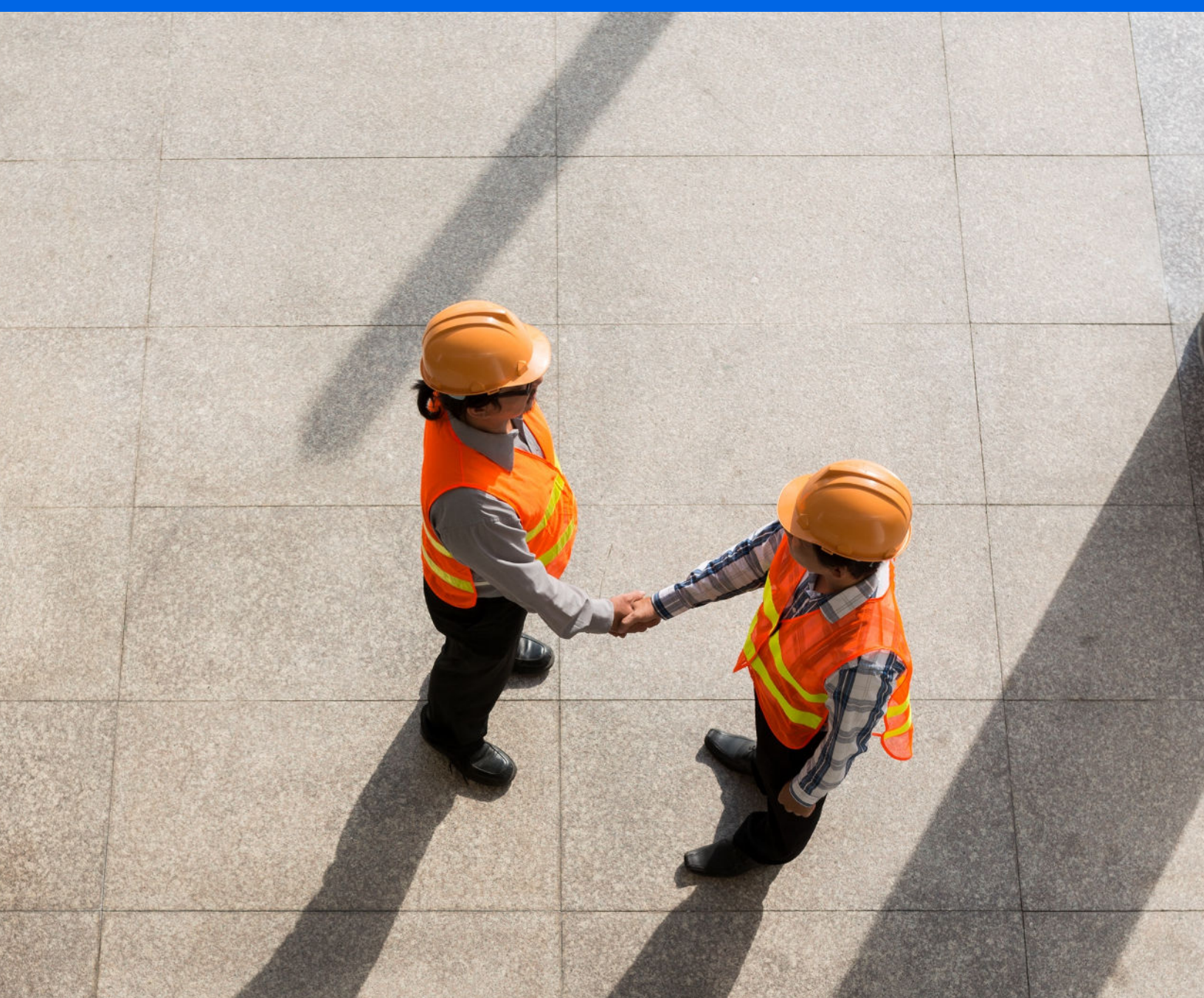


Table of Contents

Job Order Contracting Overview 1

Understanding the Construction Task Catalog® - 4 part series 6

5-Step Job Order Development Process..... 24

Appendixes..... 40

Job Order Contracting Overview

Job Order Contracting (JOC) is a unique, indefinite delivery, indefinite quantity (IDIQ) construction procurement process that allows an Owner to complete a large number of construction projects with a single, competitively-awarded contract. It eliminates the time and expense of completing the traditional Design-Bid-Build procurement for each project while increasing the quality of construction. JOC is an ideal solution for repair, maintenance, renovation, replacement-in-kind, upgrade, routine and repetitive work and straightforward new construction projects.

JOC contracts can be designed and tailored to accomplish different types of construction projects, from general renovation of building spaces to the repair and maintenance of roads and bridges. Contractors bid one or more Adjustment Factors to be applied to a published set of Unit Prices (e.g. \$.42/SF of painting, \$6.62/LF of ¾" RGS conduit). Unit Prices include the direct cost of labor, materials and equipment.

Depending upon the procurement options available to the Owner, the JOC contracts are advertised and awarded to the lowest, responsive, responsible bidder or to the Contractor offering the best value. After the JOC contract is awarded, the JOC Contractor is available to perform work. For all work, the Contractor will be paid the published Unit Price x the quantity x the appropriate Adjustment Factor.

The JOC Contract Documents

A JOC contract consists of three main documents that are included in the bid package:

1. Construction Task Catalog® (CTC)

The CTC contains Unit Prices for a set of construction and construction related Tasks. The Unit Prices include the direct cost of labor, material and equipment and are calculated using local costs. The Unit Prices for some Tasks are adjusted by volume. The Tasks appearing in the CTC are customized for the type of work the Owner anticipates completing through JOC. Since a lot of replacement-in-kind work is completed in JOC, the CTC includes not only Unit Prices to install materials and equipment (e.g. install VCT by the SF), but also Unit Prices to demolish materials and equipment (e.g. demolish VCT by the SF).

2. Technical Specifications

The Technical Specifications set forth the standards for the quality of workmanship and materials for the work to be completed. There is a Technical Specification covering each Task in the CTC.

3. Contract

The third document includes the information for bidders, bid forms, bond forms, standard form of contract, general conditions, special conditions and other contract related documents. These documents are based on the Owner's traditional bid package and include specific language about JOC and the JOC process.

Guidance Provided to Bidders

During the bid process, the Owner does not identify or commit to any specific projects that will be performed or to any specific Tasks that will be required. The Owner does not provide estimated quantities for the Tasks. The bidders are told about the type of projects the Owner anticipates completing in the JOC program.

From the bid documents, the bidders also know the JOC contract includes:

1. **A definitive term**, generally one or two years, and may include one or more option periods.
2. **A designated geographic area** in which the Contractor will perform work.
3. **A Minimum Contract Value**, generally a small amount, such as \$25K, but can be zero.
4. **A Maximum Contract Value** (e.g. \$1M or \$5M) or an Estimated Annual Value of work.

It is common practice to conduct a pre-bid conference for JOC contracts. At the pre-bid conference, bidders are provided with an overview of JOC, instructed on how to analyze the Construction Task Catalog, how to calculate Adjustment Factors, the 5-Step Job Order development process and the administrative requirements to manage a JOC contract.

Contractor Selection Process

- Depending upon the procurement options available to the Owner, the JOC contract may be awarded to the lowest, responsive, responsible bidder or to the Contractor offering the best value.
- In either scenario, the bidders will offer one or more Adjustment Factors to be applied to the Unit Prices appearing in the Construction Task Catalog.
- There are a number of different Adjustment Factors that may be required depending upon the type of work to be performed, where the work will be performed, the hours during which work will be performed and the wage requirements.
- The two most common Adjustment Factors are for work performed during Normal Work Hours (e.g. 7 a.m. to 4 p.m. Monday through Friday, except Holidays) and for work performed during Other Than Normal Working Hours (4 p.m. – 7 a.m. Monday to Friday, and all-day Saturday, Sunday, and Holidays).
- The Adjustment Factors will be applied to the Unit Prices. They must include the Contractor's indirect costs such as overhead, profit, insurance, bonds and an adjustment to the Unit Prices.
- A more detailed description of the costs included in the Unit Prices and the costs that bidders must include in the Adjustment Factors, appears in the written guide entitled Using the Construction Task Catalog, which is published as part of the CTC.
- Depending upon a host of conditions such as the level of competition, expected volume of work and the size of the geographic area covered by the JOC contract, the Adjustment Factors could be less than or greater than 1.000. For example, a mark-up of 15 percent would be expressed as 1.1500. A discount of five percent would be expressed as 0.9500.
- By submitting a bid, the Contractor is agreeing to perform any Task in the Construction Task Catalog for the Unit Price x the quantity x the Adjustment Factor. Contractors cannot refuse to perform any project.
- On the bid form, the Adjustment Factors are weighted (e.g. 60 percent and 40%) to calculate the Award Criteria Figure which will determine the lowest bid.

Here is a typical bid form:

AGGREGATE CLASS NO. 1 – EASTERN QUEENS				
NAME OF COMPANY SUBMITTING THIS BID:		ABC Contracting		
ITEM NO.	ITEM DESCRIPTION	ADJUSTMENT FACTOR	ESTIMATED PERCENTAGE	AWARD CRITERIA FIGURE
1	Normal Working Hours	1.1846	x 0.20	0.2369
2	Other Than Normal Working Hours	1.2345	x 0.80	0.9876
AGGREGATE CLASS 1 TOTAL				1.2245
SIGNATURE OF OFFICER OR PARTNER:				
NOTE: The Other Than Normal Working Hour Factor must be equal to or greater than the Normal Working Hour Factor. The Department reserves the right to revise all arithmetic errors in calculations for correctness.				

The Award Criteria Figure is a way to compare bids comprised of multiple Adjustment Factors. The weighted percentages are an estimate of the distribution of work among the various working hours. It is not a guarantee of how the work will be divided.

5-Step Job Order Development Process

After the JOC contract is awarded and the Owner identifies a project that it wants to complete through JOC, the parties follow the 5-step process described below to develop each Job Order. Depending on how the program is structured and how the Owner assigns personnel or engages third-parties to participate in the JOC process, the person performing the activity may change, but the actual steps are the same.

1. Joint Scope Meeting

The Owner schedules a Joint Scope Meeting at the site with the Contractor and others to agree on the details of the work to be performed. This meeting allows the Contractor to inspect the site and ask questions before submitting a Price Proposal, helping to eliminate misunderstandings and mistakes. This upfront, open communication often results in more cost-effective, collaborative solutions.

2. Detailed Scope of Work

The Owner prepares a Detailed Scope of Work that describes the work the Contractor will perform. The Detailed Scope of Work will be sent along with the Request for Proposal to the Contractor.

3. Price Proposal

The Contractor prepares a Price Proposal by selecting the appropriate Tasks from the CTC and enters the appropriate quantities. The Contractor submits the Price Proposal along with a construction schedule showing the Job Order Completion Time and a list of proposed local subcontractors.

4. Price Proposal Review

The Owner reviews the Price Proposal to ensure the Contractor has selected the appropriate tasks and the correct quantities and asks the Contractor to make any required changes.

5. Job Order Issued

Once the Owner is 100 percent satisfied with the Price Proposal, construction schedule, proposed subcontractors and has received and approved any other required documents (e.g. bonds, certificates of insurance, etc.), the Owner can issue a Job Order to the Contractor. The Job Order will require the Contractor to complete the Detailed Scope of Work within the Job Order Completion Time for the Job Order Price which is the value of the approved Price Proposal.

Once the work begins, the Owner inspects the work, approves payments and closes out the job in accordance with its standard procedures.

Non-Prepriced Tasks

An item of work that is not included in the CTC is called a Non-Prepriced Task. The JOC contract sets forth the formula to develop a price for a Non-Prepriced Task. It typically requires the Contractor to obtain three quotes for the work. The JOC contract may include a fixed mark-up for Non-Prepriced Tasks such as 10 percent or may include an Adjustment Factor for Non-Prepriced Tasks.

Continuing Financial Incentive

One of the major advantages of JOC is that the Contractor has a continuing financial incentive to provide high quality work on schedule. The individual Job Order represents only a small portion of the total dollar value of the contract. By meeting the Owner's performance expectations, the Contractor will be assigned more work. However, if the Owner is not satisfied with the Contractor's performance, the Owner is not required to assign more work to the Contractor.

Benefits of JOC

1. Saves Procurement Time

Traditional procurement cycles typically take months to complete and require a significant amount of administrative and technical resources. Once a JOC contract is awarded, the Owner can ask the Contractor to perform a series of projects. There is no need to prepare, copy, advertise and distribute bid packages for each project. The time-consuming front-end process is completed one time rather than repeated for each project. The JOC process takes weeks instead of months.

2. Lowers Overall Project Costs

Cost savings is one of the cornerstones of Gordian's Job Order Contracting solutions. According to an independent JOC study, Owners estimate 24 percent administrative cost savings compared with other methods. Contractors estimate 21 percent overall cost savings throughout a project. Savings are realized from increased efficiencies in four areas: Procurement, Design, Construction and Post Construction.

Procurement and Overhead Costs

The traditional design-bid-build process involves substantial time and effort by the procurement team, since each individual project must navigate through the entire bid process. With JOC, only the JOC contract follows this process. Hundreds of projects can be completed under one contract.

Design Costs

JOC projects are typically straightforward, simple and, in many cases, involve replacement-in-kind work that does not require full design documents. The costs that would normally be charged by professionals to prepare comprehensive plans and specifications and formal bid documents can be substantially reduced or eliminated.

Direct Cost of Construction

Volume discounts, a reduced scope of work and the elimination of Contractor contingencies contribute to savings in the direct cost of construction.

-  **Volume Discounts:** Because JOC combines many projects into one contract, Contractors can offer volume discounts on the combined volume of work.
-  **Reduced Scope:** JOC projects can be started quickly which can reduce the scope for projects involving worsening conditions. Less work means less cost.
-  **No Contingencies:** With JOC, the Contractor actively participates in the Joint Scope Meeting and any confusion about the work to be performed is clarified. As a result, risks are reduced, and Contractors do not include contingencies in their bids.

Post Award Claims

JOC substantially reduces the number of change orders and virtually eliminates claims, reducing overall costs. Thanks to the open communication and collaboration at the Joint Scope Meeting, issues and potential problems are discussed and resolved before work begins. In there are changes, deleted work or extra work, they are priced directly from the CTC, eliminating the administrative costs of negotiating change orders and guaranteeing the Owner pays a competitively-bid price for the work.

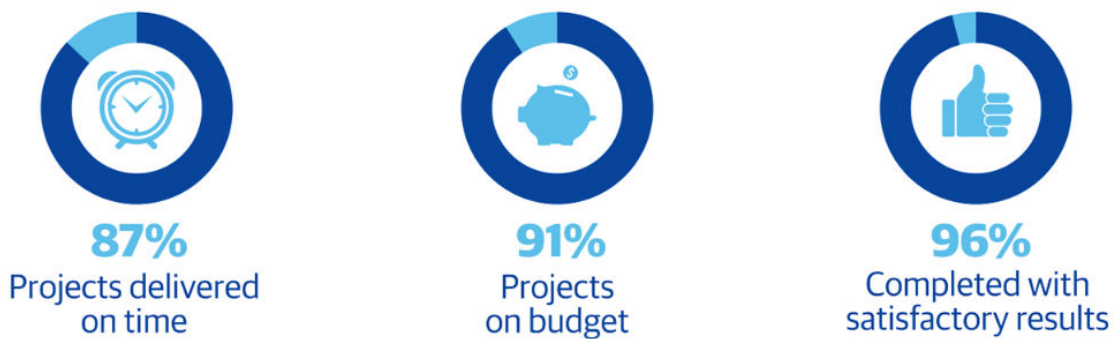
Enhanced Opportunities for Emerging Businesses

Job Order Contracting has been designed to increase participation by minority, woman, veteran and disabled owned businesses. Unlike traditional design-bid-build contracting where the Contractor is given a contract to perform the entire project, JOC is a performance-based contract. The JOC Contractor will continue to receive Job Orders only if they meet the subcontractor participation goals. Since JOC is used to complete a large number of smaller, diverse projects, it creates more manageable opportunities to employ emerging subcontractors.

A Proven Method

Owners and Contractors give JOC high marks in project satisfaction, timeliness, cost savings, flexibility, transparency and ease of use when compared to DBB and DB procurement methods.

Proven Benefits of Job Order Contracting



*Performance Based Studies Research Group (PBSRG), 2016. Job Order Contracting Performance: 2015 Industry Survey.

Review Key Points

- JOC is a construction procurement process that allows an Owner to complete a large number and variety of projects with a single, competitively-awarded contract.
- A JOC contract consists of three main documents that are included in the bid package:
 1. CTC
 2. Technical Specifications
 3. The JOC contract
- Contractors bid one or more Adjustment Factors to be applied to the Unit Prices appearing in the CTC.
- Depending upon the procurement options available to the Owner, the JOC contract may be awarded to the lowest, responsive, responsible bidder or to the Contractor offering the best value.
- After the JOC contract is awarded and the Owner identifies a project that it wants to complete through JOC, the parties follow the same simple 5-step process to develop each Job Order.
- For all work, the Contractor will be paid the published Unit Price x the quantity x the appropriate Adjustment Factor.
- Job Orders can be developed in weeks instead of months, making it substantially faster than the traditional design-bid-build process. JOC saves money by eliminating the administrative cost of the traditional bid process for each project, decreasing the direct cost of construction and reducing claims and change order costs.
- JOC increases the participation of minority, woman, veteran and disabled owned businesses as subcontractors and as prime contractors.

Understanding the Construction Task Catalog®

Part I Task Presentation: Overview

The purpose of this part of the training is to learn how Tasks are presented in the Construction Task Catalog® (CTC).

Gordian's JOC solutions are powered by a CTC, created exclusively for construction procurement. It is a collection of construction and construction related Tasks with pre-established Unit Prices and is customized for each JOC program. Each Task in the CTC is listed with:

- a Unit of Measure (Square Foot, Cubic Yard, Each)
- an Install Unit Price calculated using local labor, material and equipment costs
- and if appropriate, a Demo Unit Price calculated the same way

It is important to understand what costs are included in each Task, what costs are included in the Adjustment Factors, and the rules for using the CTC. This will allow you to review a Price Proposal or train someone how to review a Price Proposal.

Reviewing Price Proposals is a key step in the Job Order development process. Accurate Price Proposals ensure the Owner is paying the competitively-bid price for each Job Order.

Depending on the Owner's procurement requirements an updated CTC will be published as part of the bid documents for a new JOC contract and the CTC will not change during the term of the JOC contract, unless modified by a written modification to the JOC contract, or the CTC can be published annually as part of an active JOC contract.

In the front of each CTC is a six-page written guide entitled Using the Construction Task Catalog.

The CTC is organized according to Construction Specifications Institute's (CSI) 2020 Edition of MasterFormat®. MasterFormat® is a master list of numbers and titles classified by work results or construction practices, primarily used to organize project manuals, organize detailed cost information and relate drawing notations to specifications.

MasterFormat™

- ☒ The tasks in this Construction Task Catalog are organized using CSI's *MasterFormat*.



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This is how MasterFormat® explains the layout of the numbering system:

Specifications Group: This Group contains the following five Subgroups. Each Subgroup is broken down into Divisions as listed. This Group has now grown from 16 Divisions to 49 Divisions, (16 of which are reserved for future expansion).

General Requirements Subgroup: Division 01.

Facility Construction Subgroup: Divisions 02 – 19.

Facility Services Subgroup: Divisions 20 – 29.

Site and Infrastructure Subgroup: Divisions 30 – 39.

Process Equipment Subgroup: Divisions 40 – 49.

General Requirements Subgroup

Division 01 – General Requirements

Facility Construction Subgroup

Division 02 – Existing Conditions

Division 03 – Concrete

Division 04 – Masonry

Division 05 – Metals

Division 06 – Wood, Plastics, and Composites

Division 07 – Thermal and Moisture Protection

Division 08 – Openings

Division 09 – Finishes

Division 10 – Specialties

Division 11 – Equipment

Division 12 – Furnishings

Division 13 – Special Construction

Division 14 – Conveying Equipment

Facility Services Subgroup

Division 21 – Fire Suppression

Division 22 – Plumbing

Division 23 – Heating, Ventilating, and Air-Conditioning (HVAC)

Division 25 – Integrated Automation

Division 26 – Electrical

Division 27 – Communications

Division 28 – Electronic Safety and Security

Site and Infrastructure Subgroup

Division 31 – Earthwork

Division 32 – Exterior Improvements

Division 33 – Utilities

Division 34 – Transportation

Division 35 – Waterway and Marine Construction

Process Equipment Subgroup

Division 40 – Process Integration

Division 41 – Material Processing and Handling Equipment

Division 42 – Process Heating, Cooling, and Drying Equipment

Division 43 – Process Gas and Liquid Handling, Purification, and Storage Equipment

Division 44 – Pollution Control Equipment

Division 45 – Industry-Specific Manufacturing Equipment

Division 46 – Water and Wastewater Equipment

Division 48 – Electrical Power Generation

Each Task in the CTC is presented as follows:

				Exterior Improvements		32	32
				Bases, Ballasts, And Paving		32 10	
				Unit Paving		32 14	
MINOR	CSI	UOM	DESCRIPTION	TOTAL DIRECT		DEMOLITION	
				UNIT COST		UNIT COST	
				Price includes labor, material + equipment for your location		Demolition price	
				Section + task notes			
				Modifiers for variations or quantity discounts			
				CSI MasterFormat			
				Full description of task			
				32 16 Curbs, Gutters, Sidewalks, And Driveways (32 10)			
				32 16 13 Curbs And Gutters (32 16)			
				Note: Includes transitions. Demolition Includes two saw cuts (each end) of curbs and gutters for lengths up to 100'. See CSI section 02 41 19 13-004.3 for additional saw cuts within the 100'.			
				32 16 13 13 Cast-In-Place Concrete Curbs And Gutters (32 16 13)			
				Note: Includes concrete, forms, rebar, chairs (where necessary), expansion joints, finish and curing.			
				32 16 13 13-0001 Concrete Curb, Cast In Place (32 16 13 13)			
				Note: Includes delivered concrete, forms, rebar, chairs (where necessary), expansion joints, finish and curing.			
				32 16 13 13-0002 LF 6" X 12" Cast In Place Concrete Curb.....		7.18	3.23
				For Up To 20, Add		4.03	
				For >20 To 50, Add		2.27	
				For >50 To 100, Add		0.88	
				For >500 To 1,000, Deduct		-0.88	
				For >1,000, Deduct		-1.50	
				32 16 13 13-0003 LF 6" X 12" Cast In Place Concrete Curb - Radius.....		8.18	3.72
				For Up To 20, Add		4.63	
				For >20 To 50, Add		2.61	
				For >50 To 100, Add		1.01	
				For >500 To 1,000, Deduct		-1.01	
				For >1,000, Deduct		-1.72	

CSI Number - each Task has a separate and unique CSI Number

Unit of Measure (UOM) - the Unit of Measure for the Task: Square Foot, Each, Cubic Yard, etc. There is a comprehensive list of all Units of Measure on page 4 of Using the Construction Task Catalog.

Task and Title Notes - provide information about what costs a Task or group of Tasks includes or excludes and may direct the user to a different section for excluded costs

Task Description - a description of the individual Task

Install Unit Price - the direct costs of labor, material and equipment to install one UOM of the Task

Demo Unit Price - the direct costs of labor, material and equipment to demo one UOM of the Task

Modifiers - will increase or decrease the Unit Price based on a change in quantity, a change in the construction operation or a change in the material component of the Task

Some Tasks do not include labor, material and equipment. For example, labor by the hour or equipment usage Tasks.

01 22 23 00-0105		Bucket Trucks (01 22 23 00-0001)	
		Note: Includes full-time operator, delivery, and removal.	
01 22 23 00-0106	DAY	29' Bucket Truck With Full-Time Operator.....	942.13
		For Equipment Without Operator, Deduct	-449.93
01 22 23 00-0107	WK	29' Bucket Truck With Full-Time Operator.....	3,726.23
		For Equipment Without Operator, Deduct	-2,249.65
01 22 23 00-0108	MO	29' Bucket Truck With Full-Time Operator.....	13,455.34
		For Equipment Without Operator, Deduct	-9,696.76

Some Tasks do not include a Demo Unit Price because it is not applicable or it is included as part of the Task – for example, if a Task includes removal after use.

01 74 19 00-0017		Concrete Washout Service (01 74 19)	
01 74 19 00-0018	MO	Rampless Concrete Washout Bin	367.41
		Note: Includes delivery.	
01 74 19 00-0019	MO	Ramped Concrete Washout Bin	440.89
		Note: Includes delivery.	
01 74 19 00-0020	EA	Interim Vacuum Service, Concrete Washout Bin	366.66
		Note: Includes vacuum and recycle excess clear liquid from the unfilled bin to allow additional space for washout material.	
01 57 23 00-0001		Temporary Drain Guard (01 57 23)	
		Note: Includes removal after use.	
01 57 23 00-0002	EA	36" x 48" x 18" Non-Woven Polypropylene Trash and Debris Drain Guard (Ultra-Drain Guard® 9227)	56.59
01 57 23 00-0003	EA	36" x 48" x 18" Non-Woven Polypropylene Oil and Sediment Drain Guard (Ultra-Drain Guard® 9217)	55.37
		Note: Up to 0.87 gallons oil, up to 40 lbs sediment.	

Tasks are generally organized and presented according to the following rules:

- Within a Title, Tasks are arranged from smallest to largest (1/2", 3/4", 1"), from lowest value to highest value (3,000 psi, 3,500 psi, 4,000 psi), from shortest to longest (2', 4', 8').
- The distinguishing feature for each Task is the first word in the Task Description.
- We give typical uses for Tasks if helpful. For example "High Bay Fixtures for use above 20 to 25 feet."
- A Task description or Task Note will not repeat information contained in the Using the Construction Task Catalog such as "includes unloading and layout" or "includes delivery up to 2½ stories." However, that information applies to all Tasks.

When writing a Task Description, we use the following order of preference:

1. Use generic terms: ¾ bluestone gravel, RGS conduit, CDX plywood, Gypsum Board, etc.
2. Specifically describe the salient features of the product: Exterior Cutoff Wallpack, 100 HPS, Electronic Ballast, Powder Coated Aluminum Housing, Polycarbonate Lens or Athletic Locker, Annealed Steel, Powder Coated Paint, 18 gauge Back and Bottom, 16 gauge Vented Front, 16 gauge Sides and Sloped Top, Single Point Lock
3. Reference industry ratings or standards which describe the quality and characteristics of the product: Preassembled Lockset, Outside Key Operated Lock, F42 (Industry Designation for Operation), Grade 1 (Industry Designation for Quality), US 26D (Industry Designation for Type of Finish)
4. List a manufacturer and series number: Overhead Door Closer, Parallel Arm, LCN 4000 Series
5. List manufacturer and model number: Top Cast Kitchen Faucet, Gooseneck, 2 Blade Handles with Spray, Delta Model 2167

Here is a comparison of a more generic Task description including a description of the salient features of the product vs. a more specific Task description including a manufacturer and model number:

09 22 13 00-0001		Hat Furring Channel (09 22 13)	
		Note: Includes clips where required.	
09 22 13 00-0002		Installed On Walls, Hat Furring Channel (09 22 13 00-0001)	
09 22 13 00-0003	SF	7/8", 25 Gauge, 16" On Center, Installed On Walls, Hat Furring Channel	1.84
		For Walls >10' High, Add	0.17
		For 24" On Center, Deduct	-0.25
		For 12" On Center, Add	0.31
		For 22 Gauge, Add	0.35
		For 20 Gauge, Add	0.63
09 22 13 00-0004	SF	1-1/2", 25 Gauge, 16" On Center, Installed On Walls, Hat Furring Channel	2.12
		For Walls >10' High, Add	0.17
		For 24" On Center, Deduct	-0.31
		For 12" On Center, Add	0.37
		For 22 Gauge, Add	0.49
		For 20 Gauge, Add	0.81

For the faucets, we are using the manufacturer and model number because it would be too cumbersome to try and describe the product using its salient features. By referencing the manufacturer and model number, we are able to describe exactly what the product is clearly and concisely.

22 42 39 00-0001	Kitchen Faucets (22 42 39)		
22 42 39 00-0002	EA	Top Cast Kitchen Faucet, Single Handle, Chrome Finish (Delta 140-DST).....	130.16 23.54
22 42 39 00-0003	EA	Top Cast Kitchen Faucet With Spray, Single Handle, Chrome Finish (Delta 440-DST)	149.99 23.54

We use generic terms, trade names, and manufacturer names to describe certain Tasks. Sometimes it is important to try using different terms to locate a particular Task. For example, drywall is described as Gypsum Board because it is the term used in the CSI numbering system.

09 29 00 00-0002	Standard Gypsum Board Application (09 29 00 00-0001)		
09 29 00 00-0003	SF	1/4" Gypsum Board.....	0.69
		<i>For Curved Surfaces With A 2'-0" Maximum Radius, Add</i>	<i>0.08</i>
		<i>For Times When The Shortest Distance From Corner To Corner Is <3', Add</i>	<i>0.17</i>
		<i>For Adhesive Applied Sheets Instead Of Fasteners (Includes Bracing Until Adhesive Is Bonded), Add</i>	<i>0.08</i>
		<i>For Horizontal Installation Up To 10' High, Add</i>	<i>0.11</i>
		<i>For Horizontal Installation >10' High, Add</i>	<i>0.17</i>
		<i>For Walls >10' High, Add</i>	<i>0.03</i>
		<i>For Up To 128, Add</i>	<i>0.20</i>
		<i>For >128 To 320, Add</i>	<i>0.12</i>
		<i>For >1,536, Deduct</i>	<i>-0.07</i>

Another example is Concrete Block vs. Cinder Block.

04 22 23 13-0003	Cored, Lightweight, Concrete Blocks (04 22 23 13-0002)		
04 22 23 13-0004	SF	4" x 8" x 16", Cored, Lightweight, Concrete Block	5.45
		<i>For Stacked Bond, Add</i>	<i>1.03</i>
		<i>For Scored Block, Add</i>	<i>0.29</i>
		<i>For Curved Wall Application, Add</i>	<i>0.80</i>
		<i>For <10, Small Area Replacements (Individual Areas), Add</i>	<i>6.08</i>
04 22 23 13-0005	SF	6" x 8" x 16", Cored, Lightweight, Concrete Block	6.17
		<i>For Stacked Bond, Add</i>	<i>1.12</i>
		<i>For Scored Block, Add</i>	<i>0.37</i>
		<i>For Curved Wall Application, Add</i>	<i>0.86</i>
		<i>For <10, Small Area Replacements (Individual Areas), Add</i>	<i>6.60</i>

Wall Base vs. Cove Base because that is the term the manufacturers use to describe their products

09 65 13 13	Resilient Base (09 65 13)		
09 65 13 13-0001	Type TV Thermoplastic Vinyl Wall Base (09 65 13 13)		
		Note: Includes inside and outside corners.	
09 65 13 13-0002	LF	2-1/2" High, 1/8" Thick, Type TV Thermoplastic Vinyl Wall Base, All Colors	1.84 0.51
		<i>For Up To 20, Add</i>	<i>0.69</i>
		<i>For >20 To 40, Add</i>	<i>0.39</i>
		<i>For >40 To 80, Add</i>	<i>0.14</i>
		<i>For >240 To 960, Deduct</i>	<i>-0.13</i>
		<i>For >960, Deduct</i>	<i>-0.20</i>
09 65 13 13-0003	LF	4" High, 1/8" Thick, Type TV Thermoplastic Vinyl Wall Base, All Colors	2.15 0.51
		<i>For Up To 20, Add</i>	<i>0.73</i>
		<i>For >20 To 40, Add</i>	<i>0.42</i>
		<i>For >40 To 80, Add</i>	<i>0.16</i>
		<i>For >240 To 960, Deduct</i>	<i>-0.16</i>
		<i>For >960, Deduct</i>	<i>-0.25</i>

Water Closet vs. Toilet

22 42 13 13-0011 Wall Hung Elongated Vitreous China Water Closets (22 42 13 13-0001)			
Note: Includes wax seal and toilet seat. Excludes flush valve.			
22 42 13 13-0012	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Aftwall®)	445.63 60.25
22 42 13 13-0013	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Aftwall® ADA Retrofit)	629.31 60.25
22 42 13 13-0014	EA	2 Piece Tank Type, Pressure Assisted, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (American Standard Glenwall™)	881.04 60.25
22 42 13 13-0015	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Kingston™)	447.15 60.25
22 42 13 13-0016	EA	Flush Valve Type, Blow Out, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Kohler® Stratton™)	846.80 60.25
22 42 13 13-0017	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Toto® CT708E Or CT708EV)	528.83 60.25
22 42 13 13-0018	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Zurn Z5615-BWL)	405.53 60.25
22 42 13 13-0019	EA	Flush Valve Type, Siphon Jet, Wall Mounted, Wall Outlet, Handicap Accessible, Elongated Vitreous China Water Closet (Sloan ST-2459)	443.68 60.25

As a result, to find certain Tasks in the CTC, you may have to search using different terms.

Part I Task Presentation: Review Key Points

- Gordian's Job Order Contracting (JOC) solutions are powered by a CTC created exclusively for construction procurement. Each Task typically includes a Unit of Measure (Square Foot, Cubic Yard, Each) and an Install Unit Price calculated using local labor, material and equipment costs, and if appropriate, a Demo Unit Price calculated the same way.
- Modifiers will increase or decrease the Unit Price based on a change in quantity, a change in the construction operation or a change in the material component of the Task.
- The CTC is organized according to the 2020 MasterFormat®.
- Some Tasks do not include labor, material and equipment, for example labor by the hour or equipment usage Tasks.
- To describe a Task, we may use generic terms such as ¾ bluestone gravel, the salient features of the product, a manufacturer name and model number or some combination.
- It is important to try using different terms to locate a particular Task, for example drywall is described as Gypsum Board.

Part II Unit Prices: Overview

This part of the training exercise will focus on what costs are included in the Unit Prices.

Each Task is listed with a Unit of Measure (Square Foot, Cubic Yard, Each) and an Install Unit Price calculated using local labor, material and equipment costs, and if appropriate, a Demo Unit Price calculated the same way.

In the front of each CTC is a six page written guide entitled "Using the Construction Task Catalog." This guide explains what costs are included in the Unit Prices. Each Unit Price typically includes the cost of labor, material and equipment; However, some Tasks only include:

- labor (e.g. labor by the hour)
- labor and material (e.g. painting by roller)
- material (e.g. extra stock VCT)
- equipment (e.g. variable message signs), or
- labor and equipment (e.g. backhoe with operator)

On the following pages, we will discuss in more detail the labor, material and equipment costs included in each Unit Price. Text verbatim from the Using the Construction Task Catalog guide appears in quotes and shaded boxes.

Labor Costs

"Labor costs include direct labor through the working foreperson level at straight-time prevailing wage rates including fringe benefits and an allowance for Social Security, Medicare taxes, worker's compensation, unemployment insurance, and employee benefits."

The hourly rates we use to calculate the labor cost for each Task appear in Section 01 of the CTC.

01 22 20		Wage Rates (01 22)
		Note: All Wage Rates, including modifiers, shall always be multiplied by the Standard Shift - Monday through Friday Adjustment Factor. Include the appropriate modifiers to adjust the Wage Rates for Shift Differential, Time and One Half, and Double Time.
01 22 20 00-0001		Local Labor/Wage Rates (01 22 20)
		Note: Welders receive the rate prescribed for the craft performing the operation to which the welding is incidental.
01 22 20 00-0002	HR Asbestos Handler	77.58
		Note: For tasks not included in the Construction Task Catalog® and as directed by owner only.
		For Shift Differential, Add 2.62
		For Time And One Half, Add 18.00
		For Double Time, Add 36.00
		For Foreman, Add 3.88
		For Apprentice, Deduct -15.52

You will notice that the hourly rates we use to calculate the labor cost for each Task is almost always higher than the published prevailing wage rates. That's because our goal is to develop Unit Prices that equal the direct cost of construction. Contractors have additional labor costs above the prevailing wage rates. So we start with the prevailing wage rate base pay, plus fringes, and then add the additional costs, such as an allowance for Social Security, Medicare taxes, worker's compensation, unemployment insurance and employee benefits.

The allowances vary by trade. For example, the worker's compensation insurance rate for a roofer is higher than it is for a carpenter.

Although the hourly rates are calculated in this way for each CTC, the formula and the individual cost components making up the hourly rates as they appear in the CTC are not published.

Labor costs include workers through the working foreperson level. The cost of supervisors and project managers that do not perform work, are not included in the Unit Price and must be included in the Adjustment Factors.

Modifiers for the hourly rates will be different depending on whether the CTC is for a contract covered by a Project Labor Agreement (union only labor) or just governed by prevailing wage rates.

For Federal clients, we use Davis-Bacon wage rates established by the Department of Labor which states:

"The Davis-Bacon Act provides that contractors and subcontractors must pay their laborers and mechanics employed under a federal contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area. The Davis-Bacon Act directs the Department of Labor to determine such locally prevailing wage rates."

"Labor costs include unloading equipment, materials, and tools, and transporting the same up or down 2 1/2 stories and 125' to reach the project site; layout; measuring and cutting to fit; performing the Task; disposal of excess material; and time for lunch and breaks."

Our goal is to capture all the labor costs associated with performing the Task, from taking the materials off the truck to disposing of the excess waste materials and everything in between. We never want to be negotiating how many hours it takes to unload materials, move them around the site, etc. We also include the time for breaks and lunch for the same reason.

01 66 19 00-0004	Transfer Delivered Materials Distances Greater Than 125' (01 66 19)
	Note: For moving delivered, owner supplied or existing materials.
01 66 19 00-0005	CY Transfer Delivered Materials Distances Greater Than 125', Per CY Of Material Per 125' 2.64

If materials must be transported more than 2 ½ stories or beyond 125' to reach the project site, the Contractor is entitled to add the appropriate Tasks to cover those costs. In those cases, the quantity for which the Contractor can be paid would be the number of floors in excess of 2 ½, and the distance greater than 125'.

For purposes of applying the 125' rule, it is important to determine how the "project site" is defined in your contract. It can either be the perimeter of the project site (e.g. exterior of temporary fence or the exterior of the building), or the actual location of the work (Room 101 on Floor 2).

Equipment Costs

"Equipment costs include all equipment required to accomplish the Task."

For example:

- Core drilling Tasks include the cost of the core drilling machine
- Excavation by the CY includes the cost of the backhoe or excavator
- Placing asphalt by the Ton includes the cost of the spreader

There are two Tasks for mobilizing equipment and separate Tasks for mobilizing cranes.

"Mobilization is included for all equipment except large equipment (e.g. cranes, bulldozers, excavators, backhoes, bobcats etc.), which exclude mobilization."

"Equipment costs include all operating expenses such as fuel, electricity, lubricants, etc."

01 71 Examination And Preparation (01 70)

01 71 13 Mobilization (01 71)

01 71 13 00-0001 Equipment Delivery, Pickup, Mobilization And Demobilization (01 71 13)

Note: Excludes flagman for traffic control where necessary.

01 71 13 00-0002 EA Equipment Delivery, Pickup, Mobilization And Demobilization Using A Rollback Flatbed Truck 184.70
Note: Includes loading, tie-down of equipment, delivery of equipment, off loading on site, rigging, dismantling, loading for return and transporting away. For equipment such as trenchers, skid-steer loaders (bobcats), industrial warehouse forklifts, sweepers, scissor platform lifts, telescoping and articulating boom manlifts with up to 40' boom lengths, etc.

01 71 13 00-0003 EA Equipment Delivery, Pickup, Mobilization And Demobilization Using A Tractor Trailer With Up To 53' Bed 644.82
Note: Includes loading, tie-down of equipment, delivery of equipment, off loading on site, rigging, dismantling, loading for return and transporting away. For equipment such as bulldozers, motor scrapers, hydraulic excavators, gradalls, road graders, loader-backhoes, heavy duty construction loaders, tractors, pavers, rollers, bridge finishers, straight mast construction forklifts, telescoping boom rough terrain construction forklifts, telescoping and articulating boom manlifts with >40' boom lengths, etc.

Be sure to check the Task Notes because sometimes mobilization will be included. For example:

01 22 23 00-0652 Trailer Mounted Floodlights (01 22 23 00-0641)

Note: Includes delivery to job site and pick-up when complete. Excludes operator.

01 22 23 00-0653 DAY 4 x 1,000 Watt Floodlights, 30' Telescoping Tower, Diesel Power Trailer Mounted Light Tower 162.20
01 22 23 00-0654 WK 4 x 1,000 Watt Floodlights, 30' Telescoping Tower, Diesel Power Trailer Mounted Light Tower 359.65
01 22 23 00-0655 MO 4 x 1,000 Watt Floodlights, 30' Telescoping Tower, Diesel Power Trailer Mounted Light Tower 775.72

32 01 17 63-0017 Asphalt Placement For Small Repairs (32 01 17 63)

Note: This section is used for placing up to 100 tons of asphalt after a small area of existing asphalt is removed to allow work such as trenching across or in a road, excavating a drainage structure, uncovering a utility line, etc. Includes mobilization of paving equipment such as a roller, placing the asphalt, compaction and hauling up to 15 miles. Excludes saw cutting, demolition of existing pavement, and new subbase material. Use approximately 0.055 tons per square yard per inch of depth. See CSI section 02 41 19 13-0056 for saw cutting, 32 12 16 13-0000 for areas requiring more than 100 tons.

32 01 17 63-0018 EA Asphalt Placement For Small Repair Areas, Cold Mix Modified, Up To 3 Tons 1,218.31
Note: For small areas of existing asphalt is removed to allow work such as trenching across or in a road, excavating a drainage structure, uncovering a utility line, etc.

Material Costs

"Material costs include the cost of the material, delivery, and all incidentals and accessories integral to the installation."

Unlike large equipment, the cost of delivery for materials is included in the Unit Price.

"Material costs include manufacturer's and/or fabricator's shop drawings."

"Material costs for roofing, drywall, VCT, carpet, wall covering, ceiling tile, pipe, conduit, concrete, etc. include an allowance for waste. This list is not intended to be all inclusive, but descriptive of the types of construction materials that are typically sold in standard lengths, sizes and weights."

This rule exists to avoid arguments with Contractors about how much material they purchased (difficult to determine) vs. how much material they actually installed (can be measured).

"Material costs for imported materials (e.g. aggregate, sand, soil, etc.) include delivery up to 15 miles from the closest approved source."

This rule exists to avoid arguments with Contractors who want to charge the Owner to haul material unreasonable distances. If you were working in one city, could buy imported materials cheaper in another city and the Owner would pay for hauling, you would buy the materials in the other city. To avoid that result, we have this rule. Some Owners, like New Jersey Department of Transportation or Pennsylvania Turnpike Commission, maintain lists of approved material suppliers. So we are saying to the Contractors, "we don't care where the approved material supplier you buy the materials from is located, we are only paying to haul the material the distance over 15 miles from the closest approved source."

This rule, like most rules in the guide, are designed to avoid arguments and negotiations and to create incentives for Contractors to be as efficient and cost effective as possible.

Part II Unit Prices: Review Key Points

- As a general rule, all Unit Prices include the cost of labor, material and equipment to complete the Task.
- The hourly rates used to calculate the Unit Prices appear in Section 01 of the CTC and are usually higher than the published prevailing wage rates because we add allowances for Social Security, Medicare taxes, worker's compensation, unemployment insurance and employee benefits.
- Material prices include delivery and an allowance for waste.
- Unit Prices include the cost of equipment, but mobilization is excluded for large equipment.
- Always check the Task Notes for specific information about whether mobilization of equipment is included or excluded.

Part III Adjustment Factors: Overview

In this exercise, we will focus on what costs should be included in the Contractors' Adjustment Factors.

The Adjustment Factors include the following costs, unless specifically excluded by the terms of the Contract Documents:

Business Costs:

"Office overhead, including, but not limited to, office space, office equipment, office and management personnel, office supplies, and employee transportation.

- Insurance and bonding.
- Profit.
- Job Order development services, Owner meetings, and other administrative services required by the Contract Documents.
- Subcontractor's overhead and profit.
- Cost of financing the work.
- Business risks such as the risk of a lower than expected volume of work, smaller than anticipated Job Orders, poor Subcontractor performance, and inflation or material cost fluctuations."

With regard to **insurance coverage**, it is important to check the contract language. Sometimes we specify certain insurance policies for which the Contractor will be reimbursed, for example, Builders' Risk Insurance because it is not required for every Job Order or Railroad Protection Liability Insurance because it is seldom required.

With regard to **bonding**, it is also important to check the contract language. The cost of the payment and performance bonds should be included in the Adjustment Factors. But other times, especially when payment and performance bonds are not required for every Job Order, the contract may provide that the Contractor will be reimbursed for the costs of such bonds. Sometimes there is a limit to how much the Contractor can charge for such bonds, for example, actual costs not to exceed two percent of the value of the Job Order.

Project Related Costs:

"Project trailer, equipment and supplies, and portable toilets for Contractor's use."

If the project trailer or portable toilets are to be used exclusively by the Contractor, those Tasks cannot be included in the Price Proposal and the costs must be included in the Adjustment Factors. If the Owner needs a project office to conduct job site meetings or wants a portable toilet on site for its project managers, then the Contractor can include those Tasks in its Price Proposal.

We developed this rule for two reasons:

1. The majority of JOC projects are completed quickly (days or weeks, not months) so those projects don't generally require a project trailer and the Contractor is usually working within an existing building where bathroom facilities are available.
2. Contractors always included these Tasks in their Price Proposals and then never provided a project trailer or portable toilet.

"Project management and project supervision."

Remember, the Unit Prices include the cost of labor though the working foreperson level, all other supervision and management must be included in the Adjustment Factor. Check the contract language to see if it contains a clarification of this requirement.

"Services required to complete project filings and obtain permits."

The fee paid to a governmental agency to file a project or get a permit is reimbursable. But the administrative costs (time, travel, parking, etc.) to obtain such filing or permit must be included in the Adjustment Factor. Those costs would be very difficult to verify.

"Preparation and modification of sketches, drawings, submittals, as-built drawings, and other project records."

These are not stamped architectural or engineering drawings. They are drawings or sketches that show the layout of the work or justify quantities. For as-built drawings, the general rule is that the Contractor will provide as-built drawings in the same media that the Owner provided the original drawings (e.g. CAD files, paper drawings). If the Owner did not provide drawings, the Contractor does not have to create them.

"Incidental engineering and architectural services."

This is one of the most difficult questions to answer. As a general rule, anything from 0 to 4 hours (1/2 day) of an architect's or engineer's time is incidental. We consider the following types of Tasks to be incidental:

- Size a lintel for a new opening.
- Prepare a sketch showing rebar for a new set of concrete stairs.
- Prepare a sketch showing the size and dimensions of an excavation (not a shoring design) that will enable the Owner to verify the quantity calculations for material.
- Size an HVAC unit for a room.

If Contractor is required to have an architect or engineer prepare a stamped drawing, that would not be considered incidental, and we would compensate the Contractor for the architect's or engineer's time.

"Gang boxes and storage containers for Contractor's tools, equipment and materials."

Not required for most projects. Usually the Contractor has room to store their tools, equipment and materials somewhere on site in a secure location, or the Owner can make a secure space available. If we allowed Contractor's to include these items in their Price Proposal, they would every time, but the items would seldom appear on site.

"Basic safety and warning signage, minor barricades (e.g., construction tape, etc.) and personnel safety equipment (e.g., hard hats, safety harnesses with lifeline or cabling, protective clothing, safety glasses, face shields, etc.)."

Not included: temporary walls, maintenance and protection of traffic Tasks such as temporary signs with sandbags, variable message boards, and substantial cabling of floor openings, etc.

"Meeting Owner's security requirements."

This means obtaining and wearing ID badges, signing log books, allowing tools, materials and equipment to be inspected before entry to the project site or any other security protocol that the Owner establishes.

"All taxes for which a waiver is not available including material sales tax and equipment rental."

For public projects, the Owner will generally provide the Contractor with a written tax waiver stating materials for the project are to be sold to the Contractor tax free. This provision encourages the Contractor to obtain and use such waiver by saying if you don't do that, then the taxes have to be included in your Adjustment Factor.

"Removing and returning Owner's furniture and furnishings (e.g. chairs, tables, pictures, etc. but excluding modular furniture, furnishings fastened to the wall or floor, safes and other furniture requiring disassembly)."

Be sure to check the contract language and the CTC. Sometimes we will include a Task for removing and returning Owner's furniture and furnishings that occupy more than 55 percent of the floor space. If the room is packed floor to ceiling or if there are substantial shelves filled with books or supplies, we would pay the Contractor labor hours to remove and return the items. We do not want to argue with a Contractor on every project about how many labor hours it should charge to remove and return furniture.

"Sealing windows doors, and other openings with plastic to contain construction dust and debris within the work area."

This does not apply to Haz Mat projects for which the Contractor is entitled to include Tasks for containment and excludes building temporary walls for dust control.

"Working in extreme temperatures (below or above normal) or adverse conditions such as rain, wind, sleet or snow. Costs resulting from inadequate supply of building materials, fuel, electricity, or skilled labor."

This is intended to address losses in labor productivity and increases in costs resulting from market demand. This is also to avoid arguments with Contractors like, "I need to add extra labor hours because it was so cold my guys couldn't get anything done." However, extra Tasks may be required because of weather conditions, such as concrete blankets, plastic tenting and heaters for curing concrete walls or concrete admixtures such as Type C and E admixtures.

"Daily clean-up." and "Final professional clean-up."

Price Variations:

"Contractors may experience direct costs that are different than the unit prices set forth in the Construction Task Catalog. While diligent effort was made to provide accurate, unit prices, it is the Contractor's responsibility to review and analyze the unit prices, and to calculate, prior to bidding, the Adjustment Factors accordingly."

Summary:

This list is not exhaustive and is intended to provide general examples of costs to be included in the Contractor's Adjustment Factors. The only compensation to be paid to the Contractor for unit price Tasks will be:

- Unit Price x Quantity x Adjustment Factor
- No additional payments of any kind whatsoever will be made.
- All costs in excess of the unit prices, must be included in the Adjustment Factors.

Part III Adjustment Factors: Review Key Points

- As a general rule, all costs not included in the Unit Prices must be included by the Contractors in the Adjustment Factors.
- The Contractor will be paid the Unit Price x Quantity x Adjustment Factor.
- Adjustment Factors must include:
 - All overhead including home office overhead, job site office overhead, supervision, project management, insurance and bonding
 - Profit
 - Subcontractors' overhead and profit
 - Project trailer, portable toilets, storage containers for Contractor's use
 - Minor barricades and signage
 - Incidental architectural and engineering services
 - As-built drawings in the same media provided by Owner
 - Clean-up

Part IV General Rules: Overview

It is important to understand the rules for using the CTC, so you will be able to review a Price Proposal or train someone how to review a Price Proposal. Reviewing Price Proposals is a key step in the Job Order development process. Accurate Price Proposals ensure the Owner is paying the competitively bid price for each Job Order.

In this exercise, we will focus on the general rules for using the CTC. These rules will explain which Tasks the Contractor may include in its Price Proposal and which Tasks the Contractor may not include.

"Unit prices are for complete and in-place construction and include all labor, equipment and material required to complete the Task as described in the CTC."

This is the general rule. Unless the Task Note says otherwise, all Unit Prices are assumed to include all labor, material and equipment to complete the Task. For example, the Unit Price for a light fixture includes the cost of buying the fixture, delivering it to the site, moving it on site, installing it and making the electrical connections. The Unit Price for repointing exterior masonry includes the labor to perform the Task (cutting out the old mortar, cleaning the joint, mixing and installing the new mortar, final cleaning of the brick), the material (mortar) and all the tools and equipment (power grinder and blades, electric mortar mixer, small trowel, and sponge). As discussed in Part I – Task Presentation, there are some Tasks that clearly do not include labor, material and equipment such as labor by the hour, equipment usage Tasks and material only Tasks.

"If the Contractor uses a crane or other lifting equipment (except a truck mounted boom lift or other equipment as part of the delivery process) to lift material onto a roof, even if that roof is less than 2 ½ stories, the contractor will be paid for such crane or lifting equipment as a separate Task."

This rule applies not only to roofing material, but also to material and equipment that might be installed on a roof such as large HVAC units, or bricks and coping stones to rebuild a parapet wall. The exception to the rule is for 1, 2 or 3 story roofs where the material supplier can deliver the material onto the roof as part of the delivery process using a boom mounted on the delivery truck. Why pay for a crane if it will not be used? The goal is to pay the Contractor for a crane or other lifting equipment if that is how the material or equipment will actually be delivered. For crane use, the Contractor is entitled to the equipment usage Task for the crane itself (DAY, WK, MO), and to the Task for mobilizing the crane. See 01 71 13 00-0004 Crane Delivery, Pickup, Mobilization And Demobilization.

"Unit prices include all fasteners such as anchor bolts, lag bolts, screws, adhesive, wedge anchors, expansion bolts, roofing clips (excluding hurricane clips) required. Fasteners listed separately in the CTC are for use with Owner furnished material and equipment or relocating or reinstalling existing material and equipment."

The cost of the typical fasteners required for a Task are included in the calculation of the Unit Price. We do this to avoid arguments with a Contractor about the size of the bolts required to mount a lavatory onto a carrier or how many screws are needed per square foot of drywall. However, if the Contractor was relocating a marker board to another classroom, it would be entitled to the fasteners for remounting the marker board.

"Unit prices exclude more substantial mounting material such as threaded rod or angle iron unless the Task description states otherwise."

For example, a 4 foot threaded rod and hanger needed to support a suspended section of 3" black steel pipe is not included in the Unit Price for the black steel pipe. In this example, the Contractor would be entitled to add the threaded rod and the hanger to its Price Proposal.

"Unit prices for doors and windows, duct work, plumbing fixtures, seamless floors, countertops, roof flashing, pitch pockets, skylights, roof curbs, exterior trim, etc. include sealant and caulking."

We have included the cost of sealant and caulking in the Unit Prices for these Tasks because it is always required as part of the installation. By including those costs, it makes it easier to build and review Price Proposals.

"Unit prices include testing, calibrating, balancing, start-up services and the like required to ensure proper installation, construction and performance of the work (e.g. compaction test for backfill, balancing of heating ventilation and air conditioning, pneumatic or hydrostatic testing, soaping of joints, disinfection and flushing of water lines, etc.). Contractor may be paid for testing, calibrating, balancing, start-up services and the like for Owner supplied materials and equipment, or when working on or tying into existing materials and equipment."

What if the Contractor was adding a new duct line and tying it into an existing system and had to test and balance the entire system? Then the Contractor could include the Tasks required to test and balance the existing ductwork, registers, diffusers, etc., just not the new work.

"For the purpose of calculating the quantity of a Task, quantities are calculated on a per project basis. The quantity so determined shall be used for the Task and all appropriate modifiers, unless the Task states otherwise."

For example, if the Contractor was painting the hallways on several floors under the same Job Order, the total quantity of the entire project would govern, even if the Price Proposal was broken down by floor. Be careful - some Tasks, such as ceiling tiles, have a quantity modifier for small quantities of work per room. "For Individual Room Quantities <495, Add." In those cases, the Contractor is entitled to the modifier with the per room quantity, but the quantity for the Task should be the total quantity for the project.

"Whenever there are alternative Tasks that may be selected to complete work, the Contractor shall select the most practical and economical Tasks available (e.g. rental of equipment by weeks or months rather than days, or painting by roller or spray rather than brush)."

In general, Contractors are entitled to select the means and methods of construction and most construction contracts say so. Owners and Construction Managers never want to be responsible for how a Contractor performs work in case someone gets injured or if the directed means and methods produce inferior work. With JOC, while the Contractor can still select the means and methods of work, the Owner does not have to pay for inefficiency. As a result, we require the Contractor to use the most efficient Tasks. The Contractor may elect to perform hand excavation, but if excavation by backhoe is more efficient, that's what the Owner should pay for.

"Demolition: Unit prices for demolition include all labor, equipment and material required for the complete removal of the items; clean-up of the area; and transporting the demolished items up or down 2 ½ stories into a truck, dumpster, or to an Owner designated area, located within 125' of the project site."

This is the same rule that applies to the delivery of equipment and material. If the Contractor has to travel more than 2½ stories or more than 125', they are entitled to include the transporting Tasks in its Price Proposal. For purposes of applying the 125' rule, it is important to determine how the "project site" is defined in your contract:

It can either be the perimeter of the project site (e.g. exterior of temporary fence, or the exterior of the building) or the actual location of the work (Room 101, on Floor 2).

"Unit prices for demolition exclude costs for hauling (See 01741900), dump fees (See 01741900), dumpsters (See 01741900), and trash chutes (See 01741900)."

"If the item being demolished is attached to another item being removed and can be removed as one item, then that item shall not be priced as a separate demolition Task, unless the component alone must be demolished to accomplish the Task (e.g. demolition of pipe includes pipe fittings unless the fitting must be demolished separately to accomplish the Task; demolition of a wood door includes hinges, hardware, closures, kick plates, etc.)."

The word "replace" includes removal of the existing item and installation of the new item.

The words "remove and relocate" or "remove and reinstall" include removal, cleaning, and installation of the existing item in either the same location or another location.

Salvageable materials are the property of the Owner and shall, if directed, be turned over to the Owner."

This issue often arises with copper wire or aluminum scrap. The rule is if the Owner wants it, the Owner keeps it.

"Working Height: Typical working height for work other than masonry is up to 14' above the finished floor or stationary working surface. The Contractor will not be paid for scaffolding, lifts, or similar equipment for work below 14'. Typical working height for masonry work is up to 4' above the finished floor or stationary working surface. The Contractor will not be paid for scaffolding, lifts, or similar equipment for masonry work below 4'."

We initially developed this rule because often a Contractor included scaffolding or lifts in its Price Proposal, and those items never appeared on site. In addition, for installing ceiling tiles or painting ceilings, there are other more efficient ways to accomplish the work such as workers with stilts or painting with extension poles. This rule requires the Contractor to find the most efficient way to complete the work, thereby saving the Owner money. The Contractor can perform the work any way it deems reasonable (means and methods are up to the Contractor), but the Owner will not pay for inefficiency. The Contractor may decide to use rolling scaffolding to install lighting fixtures in a 12' drop ceiling, but the Owner won't pay for it. Our Unit Prices do not include any costs to create a work platform above the floor surface or ground surface. Therefore, it is not accurate to say that the Unit Prices include the cost of scaffolding for the first 4' or first 14'.

As a result, if a Contractor is building or repointing an exterior masonry wall above 4', the Contractor is entitled to the entire cost of the scaffolding. Similarly, if a Contractor is painting an interior ceiling 25' high, the Contractor is entitled to the full height of the rolling scaffolding. We should not exclude the first 14'.

"Field Engineering: Surveying Tasks shall be used only when the Owner requests the Contractor to perform topographic surveys, property line surveys or to establish horizontal and vertical control points. If the Owner provides horizontal and vertical control points within or adjacent to the project site, all other surveying required to complete the work shall be considered construction staking or layout, and the cost thereof is included in the appropriate Tasks."

Construction and staking are included in the labor component of the Unit Price. For example, laying out footings with a transit, using a laser to make sure an underground plumbing pipe is straight or using an electronic laser level to ensure a concrete slab is poured at the correct elevation.

When assembly Tasks exist, the Contractor must use them in the Price Proposal. Some examples include:

- Concrete sidewalks
- Concrete slabs
- RGS conduit assemblies
- Copper pipe assemblies
- Interior partition walls
- Underground Bell And Spigot Cast Iron Soil Pipe

“Restricted and Confined spaces: Restricted Working Space is defined as any area with less than 3’ vertical or horizontal clearance and includes areas such as crawl spaces, ceiling plenums where the grid is not removed, narrow piping tunnels, and equipment rooms where the space to install the new work is congested as a result of equipment and piping placement that meet these dimensional restrictions. A Restricted Working Space modifier is available for certain mechanical piping and piping accessories Tasks and for certain electrical conduit and conduit accessories Tasks. Only those Tasks with a modifier for Restricted Working Space are eligible for a price adjustment, and then only if the modifier applies to the contemplated Tasks. A non pre-priced Task will not be allowed because of Restricted Working Space for any CTC Task.”

Confined Working Space is defined according to the OSHA definition 29 CFR 1926.21(b)(6)(i): “Any space having limited means of egress, which is subject to accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere, including, but not limited to, storage tanks, process vessels, bins, boilers, ventilation and exhaust duct, sewers, underground vaults, tunnels, pipelines and open top spaces more than 4 feet in depth such as pits and tubs.” The Contractor shall conform to all OSHA and Owner requirements for working in Confined Working Spaces. Required ventilation and air monitoring equipment Tasks shall be priced from the CTC.”

OSHA, and most Owners, require all workers entering a Confined Space to have completed certified training. Occasionally, Contractors will ask to be paid for sending workers to an approved training course. The answer is always “no,” and the response should be, “Use employees that have the required training, send your employees to training or hire a subcontractor with trained workers.”

“Technical Specifications: Technical Specifications for Tasks shall be interpreted as follows: All labor, material, equipment, spare parts, services, and work required by a Technical Specification shall be considered included in the unit price, unless the Task description states otherwise.”

This general rule was developed as a catch-all rule to end arguments with Contractors about whether some small portion of a Task was included in the Unit Price. For example, “the lighting fixture Task doesn’t specifically say it includes making the wire connection, or the duct cleaning Task doesn’t specifically say I have to remove all particulate matter and contaminants from the system.” However, this rule does not permit you to require the Contractor to perform work that is not reasonably within the Task description. For example, the Technical Specification for installing VCT flooring requires the concrete substrate to be clean, level and in good repair. That doesn’t mean you can require the Contractor to install self-leveling underlayment for the Unit Price of the VCT. There are separate Tasks for self-leveling underlayment. Use this rule sparingly and cautiously.

by reference to a manufacturer's name, make or model number, the identification is intended to establish a standard. Any material, product, or equipment of another manufacturer may be considered an or-equal provided that, in the opinion of the Owner, the material, product, or equipment so proposed is of equal quality, substance and function to the named item. The Contractor shall not install any proposed material, product, or equipment without the prior written approval of the Owner. The burden of proof, and all costs related thereto, concerning whether the proposed material, product, or equipment is an or-equal, shall be borne by the Contractor."

This rule is consistent with the universal requirement in public bidding that Contractor always have the option to propose or-equals. It is one way for Contractors to be more competitive and lower their costs. This same rule does not apply to private Owners. With JOC, it is always a balance. Contractors should want to give the Owner the exact material, product and equipment the Owner is asking for and not fight over or-equals, resulting in the Owner being happy with the Contractor and assigning the Contractor more work. In many cases, our Owners are trying to standardize certain material, products and equipment throughout their facilities (door locks, ceiling tiles, VCT, etc.), so they can be more efficient in maintaining and replacing those items. Whenever possible, we should encourage Contractors to provide the exact material, product and equipment the Owner is asking for, but be mindful of the Contractor's contractual right to propose the or-equal. At the end of the day, the Owner will make a decision about whether it will accept a proposed or-equal.

Part IV General Rules: Review Key Points

- It is important to understand the rules for using the CTC, so you will be able to review a Price Proposal or train someone how to review a Price Proposal.
- As a general rule, Unit Prices are for complete and in-place construction and include all labor, equipment and material required to complete the Task as described in the CTC.
- Unit Prices include all fasteners, sealant, caulking, testing, calibrating, balancing and start-up services.
- Task quantities are calculated on a per project basis.
- Typical working height for work other than masonry is up to 14', and the rule is 4' for masonry.
- Contractor shall select the most practical and economical Tasks available.
- Assembly Tasks take precedence over individual component Tasks.

Job Order Development Process

Overview

The purpose of this part of the training is to understand how the Job Order Development process works. Once a project is identified, the Owner will follow the standard 5-step process to develop each Job Order and Supplemental Job Order. The process described below assumes that the Owner will be responsible for scheduling and conducting the Joint Scope Meeting, preparing the Detailed Scope of Work and for reviewing the Job Order Proposal. However, depending on how the program is structured and how the Owner assigns personnel or engages third-parties to participate in the JOC process, the person performing the activity may change, but the actual steps are the same.

Joint Scope Meeting



Detailed Scope of Work



Price Proposal



Price Proposal Review



Job Order Issued

You schedule a meeting at the site for those involved to discuss project and design details.

You prepare a Detailed Scope of Work that describes the work the contractor will perform.

The contractor prepares a Price Proposal by selecting the appropriate tasks from Gordian's Construction Task Catalog® (CTC).

You review the Price Proposal to ensure the contractor has selected the appropriate tasks and quantities.

Once the Price Proposal is approved, you issue a Job Order for the contractor to proceed.

1. Joint Scope Meeting

Schedule a Joint Scope Meeting at the site to discuss and agree on the details of the work to be performed. This meeting allows the Contractor to inspect the site and ask questions before submitting a Price Proposal, helping to eliminate misunderstandings and mistakes. This upfront, open communication often results in more cost-effective, collaborative solutions.

2. Detailed Scope of Work

Prepare a Detailed Scope of Work that describes the work the contractor will perform. The Detailed Scope of Work will be sent along with the Request for Proposal to the contractor.

3. Price Proposal

The Contractor prepares a Price Proposal by selecting the required tasks from the Construction Task Catalog (CTC), identifying the required quantities and the appropriate Adjustment Factor. The Contractor submits the Price Proposal along with a construction schedule and list of proposed subcontractors.

4. Price Proposal Review

Review the Price Proposal to ensure the contractor has selected the appropriate tasks, quantities and Adjustment Factors, and ask the contractor to make any required changes.

5. Issue Job Order

Once you are completely satisfied with the Price Proposal, construction schedule, proposed subcontractors and have received and approved any other required documents (e.g. bonds, certificates of insurance, etc.), you issue a Job Order to the Contractor.

1. Joint Scope Meeting

The purpose of the Joint Scope Meeting is for the Owner, Contractor and other project stakeholders to meet at the site to see the project conditions, discuss the proposed work, consider Value Engineering options and to agree on the work to be performed.

Preparing for the Joint Scope Meeting

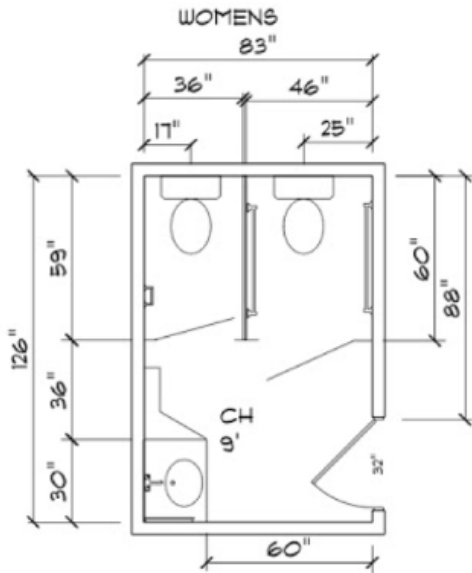
- Develop a preliminary scope of work. This may include drawings, sketches and a list of material and equipment including manufacturer names and model numbers.
- Determine if there are any requirements for permits and controlled inspections.
- Collect all available information and documents concerning the site and the work in place (e.g. Haz Mat reports, as-built drawings, etc.).
- Develop a list of the topics to be discussed at the Joint Scope Meeting. Here is a checklist of topics to discuss:
 - The work to be performed
 - Presence of hazardous materials and testing required
 - Permits – including drawings for permits
 - Identify long lead time materials
 - Protocol for workers entering the site
 - Staging areas, signage, and temporary fencing or partitions
 - Construction schedule and work hours – with critical milestones and phasing requirements
 - Controlled inspections, testing requirements
 - Value Engineering suggestions
 - Organization of Price Proposal – CSI, floor, room, phases, etc.
 - Due Date for Detailed Scope of Work and for Price Proposal
 - Open issues (identify who is responsible)
- Determine who should attend the Joint Scope Meeting in addition to the Contractor. For example, architect, engineer, HazMat representative, facility-based personnel, end user, etc.
- Send the Contractor the preliminary scope of work and the available information and documents concerning the site and the work in place before the Joint Scope Meeting. This will give the Contractor time to review the information and develop any possible questions and concerns. Based on this information, the Contractor may decide to invite certain subcontractors.

Scheduling the Joint Scope Meeting

- Send each invitee a Notice of Joint Scope Meeting.
- To the extent possible, determine the following before the Joint Scope Meeting:
 - Scheduling requirements, including the hours during which the Contractor can work and a date for all major milestones.
 - Access to the project site

Conducting a Joint Scope Meeting

- Introduce all parties present.
- Set expectations and explain the 5-step process so everyone understands what is going to happen next.
- Discuss the topics on the list you prepared in advance of the Joint Scope Meeting.
- Review and document any pre-existing conditions.
- Take thorough notes and photographs. It can be difficult to remember all the details of the work after you leave the Joint Scope Meeting. Making sketches during the Joint Scope Meeting can be helpful.
- Take field measurements with Contractor and agree on quantities.



- After the Joint Scope Meeting, everyone should share their pictures, sketches, quantities and notes. These pictures and documents can also be uploaded into the JOC software.

2. Detailed Scope of Work and RFP

Detailed Scope of Work

The purpose of the Detailed Scope of Work is to document the work Contractor must perform. It is the Detailed Scope of Work (not the Price Proposal) that will govern what work the Contractor is obligated to perform. The Contractor will be paid the Job Order Price (value of the approved Price Proposal) for completing the Detailed Scope of Work within the Job Order Completion Time.

Detailed Scope of Work Goals:

- Accurately detail the work the Contractor will perform.
- Receive a more complete and more accurate Price Proposal.
- Decrease the effort required to prepare and review the Price Proposal.
- Decrease confusion and problems during progress inspections.

Detailed Scope of Work answers the following questions:

- What work the Contractor will perform?
- How much work the Contractor will perform (quantities if appropriate)?
- Where the work will be performed?
- What are the details of the work (type of equipment or material, specific manufacturer and model numbers where helpful)?

Supplement the narrative if helpful with the following:

- Sketches prepared at the Joint Scope Meeting
- Marked-up As-built drawings
- Digital photos with notes

Walk through the project in your mind:

- Write down the steps the contractor will perform.
- Move through the project sequentially.
- If helpful, break down the Detailed Scope of Work into categories, phases or areas, such as 1st Floor, 2nd Floor, by Room or by phases.

When to include Tasks or quantities in the Detailed Scope of Work:

- If it helps, define the work – 10 windows, 8 doors, 5 emergency exit lights, 2 pumps.
- If an agreement cannot be reached on the Tasks or quantities required – *"I need 2 flaggers for 2 days. I need four 20CY dumpsters."*
- If a quantity is unknown before construction starts – e.g. new VCT floor will require some percentage of self-leveling underlayment, but you can't determine the percentage before construction starts; or the amount of excavation necessary to reach a suitable subsoil is unknown.
- If disputed Tasks or quantities are included in the Detailed Scope of Work, you should also include a note in the Detailed Scope of Work that a Supplemental Job Order will be developed when the Tasks or quantities required are determined.
- If there are A/E drawings and specifications, you can refer to those documents in the Detailed Scope of Work and note exceptions or clarifications.

Waterford Front Entrance Work:



Helpful hints:

- Find an existing Detailed Scope of Work for similar projects to use as a template.
- Search for the project type online – results are typically informative.
- Incorporate manufacturer and model numbers for equipment or materials - plumbing fixtures, ceiling tiles, hardware, HVAC equipment, bathroom accessories, etc. This will clearly define the quality of the material and equipment and also help Contractor build a better Price Proposal.
- Find the balance between too much information vs. too vague.
- Focus on the end result, not on how the Contractor will perform the work.
- Get help from someone experienced in that type of work.
- If the work changes prior to issuing the Job Order, the Detailed Scope of Work must also be modified to reflect those changes.
- If the work changes after the Job Order is issued, develop a Supplemental Job Order with a new Detailed Scope of Work to account for the changes. The process for developing a Supplemental Job Order is the same 5-step process. It is possible that because of the nature of the changes, a Joint Scope Meeting is not required. However, the Contractor should still be encouraged to suggest Value Engineering suggestions.

Request for Proposal

After the Detailed Scope of Work is finalized, issue a Request for Proposal (RFP) to the Contractor. The purpose of the RFP is to formally request that the Contractor prepare a Job Order Proposal by a certain date. The RFP may also include requirements for material submittals, construction schedule and milestones, when the Job Order Proposal is due and whether liquidated damages will apply.

3. Contractor Prepares Price Proposal

The Price Proposal is one part of the Job Order Proposal. The Job Order Proposal includes:

1. Price Proposal
2. Construction Schedule
3. List of proposed subcontractors
4. Other requested documentation such as cut sheets, sketches, quantity take-offs, etc.

In this section, we will focus on the Price Proposal. The Price Proposal should be organized by categories (e.g. CSI, rooms, floors, phases, etc.) in accordance with the discussions at the Joint Scope Meeting and any requirements included in the RFP.

The Price Proposal should include:

- Only the Tasks required to complete the Detailed Scope of Work
- Accurate quantities for each Task
- The correct Adjustment Factors
- Quantity calculations and explanations in the User Notes for each Task

Here are examples of User Notes that include a quantity calculation:

Excavation									
1	02210-0028		CY	Load Excess Material For Removal From Excavation For Building Foundations and Other Structures by Machine					\$95.65
				Quantity		Unit Price		Factor	Total
		Installation		17.36	x	\$5.51	x	1.0000	\$95.65
		User Note: 1,200 SF/3 = 400 CF/27 = 14.8148 CY of compacted material. Bulk factor is 3680/3140 = 1.172. 14.8148 CY x 1.172 = 17.363 CYs.							
2	02210-0028	0057	CY	For Up To 20, Add					\$95.65
				Quantity		Unit Price		Factor	Total
		Installation		17.36	x	\$5.51	x	1.0000	\$95.65
		User Note:							
Subtotal for Excavation:									\$191.30
Repointing									
3	04910-0002		SF	Cut And Repoint Brick, Hard Intact Mortar, Running Bond					\$18,813.76
				Quantity		Unit Price		Factor	Total
		Installation		1,816.00	x	\$10.36	x	1.0000	\$18,813.76
		User Note: 1,816 SF, 30' x 80' = 2,400 SF -4 doors @ 21 SF each (84 SF) -10 windows @ 50 SF each (500 SF) = 1816 SF							
4	04910-0002	0016	SF	For >1,000, Deduct					-\$1,834.16
				Quantity		Unit Price		Factor	Total
		Installation		1,816.00	x	\$-1.01	x	1.0000	\$-1,834.16
		User Note:							
Subtotal for Repointing:									\$16,979.60

In addition, the Contractor can provide a take-off showing the calculations.

Here are examples of User Notes that explain why a certain Task is used:

Temporary Walls							
6	01560-0194	SF	5/8" Gypsum Board On One Side, Temporary Wood Stud Wall, 16" On Center				\$1,262.00
			Quantity		Unit Price	Factor	Total
		Installation	200.00	x	\$6.31	x 1.0000 =	\$1,262.00
User Note: Temporary wall across 2nd floor hallway to block student traffic. 20' long x 10' high.							
Subtotal for Temporary Walls:							\$1,262.00
Plumbing							
3	15451-0256	EA	Easy-Push Metering Faucet Wash-Up Fitting (Speakman S-4123)				\$315.76
			Quantity		Unit Price	Factor	Total
		Installation	0.00	x	\$150.71	x 1.0000 =	\$0.00
		Demolition	8.00	x	\$39.47	x 1.0000 =	\$315.76
User Note: Custodian requested that faucets be removed, and saved for future use, before sinks are demolished.							

The more information the Contractor provides about why certain Tasks are required or how the quantities were calculated, the faster and easier the review process will be.

The Job Order Proposal must be submitted on the agreed upon due date.

4. Price Proposal Review

The purpose of the Price Proposal Review is to make sure the Contractor has prepared an accurate Price Proposal containing the correct Tasks, quantities, Adjustment Factors and the required back-up for Non-Prepriced Tasks.

Before You Start

- Know what costs are included in the Unit Prices, what costs are included in the Adjustment Factor, and the general rules for reviewing a Price Proposal. This information is included in Using the Construction Task Catalog, published as part of the CTC.
- Review the Non-Prepriced Task formula from the JOC contract.
- Review the Detailed Scope of Work and familiarize yourself with the project.
- Review all drawings and specifications, sketches, etc.
- Prepare a quantity take-off for the work, or if the Contractor has provided a take-off, review and verify the Contractor's take-off.
- Review the construction schedule.
- Review the list of proposed subcontractors.
- Request all missing information.

How to Review a Price Proposal

For each Prepriced Task listed, ask:

- Is this Task required to complete the Detailed Scope of Work?
- Is this Task the most appropriate Task in the CTC for the item of work?
- Is this Task part of another Task?
- Is the quantity correct (ask for calculations, conversions or sketches to clarify)?
- Have all appropriate modifiers been selected?
- Has the correct Adjustment Factor been selected?

For each Non-Prepriced Task, ask:

- Is this Task required by the Detailed Scope of Work?
- Should it be a Prepriced Task from the CTC? If not, is there any Task in the CTC that covers a portion of the item of work?
- Is the quantity correct?
- Is the required back-up provided, including three independent quotes for purchased material and subcontracted work.
- Has the correct Adjustment Factor been used?

If the Contractor is self-performing all or any part of the Non-Prepriced Task, then for that work, the Contractor must use the labor and equipment from the CTC and submit three quotes for all materials.

If all or any part of the work covered by the Non-Prepriced Task is to be performed by a subcontractor, then the Contractor will submit three independent quotes for that subcontracted work, even if the quote includes labor or equipment that could be priced from the CTC. There is no need to break out the labor and equipment and price it from the CTC.

At the end of your review, ask yourself, "Are there any Tasks required to complete the Detailed Scope of Work that are not in the Price Proposal?" If so, identify them for the Contractor. Your goal is to work with the Contractor to produce a Price Proposal that contains the correct Tasks, quantities and Adjustment Factors, not to negotiate or to drive the Job Order Price down or up.

Providing Feedback to the Contractor

- Transmit your comments to the Contractor with an explanation – email, phone or meeting.
- Never approve a Task, quantity or Adjustment Factor if you are not sure it is accurate. All quantities may be verified in the field or from the drawings.
- If a Price Proposal Review Meeting is required, follow these guidelines:

Before the Price Proposal Review Meeting:

1. Clearly document the changes you will request to the Price Proposal. Be knowledgeable of and ready to defend all requested changes
2. Send a marked-up copy of the Price Proposal or a summation of the changes to the Contractor before beginning any review discussions. This may deter an initial defensive attitude.

During the Price Proposal Review Meeting:

1. Be prepared to make changes to the Price Proposal and the Detailed Scope of Work.
2. The Contractor should bring take-off sheets that show quantities contained in the Price Proposal and should be prepared to explain the selection of Tasks and calculations. For most projects, it is helpful to ask that the take-offs to be submitted with the Price Proposal, so they can be reviewed prior to the Price Proposal Meeting.
3. Be Reasonable. The idea is to work together.
4. Stick to the facts. Discuss methods, Tasks and quantities.
5. If you cannot agree on Tasks or quantities, then:
 - Jointly revisit the site to resolve the issues.
 - Quantities may be taken off from available drawings.
 - Revise the Detailed Scope of Work to add a specific Task or set forth a quantity that is in dispute. For example, if the Contractor insists a trash chute is required, add a sentence to the Detailed Scope of Work such as "Contractor shall provide a trash chute from the 3rd floor." If the trash chute is not provided, you can take a credit, because the Detailed Scope of Work will have changed. Similarly, you can add a disputed quantity to the Detailed Scope of Work, such as "100 SF of plaster repair." If the final quantity differs, a Supplemental Job Order will be issued to modify the quantity. This option should only be used when a Task or quantity cannot be agreed to before a Job Order is issued.

6. Be professional and courteous: Do not allow the conversation to resort to personal attacks or accusations. Remember everybody should have the same goal: To prepare an accurate Price Proposal containing the correct Tasks, quantities and Adjustment Factors.
- Multiple Adjustment Factors may be used in the same Price Proposal.
 - Price is not negotiable. The Owner cannot, without a formal written contract amendment, change Unit Prices. The Owner cannot artificially inflate quantities to arrive at a certain Job Order Price.
 - Tasks from Section 01 should raise a red flag.
 - Make your comments more productive by including greater detail to let the Contractor know exactly what you mean:
 - "See detail A-3 on plan sheet 4"
 - "Compare with Task 08 11 12 22, is this a duplicate Task"
 - "The quantity should be 100 not 1,000"

Common Proposal Mistakes

Common Mistake #1: Adding Labor Hours

Most Tasks in the CTC include labor, material and equipment. Contractors sometimes include additional labor hours for those Tasks. The labor hours will usually appear at the beginning of the Price Proposal or at the beginning of a new category. All labor hours should be carefully reviewed.

It is appropriate to include labor hours for miscellaneous work for which there is no Task in the Construction Task Catalog (e.g. carpenter hours to unbolt and store book cases that are fastened to the wall) and as part of a Non-Prepriced Task. When calculating a Non-Prepriced Task where the Contractor will purchase material and install it with its own forces (as opposed to obtaining 3 quotes from a subcontractor), all labor hours should be at the Unit Price x the quantity x the appropriate Adjustment Factor.

EXAMPLE A

Sect.	Item	Mod.	UOM	Description	Line Total
Category - Sidewalk					
01352	0015		HR	LaborerNote: Tasks in the CTC include appropriate costs to cover labor. These tasks will be requested specifically by the owner for miscellaneous work not covered in the CTC.	\$308.44
				Quantity Unit Price Factor Total	
			Installation	4.00 x \$77.11 x 1.0000 =	\$308.44
				Set, remove, clean and stack forms then load on truck.	
02611	0005		SF	4" (10 cm) Crushed Aggregate Base Course	\$729.80
				Quantity Unit Price Factor Total	
			Installation	820.00 x \$0.89 x 1.0000 =	\$729.80
02MOD	0005	0502		For Quantities Up To 1000, Add	\$205.00
				Quantity Unit Price Factor Total	
			Installation	820.00 x \$0.25 x 1.0000 =	\$205.00
02630	0003		SF	5" (13 cm) Cast In Place Concrete Sidewalk With Wire Mesh	\$6,035.20
				Quantity Unit Price Factor Total	
			Installation	820.00 x \$7.36 x 1.0000 =	\$6,035.20
Subtotal for Category - Sidewalk:					\$7,278.44
Proposal Total					\$7,278.44

The labor to set the forms is included in the assembly Task for 5" concrete sidewalk.

Here is the Task description from the Construction Task Catalog:

"026300001 - Cast In Place Concrete Sidewalk With Wire Mesh

Note: Includes finish grading, delivered concrete (up to 3500 PSI) by chute, formwork, 1/4" radius joints and edges, control joints, expansion joints, latex or hot asphalt sealer, screed, broom finish, and curing. Excludes excavation, base, and base compaction. For reinforcing bar, use the modifier "For sidewalk without wire mesh" and add reinforcing bar from CSI section 03210. See CSI section 02200-0000 for excavation, 02611-0002 for base course, 03311-0084 for buggies, 03311-0091 for short loads."

Sect.	Item	Mod.	UOM	Description	Line Total
Category - Painting					
01352	0015		HR	LaborerNote: Tasks in the CTC include appropriate costs to cover labor. These tasks will be requested specifically by the owner for miscellaneous work not covered in the CTC.	\$154.22
			Installation	Quantity 2.00 x Unit Price \$77.11 x Factor 1.0000 =	Total \$154.22
				Moving scaffolding at different locations in rooms	
01540	0011		DAY	Rolling Scaffolding 14' To 20' Complete With Wheels, Railings, Etc., (5' Wide X 7' Long Section)	\$17.46
			Installation	Quantity 2.00 x Unit Price \$8.73 x Factor 1.0000 =	Total \$17.46
01540	0017		EA	Rolling Scaffolding Erection And Dismantling - Height Up To 20'Note: Includes both erection and dismantling of scaffolding. Used to set-up scaffolding and dismantle for return, per rolling scaffold per job.	\$193.52
			Installation	Quantity 2.00 x Unit Price \$96.76 x Factor 1.0000 =	Total \$193.52
09920	0116		SF	Paint Interior Drywall/Plaster Ceiling, 1 Coat Primer, Brush/Roller Work	\$812.50
			Installation	Quantity 1,250.00 x Unit Price \$0.65 x Factor 1.0000 =	Total \$812.50
09920	0118		SF	Paint Interior Drywall/Plaster Ceiling, 2 Coats Paint, Brush/Roller Work	\$1,512.50
			Installation	Quantity 1,250.00 x Unit Price \$1.21 x Factor 1.0000 =	Total \$1,512.50
Subtotal for Category - Painting:					\$2,690.20

The labor to move around the rolling scaffolding is included in the scaffolding Task.

Here is the note for the rolling scaffolding section that appears in the Construction Task Catalog:

"01 54 23 00-0012 Rolling Scaffolding (01 54 23)

Note: Includes moving and relocating scaffolding on site. Excludes initial erection and final dismantling of scaffold."

Common Mistake #2: Adding Equipment

Most Tasks in the CTC include labor, material and equipment. Contractors sometimes include additional equipment for those Tasks. The equipment Tasks will usually appear at the beginning of the Price Proposal or at the beginning of a new category. All equipment Tasks should be reviewed carefully.

It is appropriate to include equipment Tasks for miscellaneous work for which there is no Task in the Construction Task Catalog (e.g. bobcat to clean up area that cannot be considered as excavation), if expressly permitted by the general rules for Using the Construction Task Catalog, such as the use of scaffolding when working over 14', and as part of a Non-Prepriced Task. When calculating a Non-Prepriced Task where the Contractor will perform work with its own forces (as opposed to obtaining 3 quotes from a subcontractor), all equipment should be at the Unit Price x the quantity x the appropriate Adjustment Factor.

EXAMPLE A

Sect.	Item	Mod.	UOM	Description	Line Total
Category - Excavation					
01510	0011		EA	20 CY Dumpster, "Construction Debris"Note: Includes delivery of dumpster, rental cost, pick-up cost, hauling, and disposal fee. Non-hazardous material.	\$845.00
			Installation	Quantity 1.00 x Unit Price \$845.00 x Factor 1.0000 =	Total \$845.00
01590	0207		DAY	1/2 To 5/8 CY, 65 HP, Loader-Backhoe, With Full-Time Operator	\$976.82
			Installation	Quantity 1.00 x Unit Price \$976.82 x Factor 1.0000 =	Total \$976.82
02201	0003		EA	Backhoe, Dozer Or Roller Up To 250 HP Delivery, Mobilization And DemobilizationNote: Use for backhoe, dozer, roller, loader, excavator or similar sized equipment. Includes delivery fee, delivery, set-up and return.	\$541.60
			Installation	Quantity 1.00 x Unit Price \$541.60 x Factor 1.0000 =	Total \$541.60
02210	0006		CY	Excavation For Building Foundations And Other Structures By Hydraulic Excavator, Backhoe, Loader In Soil	\$65.52
			Installation	Quantity 12.00 x Unit Price \$5.46 x Factor 1.0000 =	Total \$65.52
02200	0006	0074		For Quantities Up To 20 (Up To 15 M3), Add	\$65.52
			Installation	Quantity 12.00 x Unit Price \$5.46 x Factor 1.0000 =	Total \$65.52
02210	0028		CY	Load Excess Material For Removal From Excavation For Building Foundations and Other Structures by Machine	\$69.30
			Installation	Quantity 15.00 x Unit Price \$4.62 x Factor 1.0000 =	Total \$69.30
02200	0028	0086		For Quantities Up To 20 (Up To 15 M3), Add	\$69.30
			Installation	Quantity 15.00 x Unit Price \$4.62 x Factor 1.0000 =	Total \$69.30
Subtotal for Category - Excavation:					\$2,633.06

The equipment for excavation is included in various excavation Tasks. Mobilization is appropriate.

Category - Slab Removal						
01510	0011	EA	20 CY Dumpster, "Construction Debris"Note: Includes delivery of dumpster, rental cost, pick-up cost, hauling, and disposal fee. Non-hazardous material.			\$845.00
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$845.00 x	1.0000 =	\$845.00
01590	0123	DAY	60" Wide, 1/3 CY Bobcat, With Full-Time Operator			\$907.02
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$907.02 x	1.0000 =	\$907.02
			Bobcat to load large pieces of concrete into dumpster			
02112	0008	SY	Break-Up And Remove > 3" To 6" Thick Concrete, With Wire Mesh			\$403.12
			Quantity	Unit Price	Factor	Total
		Installation	18.50 x	\$21.79 x	1.0000 =	\$403.12
02201	0002	EA	Bobcat Delivery, Mobilization And DemobilizationNote: Use for bobcat or similar sized equipment. Includes delivery fee, delivery, set-up and return.			\$166.38
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$166.38 x	1.0000 =	\$166.38

The bobcat is included in break-up and remove concrete Task. Mobilization is appropriate.

Here is the note for the Break-up and Remove concrete Task that appears in the Construction Task Catalog:

"021120002 - Break-Up And Remove Slab, Pavement Or Sidewalk By Machine

Note: Includes work around obstacles, breaking into manageable sizes by machine and loading into truck, dumpster or moving material to stockpile. Excludes saw cutting. See CSI section 02112-0110 for saw cutting."

Common Mistake #3: Rounding Quantities

Rounding off quantities to a high number should be avoided. If the Contractor is painting 943 SF, then do not round off to 1,000 SF. The quantity in the Price Proposal for painting should be 943. Otherwise, you are paying the Contractor for work it did not perform.

Common Mistake #4: Double Dipping

Adding additional Tasks for work that is included in the original Task is double dipping. It is important to read the Task description to determine what is included in a particular Task. You should also be aware of the rules for Using the Construction Task Catalog that appear in the front of the CTC.

EXAMPLE A

Category - Chalkboards						
05501	0114	EA	3/8" Diameter x 3" Long Wedge Anchor Expansion Bolt			\$101.84
			Quantity	Unit Price	Factor	Total
		Installation	8.00 x	\$12.73 x	1.0000 =	\$101.84
10110	0014	SF	>24 SF, 1-1/4" Face Aluminum Frame, Porcelain Enamel Steel Chalkboard			\$390.52
			Quantity	Unit Price	Factor	Total
		Installation	26.00 x	\$15.02 x	1.0000 =	\$390.52
Subtotal for Category - Chalkboards:						\$492.36

All fasteners for installing new products are included in the Unit Price for the Task.

Here is the rule which appears in Using the Construction Task Catalog:

"Unit Prices include all fasteners such as anchor bolts, lag bolts, screws, adhesive, wedge anchors, expansion bolts, roofing clips (excluding hurricane clips) required. Fasteners listed separately in the CTC are for use with Owner furnished material and equipment or relocating or reinstalling existing material and equipment."

Category - CLF						
02711	0010	VLF	12" (31 cm) Diameter Hole, Auger By Machine Fence Post Hole In Soil			\$593.67
			Quantity	Unit Price	Factor	Total
		Installation	33.00 x	\$17.99 x	1.0000 =	\$593.67
02711	0027	VLF	Concrete Fill, 12" (31 cm) Diameter Hole			\$678.81
			Quantity	Unit Price	Factor	Total
		Installation	33.00 x	\$20.57 x	1.0000 =	\$678.81
02711	0082	LF	2-1/2" (6.3 cm) Outside Diameter Galvanized Steel Post, Up To 6' In Length			\$108.68
			Quantity	Unit Price	Factor	Total
		Installation	11.00 x	\$9.88 x	1.0000 =	\$108.68
02711	0122	LF	6' Galvanized Chain Link Fence, 9 Gauge Coiled Spring Mesh, Top And Bottom Rails, Line Post At 10' O.C.			\$2,858.00
			Quantity	Unit Price	Factor	Total
		Installation	100.00 x	\$28.58 x	1.0000 =	\$2,858.00
02MOD	0122	0735	For Quantities > 100 To 250, Add			\$207.00
			Quantity	Unit Price	Factor	Total
		Installation	100.00 x	\$2.07 x	1.0000 =	\$207.00
Subtotal for Category - CLF:						\$4,446.16

Line posts are included in the assembly CLF Task.

Here is the note for the CLF assembly Task which appears in the Construction Task Catalog, plus it also states line posts are included in the Task description:

"027110116 - Chain Link Fence Assembly

Note: Includes 2" 9 gauge coiled spring mesh (knuckled selvedge), 1-5/8" top rail, 1-5/8" bottom rail, 2-1/2" line post and 3" corner posts. Posts exclude drilling or auguring in soil or rock, concrete or soil fill. Heights indicated are from ground to top of installed pole. Minimum 2' bury with up to one third of exposed post height to be buried in ground. For use on 50 lf or more. Demolition excludes concrete footing removal on posts and excavation. See CSI section 02711-0141 for mid rails (where necessary)."

EXAMPLE C

Category - Door Frames						
07920	0002	CLF	1/4" x 1/4" Joint, Silicone Sealant And Caulking			\$56.50
			Quantity	Unit Price	Factor	Total
		Installation	0.17 x	\$332.38 x	1.0000 =	\$56.50
08110	0037	EA	3'x6'-8" Through 7'-2"x5-3/4" Deep Metal Door Frame, 16 Gauge			\$318.01
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$318.01 x	1.0000 =	\$318.01
09920	0185	LF	Paint Interior Metal Frame And Trim, 1 Coat Primer, Brush/Roller Work			\$15.30
			Quantity	Unit Price	Factor	Total
		Installation	17.00 x	\$0.90 x	1.0000 =	\$15.30
09920	0187	LF	Paint Interior Metal Frame And Trim, 2 Coats Paint, Brush/Roller Work			\$33.83
			Quantity	Unit Price	Factor	Total
		Installation	17.00 x	\$1.99 x	1.0000 =	\$33.83
09945	0013	SF	Hand Scraping And Sanding Of Metal			\$12.92
			Quantity	Unit Price	Factor	Total
		Installation	17.00 x	\$0.76 x	1.0000 =	\$12.92
Subtotal for Category - Door Frames:						\$436.56

Caulking is included for all new installations, the door frame comes shop primed and preparing the metal surface for paint is not required.

Here is the note about caulking in Using the Construction Task Catalog, a similar statement also appears in the Section note for the metal door frames in the CTC:

"Unit Prices for doors and windows, duct work, plumbing fixtures, seamless floors, countertops, roof flashing, pitch pockets, skylights, roof curbs, exterior trim, etc. include sealant and caulking."

Here is the note that states the metal frames include a shop prime coat:

"081100001 - Metal Frames

Note: Includes shop prime coat. See CSI section 04110-0018 for grouting frames."

Even if the Contractor did have to prepare the surface for painting, it would be included in the paint Task.

Here is the note that states that all painting includes surface prep:

"099000000 - Paints And Coatings

Note: Painting Task includes masking, safety signs, cleaning, sanding, scraping, patching, filling knots, divots, depressions, cracks, minor holes, (e.g. screw and nail holes in drywall to 1/2" diameter of unlimited quantity), caulking, protective work to contain dust and paint splatters (drop cloths), unless otherwise noted."

Common Mistake #5: Using a More Expensive Task

It is important to carefully read each Task description that appears in the Price Proposal. Many Tasks are similar. There are different sizes, gauges, finishes, etc. Sometimes the Contractor will select the more expensive Task in a series of Tasks.

EXAMPLE A

You request a F01 Lockset in the Detailed Scope of Work:

08710	0323	EA	Passage/Closet F01 Mortise Latchset	Note: Both sides always unlocked.		\$293.76
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$293.76 x	1.0000 =	\$293.76

But the Contractor includes a F07 Lockset in the Price Proposal:

08710	0327	EA	Storeroom/Closet F07 Mortise Lockset	Note: Locked with key outside. Inside always unlocked. Fixed outside handle.		\$347.26
			Quantity	Unit Price	Factor	Total
		Installation	1.00 x	\$347.26 x	1.0000 =	\$347.26

EXAMPLE B

You request 1/8" Class 2, through pattern Armstrong Standard Excelon Imperial VCT in the Detailed Scope of Work:

09 65 19 19-0002	SF	1/8" Thick, Class 2 Through Pattern, Vinyl Composition Tile (VCT) (Armstrong® Standard Excelon Imperial Texture®)	1.85	0.62
		For 3/32" Thick, Deduct	-0.11	
		For Extra Stock, Material Only, Deduct	-0.72	
		For Up To 20, Add	0.58	
		For >20 To 40, Add	0.34	
		For >40 To 80, Add	0.13	
		For >1,000 To 3,000, Deduct	-0.04	
		For >3,000 To 6,000, Deduct	-0.10	
		For >6,000, Deduct	-0.18	

But the Contractor includes the Excelon Stonetex VCT in the Price Proposal:

09 65 19 19-0008	SF	1/8" Thick, Class 2 Through Pattern, Vinyl Composition Tile (VCT) (Armstrong® Excelon Stonetex®)	3.12	0.62
		For Extra Stock, Material Only, Deduct	-0.72	
		For Up To 20, Add	0.77	
		For >20 To 40, Add	0.46	
		For >40 To 80, Add	0.19	
		For >1,000 To 3,000, Deduct	-0.07	
		For >3,000 To 6,000, Deduct	-0.15	
		For >6,000, Deduct	-0.26	

EXAMPLE C

You request a 2x4 3T8 troffer in the Detailed Scope of Work:

16510	0066	EA	3 T8 Lamps, 2' x 4', Prismatic Lensed, Lay-In/Troffer Fluorescent Fixture				\$163.41
			Quantity		Unit Price	Factor	Total
		Installation	1.00	x	\$163.41	x	
						1.0000	=
							\$163.41

But the Contractor includes a 4T8 troffer in the Price Proposal:

16510	0067	EA	4 T8 Lamps, 2' x 4', Prismatic Lensed, Lay-In/Troffer Fluorescent Fixture				\$159.58
			Quantity		Unit Price	Factor	Total
		Installation	1.00	x	\$159.58	x	
						1.0000	=
							\$159.58

EXAMPLE D

You request a 16 gauge door frame in the Detailed Scope of Work, but the Contractor adds the modifier for a 14 gauge door frame in the Price Proposal:

08110	0230	EA	3'x6'-8"x1-3/4" 16 Gauge Metal Door (Unrated)				\$514.73
			Quantity	Unit Price	Factor	Total	
		Installation	1.00 x	\$514.73 x	1.0000 =	\$514.73	
08MOD	0230	0025	For 14 Gauge, Grade III, Extra Heavy Duty, Add				\$157.88
			Quantity	Unit Price	Factor	Total	
		Installation	1.00 x	\$157.88 x	1.0000 =	\$157.88	

Common Mistake #6: Confusing Units of Measure

It is important to carefully read the UOM (Unit of Measure) for each Task. Sometimes a Task has a UOM of CSF (hundred square feet), and it appears in the Price Proposal along with a Task with a UOM of SF. It is important to reconcile different Tasks with different UOMs when they are used together in the same Price Proposal.

EXAMPLE A

Square Yards vs. Square Feet

02112	0008	SY	Break-Up And Remove > 3" To 6" Thick Concrete, With Wire Mesh				\$2,179.00
			Quantity	Unit Price	Factor	Total	
		Installation	100.00 x	\$21.79 x	1.0000 =	\$2,179.00	
02630	0003	SF	5" (13 cm) Cast In Place Concrete Sidewalk With Wire Mesh				\$6,624.00
			Quantity	Unit Price	Factor	Total	
		Installation	900.00 x	\$7.36 x	1.0000 =	\$6,624.00	

EXAMPLE B

CLF vs. LF

16125	0028	CLF	3/4" RGS With 4 #12 THHN/THWN Wire Assembly				\$112,343.00
			Quantity	Unit Price	Factor	Total	
		Installation	100.00 x	\$1,123.43 x	1.0000 =	\$112,343.00	
16131	0005	LF	3/4" RGS Conduit With Coupling, Mounted Exposed On Flat Wall				\$7,020.00
			Quantity	Unit Price	Factor	Total	
		Installation	1,000.00 x	\$7.02 x	1.0000 =	\$7,020.00	

Common Mistake #7: Extra Demolition Tasks

The rule appearing in Using the Construction Task Catalog reads:

"If the item being demolished is attached to another item being removed and can be removed as one item, then that item shall not be priced as a separate demolition Task unless the component alone must be demolished to accomplish the Task (e.g. demolition of pipe includes pipe fittings unless the fitting must be demolished separately to accomplish the Task; demolition of a wood door includes hinges, hardware, closures, kick plates, etc.)"

Sometimes the Contractor will include extraneous demolition Tasks that should be deleted.

EXAMPLE A

02620	0009	LF	6" X 24" Cast In Place Concrete Curb				\$1,018.00
			Quantity	Unit Price	Factor	Total	
		Installation	0.00 x	\$25.30 x	1.0000 =	\$0.00	
		Demolition	100.00 x	\$10.18 x	1.0000 =	\$1,018.00	
02620	0074	LF	12" Steel Sidewalk/Curb Facing, With Steel Anchor, 12" On Center				\$882.00
			Quantity	Unit Price	Factor	Total	
		Installation	0.00 x	\$36.80 x	1.0000 =	\$0.00	
		Demolition	100.00 x	\$8.82 x	1.0000 =	\$882.00	

The steel facing will be removed along with the concrete curb.

EXAMPLE B

10501	0013	EA	15" x 18" x 72" Single Tier Institutional Or Corridor Locker				\$3,199.00
			Quantity	Unit Price	Factor		Total
		Installation	0.00 x	\$221.39 x	1.0000 =		\$0.00
		Demolition	100.00 x	\$31.99 x	1.0000 =		\$3,199.00
10503	0100	EA	Built In Combination Lock				\$400.00
			Quantity	Unit Price	Factor		Total
		Installation	0.00 x	\$28.79 x	1.0000 =		\$0.00
		Demolition	100.00 x	\$4.00 x	1.0000 =		\$400.00

The combination locks will be removed along with the lockers.

EXAMPLE C

15451	0059	EA	19"x17" Vitreous China Wall Hung Lavatory (American Standard 0321.026)				\$123.94
			Quantity	Unit Price	Factor		Total
		Installation	0.00 x	\$390.88 x	1.0000 =		\$0.00
		Demolition	2.00 x	\$61.97 x	1.0000 =		\$123.94
15451	0241	EA	Easy-Push Metering 4" Centerset Faucet (Speakman S-4141-LD)				\$80.28
			Quantity	Unit Price	Factor		Total
		Installation	0.00 x	\$287.46 x	1.0000 =		\$0.00
		Demolition	2.00 x	\$40.14 x	1.0000 =		\$80.28

The faucets will be removed along with the lavatories.

Common Mistake #8: Not Using Quantity Discount Modifiers

Not applying quantity discounts is one of the most common mistakes by Contractors. The Unit Prices in Construction Task Catalog for most production Tasks also include significant discounts for increased quantities. The only way to achieve the competitively bid price is to require the Contractor to include the quantity discounts.

Quantity discounts are calculated on a per project basis. All quantities for a particular project count towards the quantity discount—not by floor, or area or even by building.

EXAMPLE A

09250	0006	SF	5/8" Drywall, One Layer, One Face On Wood Or Metal Studs Or Furring				\$352.80
			Quantity	Unit Price	Factor		Total
		Installation	240.00 x	\$1.47 x	1.0000 =		\$352.80
09MOD	0006	0045	For Quantities > 128 To 320, Add				\$79.20
			Quantity	Unit Price	Factor		Total
		Installation	240.00 x	\$0.33 x	1.0000 =		\$79.20

EXAMPLE B

09920	0044	SF	Paint Interior Plaster/Drywall, 2 Coats Paint, Brush/Roller Work				\$11,480.00
			Quantity	Unit Price	Factor		Total
		Installation	10,250.00 x	\$1.12 x	1.0000 =		\$11,480.00
09MOD	0044	0321	For Quantities > 10000 To 20000, Deduct				-\$1,742.50
			Quantity	Unit Price	Factor		Total
		Installation	10,250.00 x	\$-0.17 x	1.0000 =		-\$1,742.50

Common Mistake #9: Using Non-Prepriced Tasks for Tasks in the CTC

Non-Priced Tasks are only to be used for Tasks that are not in the Construction Task Catalog. Sometimes, if a Unit Price is not satisfactory to the Contractor, the Contractor will try to ignore the Unit Price and create a Non-Prepriced Task for that work. All Non-Prepriced Tasks should be reviewed carefully.

5. Issue Job Order

Once you are completely satisfied with the Price Proposal, construction schedule, proposed subcontractors and have received and approved any other required documents (e.g. bonds, certificates of insurance, etc.), you issue a Job Order to the Contractor. Each Job Order sets forth three important things:

1. What the Contractor has to do – *Detailed Scope of Work*
2. When the Contractor has to perform the Detailed Scope of Work – *Job Order Completion Time*
3. What the Contractor will be paid – *Job Order Price*

The Contractor will be paid the Job Order Price for completing the Detailed Scope of Work within the Job Order Completion Time.

About Gordian

Gordian is the leading provider of Building Intelligence™ Solutions, delivering unrivaled insights, robust technology and expert services to fuel customers' success through all phases of the building lifecycle. Gordian created Job Order Contracting (JOC) and the industry-standard RSMeans™ Data. We empower organizations to optimize capital investments, improve project performance and minimize long-term operating expenses.

