The start of this chapter warrants a short story. The author of this book, early in his career, was a project manager with a small general contractor and did a fair amount of hard-bid work. The owner of the company would often come back to the estimating department and make last-minute adjustments to the bid, which generally meant arbitrarily reducing each low subcontractor’s bid by at least 5 percent. The notion was that this would give us a better chance to get the job, and since most subcontractors expected to have their price “negotiated,” we’d end up okay. Well, after a while, all the subcontractors submitting bids to our company actually increased their prices by 5 percent because word had gotten out in the local construction community of what we were doing; thus, we actually became less competitive as a result.

There are no shortcuts to intelligent purchasing or buy-outs. Buying out the job is more than negotiating a specific price for a specific amount of work. A relationship of trust and respect between both parties and the desire to work together harmoniously, efficiently, and ethically will ultimately yield the best price from a subcontractor. Whether the project manager or a central purchasing agent has the responsibility to issue purchase orders or award subcontract agreements, it is a process that requires a great deal of work to achieve the most cost-effective end product: the buy-out.

**Awarding Subcontracts**

The process of negotiating subcontracts is more complicated than merely selecting the apparent low bidder and writing a contract—the apparent low bidder may not be the most competitive, if and when a proper analysis is made of all the bids received.
Purchasing or “buy-out” responsibility varies from company to company. According to a recent survey conducted by the Construction Finance Management Association (CFMA), more than 70 percent of all respondent companies indicated that their project managers negotiated subcontracts and purchase orders. This allows the project manager to understand the intricacies of the project early because they must research the plans and specifications, and vendors and subcontractors will often alert them to any plan and/or specification design inadequacies, inconsistencies, or omissions. Specialty contractors and material and equipment vendors can be invaluable in the early stages of a project if they point out inadequacies in those plans and any specs that need coordinating before finalizing the deal.

The project manager must be thoroughly familiar with all aspects of the project requirements in order to produce the most cost-effective subcontract or purchase order. If it is company policy that the Purchasing department rather than the project manager “buys out” the job, they should consult with project management to review the scope, terms, and conditions of the work before any awards are made, and take advantage of the project manager’s experience.

A key point that should always be remembered: Don’t assume that the plans and specifications are perfect. Merely purchasing a subcontract based upon “plans and specs” will, most likely, not represent all that’s required. During the buy-out process, a full scope of work should be developed and included in the contract, which could mean that additional “related” or missing work items are required for a complete job.

The subcontract interview form

Construction projects are becoming more complex, something which is reflected in both the specifications and today’s more detailed drawings. Although the specifications often contain lots of “boiler plate,” as each subcontract scope is defined, it is important to read every page of its “related” specification section. It is not unheard of that a specification from a previous project will be cut and pasted in its entirety into a newer one, even though it may not apply to the new project.

For instance, how about a specification on a K–12 school project that requires the wall-mounted TV brackets “to be adjusted by the patient.” Obviously, this section was lifted from a hospital spec. Interlacing provisions must be sought out; all too often, one specification section will include a clause stating “See other sections for Related Work.” This related section(s) should therefore be investigated.

To extract all of the important requirements from the plans and specifications and be able to recall them during subcontract negotiations is difficult for many people, but there’s a rather easy way to review and
note important scope issues before such meetings. Figure 8.1 is a subcontractor interview form prepared in advance of a meeting with the subcontractor. By checking off the key issues for review, a thorough examination of the plans and specifications can be made before discussing the points at the meeting. Customized checklist templates such as this can be prepared beforehand for all trades.

![SUBCONTRACTOR NEGOTIATION FORM](image)

**Figure 8.1** A sample subcontractor interview form. (with permission from McGraw-Hill, New York)
The form in Figure 8.1 pertains to the miscellaneous steel trade, one that encompasses work on many different drawings from sitework to the MEP trades. A checklist like this is helpful in ensuring that all items required of the particular subcontractor are discussed during the interview process, including the scope of work to be completed and its corresponding cost. Prior to interviewing this miscellaneous steel subcontractor, a page-by-page review of each contract drawing is appropriate in order for this preprinted detail sheet to be completed.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION AND/OR COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Subcontractor has accepted GC's safety program and all OSHA safety regulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Subcontractor to provide all temporary power unless general contractor agrees to provide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. If lay-down area is required, provide drawing for general contractor's approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Specified manufacturers or &quot;Or Equal&quot; only (burden of proof on Subcontractor)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Insurance certificates to be furnished to meet limits as set forth in the contract specifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Subcontractor has received, read, and accepts terms/conditions of subcontractor agreement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. A payment and performance bond will be forthcoming, if requested</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. For additional work _____% overhead and _____% profit will apply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Subcontractor has received all specs, including A,M,E,P and includes all related work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Subcontractor has received GC's base line schedule and accepts portion for their trade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. All items requiring factory finish to be in strict accordance with specification requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Submit shop drawing schedule and delivery of each item upon receipt of approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Acknowledge attached detail list(s) to be appended to this form</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 8.1 (Continued.)**
Miscellaneous Metal - Detail Lists

Steel Stairs
- Steel-framed stairs including metal framing, hangers, columns, struts, clips, brackets, bearing plates, treads, risers, platforms
- Temporary supports
- Metal pan units as specified or shown
- Metal safety nosing as specified or shown
- Steel floor plate treads as specified or shown
- Diamond plate as specified or shown
- Grating construction
- Railings of size - amount, gauge, and material
- Kick plates
- Fabrication as specified or shown
- Open riser stairs

Handrails and Railings
- Material of type, grades, finishes, weights, construction, tolerances as specified
- Steel pipe
- Galvanized pipe
- Gray iron castings
- Malleable iron castings
- Stainless steel pipe
- Aluminum pipe
- Other types of railings
  a. __________________
  b. __________________
  c. __________________

Expansion Joints
- Materials of type, grade, finish, weight, construction, and tolerances as required
- Floor expansion joints - angles with anchors
- Floor expansion joint covers
- Wall expansion joint covers
- Ceiling expansion joint covers
- All accessories of equivalent construction or grade as specified for a complete installation

Wall, Floor, and/or Ceiling Supports and Reinforcements for:
- Handrails
- Grab bars
- Toilet accessories
- Toilet partitions
- Television sets - wall or ceiling mounted
- Miscellaneous hospital equipment
- Wall-mounted equipment

FIGURE 8.1 (Continued.)
Buying Out the Job

154 Chapter Eight

Exhaust hoods
Roof openings
Knee wall partitions
Countertops- toilet
Countertops- kitchens
Wall shelving

Miscellaneous Supports for Precast Concrete, Cast Stone, Limestone, Granite, etc.

Bolts
Clip angles
Struts
Bracing
Relieving angles
Inserts
Wedges
Tie backs
Support framing

Miscellaneous Supports for Curtain Wall, Storefront, Window Wall, etc.

Bolts
Clip angles
Struts
Bracing
Head supports
Jamb supports
Sill supports
Inserts, wedges

Exterior Miscellaneous Metal Requirements

Manhole, catch basin, trench drain, drain inlet frames
Exterior ladder rungs for manholes, catch basins, drain inlets
Exterior access hatches, frames, and rungs for mechanical, electrical, and other trades
Bench supports
Wall rail supports
Abrasive nosing for concrete stairs
Abrasive nosings for door sills
Metal saddles
Metal thresholds
Roof hatches
Roof scuttles
Catwalks – framing, stairs, railings, gratings
Dock bumpers

FIGURE 8.1 (Continued.)
Other such forms are equally valuable. Figure 8.2 shows one used for painting, another trade that may include work in “related” spec sections from carpentry to masonry to mechanical, electrical, and plumbing trades where the color-coding of piping and conduits is required.

![Form used for painting.](image)

**FIGURE 8.2** Form used for painting. (With permission from McGraw-Hill, New York.)
Figure 8.3 is another form for subcontractor bid analysis, this one based upon the renovation of a roof. This portion of the review focuses upon compliance with the general requirements of the project and requires the subcontractor to respond with “Y” for yes or “N” for no regarding acceptance of the items discussed.

Once each interview is finished, the subcontractor should review the completed form and, if they agree with all of the statements and the scope of work included in their bid, sign the form as to acknowledge their agreement. This prevents a subcontractor from later stating they misunderstood the points during the interview and that they did not

<table>
<thead>
<tr>
<th>ITEM</th>
<th>YES</th>
<th>NO</th>
<th>EXPLANATION AND/OR COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Materials and colors as specified. What manufacturer will be used? Provide samples and mock-ups as required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Number of coats specified for each substrate. List.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Preparation of surfaces to include putty and spackle as required to make them acceptable to the architect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Finishes on wood and metal surfaces to be sanded between coats to assure smoothness and adhesion of prior coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Mill thickness on all coats to be as specified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. All work in strict accordance with manufacturer’s instructions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Special coatings - glazed wall coating, fire resistant, epoxy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Wall coverings - manufacturer, thickness, weight, roll width, per specifications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Application: Roll, brush, spray, identify for each substrate type.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Protection as required for floors, walls, ceilings, diffusers, convectors, installed equipment. All masking of surfaces as required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Clean up, remove masking, deposit daily in dumpster in location provided by GC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Subcontractor has received complete set of drawings and specifications including general and special conditions and assumes responsibility for all requirements pertaining to their</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Subcontractor to repair all defective and rejected work as directed by the Architect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Additional work percentage: ___% overhead ___% profit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Subcontractor has received, read, and accepts general contractor’s safety program.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIGURE 8.2 (Continued.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
include or exclude specific items. If the subcontractor is unprepared to discuss some of these items at the initial interview, the project manager may ask the subcontractor to review their bid and the scope of work back at their office and later return for a final interview. When all bids for a particular trade have been received and analyzed, another form (called a bid summary sheet) is useful in comparing one subcontractor’s quote with another to ensure the sameness of scope or to highlight differences in scope and corresponding cost.

Many GMP contracts require the general contractor or construction manager to tabulate bids, make a recommendation, and then forward it to the owner for review and approval. Look for the following owner modification to the Standard AIAA201 contract provision relating to subcontract awards that may take this form:

The Contractor shall obtain bids for at least three prospective subcontractors whom the Contractor determines, subject to the Owner’s approval, to be qualified to perform the work in question. Contractor shall determine which bids will be accepted, subject to Owner’s approval. Owner will

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FIGURE 8.3  Form for subcontractor bid analysis.
promptly notify Contractor if Owner has a reasonable objection to any subcontractor proposed by the Contractor.

The Bid Summary Sheet

A bid summary sheet containing the project name, the scope of work represented, the bid price, and budget estimate for the item is a document that can be transmitted to the owner.

Figure 8.4 is an example of a simple form for drywall work, including batt insulation to be installed within the partitions. Whether this insulation has been included in the drywall section or not, the general contractor has requested all drywall subcontractors include this in their bid, for obvious reasons; it is preferable to have the drywall subcontractor assume

<table>
<thead>
<tr>
<th>BID SUMMARY SHEET</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>JOB:</td>
<td>GRISWOLD MANUFACTURING</td>
</tr>
<tr>
<td>TRADE:</td>
<td>DRYWALL – BAT INSULATION</td>
</tr>
<tr>
<td>BUDGET:</td>
<td>$140,000</td>
</tr>
<tr>
<td></td>
<td><strong>BIDDER</strong></td>
</tr>
<tr>
<td></td>
<td>BEST DRYWALL</td>
</tr>
<tr>
<td></td>
<td>CGM ACOUSTICS</td>
</tr>
<tr>
<td></td>
<td>GYPSUM ASSOCIATE</td>
</tr>
<tr>
<td></td>
<td>L &amp; M DRYWALL</td>
</tr>
<tr>
<td></td>
<td>R &amp; S INSULATION</td>
</tr>
<tr>
<td></td>
<td>ACME INSULATORS</td>
</tr>
</tbody>
</table>

**FIGURE 8.4** A bid summary sheet.
Responsibility for any insulation to be installed within their partition work no matter the specification section in which this insulation appears.

By using the form and having to review “included” or “excluded” items, the project manager will have yet another check on the completeness of each subcontractor’s bid. When variables do exist, if no spreadsheet tabulation is done, comparison analysis will be difficult.

Figure 8.5 is another form of bid analysis. This one shows the progression of bids for selective demolition based upon preliminary drawings submitted to subcontractors for “pricing,” all the way up to the final quotes after updated drawings were issued.

Some contractors use this bid analysis to rate the subcontractors, a process that may prove helpful if the bidding has been opened to all subcontractors and not a select list.

**Unit Prices**

Some project managers consider it helpful to solicit unit prices for various items of work during their subcontractor interviews, whether or not the contract with the owner requires such unit prices. This is a good idea and may prove helpful in dealing with change orders during the construction process. When owner-directed change orders are requested and appropriate unit prices have been obtained from the subcontractor, the cost of the proposed change can be assembled rather quickly, using these unit prices, thereby speeding up the change-order approval process. Since the cost of each unit of work will decrease as quantities are increased, it is standard procedure to request units prices from subcontractors on a sliding scale—as quantities increase, the unit cost decreases.

The hauling offsite of, say, 4 cubic yards of clean fill will be much more costly than a full truckload of 8 or 10 cyds or more, so the unit prices for haul-off and disposal could start with a less-than-full truckload quantity and continue with increased numbers of full truckloads. And as the quantities increase to a certain point, the price per cubic yard should decline.

The same is true for many other items of work. An electrician, asked to price the installation of one 20-amp receptacle will charge considerably more than if requested to install ten such devices. Again, a sliding scale of unit prices will be fair to subcontractor, general contractor, and owner.

**Other items to consider during the solicitation of prices**

It is the rare project that doesn’t generate a change order or two, and costs are always scrutinized by diligent owners. When change-order work is to proceed on a time-and-material basis, one item that always shocks an owner is current labor rates—particularly when dealing with union labor where the basic wage rate is often augmented by fringe.
**DEMOLITION SUBCONTRACTOR BID RESPONSE SUMMARY**

**PROJECT NAME:**

**ESTIMATOR:**

**SPEC SECTIONS: 01739 SELECTIVE DEMOLITION**

See May 14, 2005 Invitation to Bid and Scope of Work documents faxed to Demolition Subcontractors

<table>
<thead>
<tr>
<th>Subcontractor</th>
<th>Invited to Bid</th>
<th>Will Bid, Requested Drawings</th>
<th>Attended Mandatory Walk thru</th>
<th>Comments:</th>
<th>Received Bid</th>
<th>Bid Date</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST PRICING ROUND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>14-May-05</td>
<td>yes</td>
<td>no</td>
<td>sent drawings for pricing</td>
<td>$439,000</td>
<td>6/9/2005</td>
<td>withdrew from bidding on 6-13-05 due to project being outside his market niche</td>
</tr>
<tr>
<td>2</td>
<td>14-May-05</td>
<td>yes</td>
<td>yes</td>
<td>sent drawings for pricing</td>
<td>no bid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14-May-05</td>
<td>yes</td>
<td>yes</td>
<td>sent drawings for pricing</td>
<td>no bid</td>
<td></td>
<td>interested in bidding but is holding back quote until we &quot;talk&quot;</td>
</tr>
<tr>
<td>4</td>
<td>14-May-05</td>
<td>yes</td>
<td>yes</td>
<td>sent drawings for pricing</td>
<td>$1,050,000</td>
<td>6/23/2005</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14-May-05</td>
<td>maybe</td>
<td>yes</td>
<td>sent drawings for pricing</td>
<td>$2,100,000</td>
<td>6/23/2005</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>14-May-05</td>
<td>maybe</td>
<td>yes</td>
<td>sent drawings for pricing</td>
<td>$1,795,000</td>
<td>6/15/2005</td>
<td></td>
</tr>
<tr>
<td>SECOND PRICING ROUND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$995,000</td>
<td>6/8/2005</td>
<td>CLAIMED ERROR ON FIRST BID</td>
</tr>
<tr>
<td>THIRD PRICING ROUND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,350,000</td>
<td>6/10/2005</td>
<td>CLAIMED ERROR ON SECOND BID</td>
</tr>
<tr>
<td>FINAL PRICING ROUND - architectural demo only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>yes - 9/15/05</td>
<td>sc/e scope dated 9-19-05</td>
<td>$917,000</td>
<td>9/21/2005</td>
<td>In accordance with final WIB scope of work and site walk thru</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>yes - 9/15/05</td>
<td>sc/e scope dated 9-19-05</td>
<td>no bid</td>
<td></td>
<td>project too complicated and too &quot;last&quot; to man properly</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>yes - 9/15/05</td>
<td>sc/e scope dated 9-19-05</td>
<td>$1,187,000</td>
<td>9/21/2005</td>
<td>In accordance with final WIB scope of work and site walk thru</td>
</tr>
<tr>
<td>FINAL PRICING ROUND - steel demolition only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$216,000</td>
<td>9/21/2005</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$43,000</td>
<td>9/21/2005</td>
<td>unrealistic value</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$156,000</td>
<td>9/19/2005</td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 8.5** Another form of bid analysis.
benefits (burden) that drives a $40/hour rate to $80 or more. By requesting labor-rate breakdowns from each subcontractor and upon selection, including that labor rate in their subcontract agreement, an owner reviewing subcontractor bids will at least be made aware of the cost of labor if and when any time and material transpires. Figure 8.6 is a

---

**OPERATOR/OILER PREMIUM RATE**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Labor</th>
<th>Total</th>
<th>Wage/Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitter In-Charge</td>
<td>$212</td>
<td>$237</td>
<td></td>
</tr>
<tr>
<td>Fitter Euramer</td>
<td>$212</td>
<td>$237</td>
<td></td>
</tr>
<tr>
<td>Foreman</td>
<td>$212</td>
<td>$237</td>
<td></td>
</tr>
<tr>
<td>Fitter Euramer</td>
<td>$212</td>
<td>$237</td>
<td></td>
</tr>
</tbody>
</table>

---

**FIGURE 8.6** Typical wage rate breakdown (for a union operator/oiler).
typical wage rate breakdown, this one for a union operator/oiler. The sheet also contains equipment rental costs and material costs.

But before accepting these labor rates, they should be reviewed and analyzed. Figure 8.7 is a labor rate breakdown for an HVAC/sheet metal mechanic. It looks pretty straightforward, but wait a second, look at the breakdown for premium time and double time. This subcontractor included $2.92/hour for travel time for each hour worked during a normal 8-hour day. But would working an additional 2 hours at premium rates also merit that same $2.92/hour travel add-on? The mechanic has already been paid for travel to and from, and no further travel pay is

![Table](https://example.com/table.png)

FIGURE 8.7 A labor rate breakdown for an HVAC/sheet metal mechanic.
warranted. It is better to catch and correct any irregularities in wage add-ons before sending them off to the owner.

**Combining Work to Best Advantage**

There may be some merit, other than a monetary one, in combining items of work in a particular subcontract agreement, such as having the mason apply the water-repellent coating to the exterior brick or blockwork, a work task possibly defined in a Division 7–Moisture Protection of the specifications rather than Division 4–Masonry. All too often, one subcontractor will blame another for the failure of a system. By combining masonry and water repellents, the responsibility for water penetration application through the masonry wall squarely falls in the hands of one subcontractor.

Other tasks can be combined to advantage, and the drywall subcontractor presents a very visible one—installation of hollow metal door frames set into stud partition walls and the mason contractor installing frames in their CMU walls.

Having the drywall subcontractor install hollow metal frames in their drywall partitions, and having the mason contractor install hollow metal door or window frames in masonry walls combines two operations that, if awarded separately, can lead to arguments and unwanted problems. A door or window installer, starting their work, may claim that the frames, whether for doors or windows, have been installed out of plumb or out of square and are not level, thus requiring additional work at additional cost. This scenario is always followed by an argument over who performed the substandard work. A combined award to the mason and/or drywall subcontractor will avoid another potential problem.

Consider having the drywall subcontractor install all blocking required in their partitions for subsequent trades such as wall-mounted cabinet installers and toilet accessory installation crews. It may be possible to include this blocking in the drywall subcontractor’s scope of work at little additional cost by convincing that subcontractor that they can now maintain full control over both blocking, framing, and drywall, thereby making their overall operations more efficient and productive.

Even if the combination of separate bids for work such as those just described are slightly higher than the individual prices from other subcontractors, think twice before making an award, and consider the advantages of having fewer subcontractors responsible for more operations involving related tasks.

**Subcontract or Do It Ourselves?**

Depending upon the capabilities and availability of the general contractor’s work forces, the project manager may consider their options:
What work will be performed by the company's own forces or be subcontracted? For those general contractors who regularly self-perform certain types of work, any number of factors can come into play in this decision-making process:

- Does the amount of workload currently being performed by the general contractor's own forces, and supervisors (remember someone has to supervise the work!), permit committing those forces to the new project? Note the word supervisor was accented and noted. Even if skilled workers are available, unless a trained supervisor or foreman is available to oversee the work, you should consider subcontracting it.

- Is the new project such a distance from the home base of operations that travel time, with all its added costs, makes local subcontracting a more reliable and more cost-effective way of doing business?

- Is it possible to incorporate work normally performed with the company's own forces into a subcontract that combines other work so as to offer a “package” to the subcontractor and thus receive a more competitive price for both operations? For example, if the company purchases the finish hardware and generally uses their own carpenters to install it, consider incorporating hardware installation with the drywall subcontractor's tasks since they also employ carpenters and may welcome the opportunity to expand their scope of work.

- If the work is of such a nature that it presents the potential for future problems and/or liability, will it be less expensive in the long run to award the work to a more experienced company to which accountability can be transferred?

All of these considerations have to be weighed before subcontract negotiations commence.

The “we can do it cheaper” syndrome

Sometimes a project manager will say, “All of the bids exceed our budget; let's do this job with our own forces.” This can be an ill-advised approach unless all of the facts are reviewed and discussed.

In normal market conditions, subcontractors will generally add 15- to 20-percent overhead and profit to their costs, and if this is the difference between the company's estimate and the low subcontractor bid, the decision to self-perform the work may be somewhat easier to make. But bear in mind that unless the company's own workforces perform these operations on a regular basis, the subcontractor's forces, who do this work every day, may be more efficient and even their “bare cost” price may be difficult to match.
Even after discounting the subcontractor’s price by an amount assumed to represent overhead and profit, the project manager should carefully scrutinize their own estimate. If expensive rough hardware is required for the job (some expansion bolts cost $5 to $7 each) were these costs included in the estimate? Are manlifts, scaffolding, and ladders required, and if so are these costs included in the estimate? What about material waste factors—a reasonable amount of waste and its related cost must be factored into the cost. Ask the question, “Can our workers, who perform this kind of work intermittently, achieve the unit costs included in the estimate? And do we have current documentation of actual unit costs from our own forces performing this operation?”

The answers to these questions, and possibly more, should be considered carefully before embarking on the path to self-perform work when faced with the potential of higher subcontracted prices.

**Key Questions to Ask Subcontractors during Negotiations**

In addition to the need to ensure that subcontractors have incorporated the proper scope of work in their bid, along with any exclusions, it is important that other criteria be acknowledged or clarified. If the subcontractor interview form is used and has been prepared carefully and thoughtfully, these questions will have been answered during the interview. If not, you should run through them again, as outlined in the following:

- Have the latest contract drawings been reviewed, and do the subcontractors accept all revision dates as being part of their bid? (Note: Prepare an exhibit listing the “contract” plans and specifications, with revision dates and all issued addenda. This list should be presented to the subcontractor to ensure that they have reviewed the appropriate documents. This list will be appended to their subcontract agreement.)

- If the project is exempt from state sales tax, does the bid reflect this exemption, and conversely, if the project is not tax exempt are the appropriate taxes included in the bid? This seems like a rather simple question, but you may be surprised by the number of subcontractors that have included or excluded sales tax inappropriately.

- Are the subcontractors aware of the project schedule? It is important that they be apprised of the construction schedule—both overall start and completion so they can anticipate when their work will commence and when completion is anticipated in order to incorporate potential wage, material, and equipment price increases. They should be given a copy of the baseline schedule to review and comment on, or accept. Remember, by doing so you are committing to the time slot and duration...
that this schedule represents and if deviations occur as work progresses, document the reasons for these deviations and attempt to get the subcontractor’s acceptance—at no added cost.

- Are any exceptions being taken to the scope of work as shown on the contract drawings or the specifications? A subcontractor may have based their price on their ability to substitute what they consider an “equal” product, only to discover as the project progresses that their “equal” product has been rejected by the architect/engineer. It must be established during the negotiation stage that the subcontractor is bound to furnish only those products specifically called for and if “equals” are submitted and rejected, the subcontractor will be obliged to furnish the specified product at no additional cost. The project manager must take the initiative in this matter. Some subcontractors will not divulge their intent until their product submission has been rejected, at which point they will state “Well, our price was based upon getting this substitute product approved. The architect approved it on another project we worked on.” This happens all the time, so ask the question! Remember few things are “equal.” A better term is probably “similar to.”

**Pitfalls to Avoid in Mechanical and Electrical Contract Negotiations**

A project manager must be completely familiar with all aspects of the contract documents in order to make the most intelligent, informed decisions on contract awards. In the case of the mechanical and electrical trades, a number of items should be addressed beyond the basic work contained in their respective specification sections.

An architect may have selected one electrical engineering firm and another mechanical engineering firm to develop their respective drawings and specifications. Thus, there may be gaps or overlaps between those prepared by the engineers for Division 15 (Mechanical) and Division 16 (Electrical) and the General and Special Conditions sections (Division 0 and Division 1) prepared by the architect. The project manager should review these four specification sections to insure there are no gaps, overlaps, or omissions in the work prepared by three different design consultants. Some things to watch out for:

- Will the electrical contractor be required to provide temporary utilities for all trades during construction?
- Will the electrical contractor be required to provide temporary power to the general contractor’s field office?
- Will the electrical contractor be required to obtain and pay for all permits required for both temporary and permanent power?
Who will furnish starters for all mechanical equipment? Is this in the mechanical specification section or the electrical section?

Does each trade perform its own trenching and backfill operations, or should the general contractor provide these services?

Does each trade perform its own cutting or patching, or is this provided by the general contractor? What about fire-safeing all required penetrations—who is responsible?

If concrete work is required—the encasement of underground conduits or housekeeping pads—who will provide this?

Is clean-up and trash removal clearly assigned to these trades?

With respect to these and other similar questions, the project manager may have to read the fine print and boilerplate in several specification sections to unearth the answers.

Who Is the Contractor?

Even more confusing in some specifications is the term “contractor.” In some spec books, there is a separate “Definitions” section defining whether the term “contractor” refers to the general contractor, or the subcontractor when used in a specific section.

For example, does the phrase “contractor shall perform all cutting and patching” included in Division 16—Electrical refer to the electrical contractor or the general contractor?

The answer to this simple question might not be so clear, and if in doubt, you should request interpretation from the architect prior to completing negotiations with the respective subcontractor. Each party, during negotiations, will obviously assume that the definition applies to the other party, and if that be the case, clarification upfront will save a great deal of controversy as the project gets under way.

Issues To Be Addressed

Temporary light and temporary power

The question of furnishing temporary light and power is one of those items that sometimes gets “lost” in the specifications—the electrical engineer assumes that the architect will include this in Division 0 or Division 1, while the architect assumes the electrical engineer will include it in Division 16—Electrical. This needs to be clarified, and even though there may not be any question about the electrical subcontractor furnishing temporary lights or power during construction, some questions may remain unanswered.
If the specifications do not stipulate the intensity of the temporary lighting, such as the number of 100-watt lamps to be installed per 100 ft$^2$ of floor area, for example, that is another issue to be resolved during negotiations with the subcontractor.

In the absence of any specific commitment to provide a level of lighting intensity, the project manager should direct the electrical subcontractor to provide, and maintain, sufficient levels of lighting as required for proper working conditions for all trades. This phrase should be included in the subcontract agreement.

**Installation of underground utilities**

When the project requires the installation of new utilities such as electrical primary and secondary service, incoming water mains, gas lines and so forth, related costs may require some clarification to determine who is responsible for:

- Trenching and backfilling
- Bedding materials for underground pipes and conduits
- Cutting and patching
- Tap-in and tie-in costs, including any required permits
- Temporary and permanent patches in existing paved roadways, including permits and bonds
- Utility company charges and fees
- Concrete encasement of underground utilities
- Concrete pads for related equipment—for instance, meters and transformers

**Designing to local utility standards**

Another problem can occur when an out-of-state architect or engineer is preparing mechanical and/or electrical plans and specifications. These designers may not be familiar with all utility company regulations in the state for which the design is being prepared, and their specifications may not conform to that utility company’s requirements. The specifications also may not reflect local trade practices. For instance, in one state the plumbing subcontractor may have, by custom, assumed responsibility for trenching and backfilling for their underground installations, but in an adjacent state this work is customarily performed by the general contractor.

Specifications prepared by an out-of-state architect/engineer team should be carefully reviewed by the project manager with these concerns in mind. The following story clearly illustrates how such problems can arise.
The author of this book was hired by a general contracting firm as a consultant to resolve a dispute with their fire protection subcontractor. The dispute involved the subcontractor’s obligation under the “performance specification” section of the fire-protection specifications. The project was being built in the Commonwealth of Virginia, while the design engineer was based in Maryland. The subcontractor requested additional money to add some system components to comply with Virginia’s regulations, but the general contractor refused, stating that the specification was a performance spec. However, a careful reading of that specification section showed that the subcontractor was to comply with all rules, regulations, and local and state codes of the State of Maryland. Needless to say, this put the general contractor on the defensive as we worked through the process of resolving this matter.

Warranties and Guarantees

Another subject requiring investigation during subcontractor negotiations with both electrical and mechanical subcontractors is that of warranties and guarantees. One-year warranties/guarantees are standard in the industry for most products, but when do these warranties commence?

If the general contractor is given permission to use the permanent HVAC equipment during the finishing stages of the project, rather than furnish temporary heat or cooling by use of portable equipment, the one-year warranties and guarantees will probably begin when this permanent equipment is operational and functioning. And depending upon the length of time required to complete the structure and turn it over to the owner, the one-year warranty/guarantee period, which started when the equipment was accepted and made operational may have expired. In order to satisfy the owner, the general contractor will be obliged to purchase an extended policy, at a substantial cost.

If the projected period of use for the building’s permanent HVAC system had been determined with some degree of certainty at the beginning of the job, then the project manager could have attempted to include an extended warranty in the negotiations with the subcontractor. The subcontractor, in turn, while negotiating with their equipment suppliers, could then possibly obtain the extended warranties at no cost, or at the least, at some small incremental additional cost.

Job Cleaning and the Contract

A clean project is a safe project, and a clean project is more likely to have higher-quality levels than a trash strewn job. But maintaining a clean job can be an expensive proposition, and enforcing cleaning operations can be a frustrating one.
This rather simple idea often causes rather strong disagreements between general contractors and subcontractors, leading to backcharges, claims, and counterclaims. But it doesn’t have to be that way. The specifications should include provisions for cleaning, and responsibilities should be assigned to each trade to clean the debris they generate. If the contract specifications do not assign cleaning operations to a specific subcontractor, the general contractor’s subcontract agreement will most certainly do so. Enforcing this provision at times may be a problem, however.

Various options are available to the general contractor to clean the building and site. Some contracts stipulate that the general contractor must provide a large central trash container or several small containers located around the building or site, and each subcontractor is to deposit their debris in them. Other subcontract agreements place the responsibility on the subcontractor to provide debris containers for their own trash. A common provision in most subcontract agreements is that cleaning will be performed on a daily basis. But none of these procedures work smoothly without a strong, continuous campaign waged by the project superintendent.

Arguments from subcontractors range from “We didn’t generate that trash; it belongs to the electrician (or carpenter, or drywall sub)” to “Don’t worry, we plan to have a crew out here on Wednesday (or Tuesday, or Friday) to clean out the entire area.” Some cleaning must be performed daily—such as with gypsum drywall debris—while other cleaning can wait a day or two.

The project manager should address cleaning responsibilities and assignments at the first project meeting and at all subsequent project meetings. The job minutes should include the nature of the discussion, for instance: “I call your attention to the provision for daily cleaning, and this provision will be enforced (date of first project meeting). The drywall subcontractor has been advised to clean up their debris within the next 48 hours (or whatever the time frame stipulated in the subcontract agreement), or the general contractor will provide the cleaning and backcharge their account.” This creates a paper trail so that back charges can be enforced.

Subcontractor arguments about cleaning and back charges have two aspects:

- The subcontractor was not notified that they would be backcharged if their cleaning was not completed by a specific date.
- The subcontractor denies responsibility for generating all, or some, of the debris the general contractor claims.

Objection No.1 can be overcome by a timely notice—in writing. Objection No.2 is more difficult to deal with—how to identify debris
generated by a specific subcontractor. Methods frequently used to resolve this issue are photographs taken periodically of the piles of debris to help identify its source, walkthroughs with the subcontractor’s foreman to point out the debris they have generated, or an apportionment to each subcontractor of the general contractor’s total cleaning costs.

Whichever one is employed, promptness of notification and action is important. The building and site should be inspected daily as part of the superintendent’s walkthrough, and the debris-generating culprits thus identified and notified. If the offenders fail to clean, the general contractor should do so promptly and issue a backcharge to show their instructions about the cleaning provision will be enforced. When principals of the subcontracting firms receive substantial backcharges for cleaning, they will most certainly get involved in resolving these matters.

Communicating the Terms and Conditions of the Subcontract Agreement

After subcontract awards have been made, the language and terms and conditions of the agreement must be made clear to all persons not present during that final negotiation session. For example, the project superintendent should be able to determine, with clarity, the exact scope of work included in, or excluded from, the subcontract agreement. The primary definition of contract scope and obligations will be the plans and specifications, but if an agreement that has been reached with the subcontractor deviates from those plans and specifications, or expands the scope of work, any such deviation, addition, or vagueness should be clarified in the written agreement.

Too often, a subcontractor’s foreman will advise the project superintendent, “Oh, I know the specifications call for us to install the blocking, but my boss took exception to that and we excluded it from our work” or “Your boss and my boss agreed that it was okay to eliminate that.”

Changes made to the work must be specific and include all such inclusions, exclusions, modifications, and changes, possibly in a separate contract exhibit. Some project managers think they can “slip” something by the subcontractor if, in fact, it was not included in the negotiations and subcontract agreement. But it usually doesn’t work out that way and the disagreement always surfaces at the wrong time—when measures are urgently needed.

Importance of lien waiver requirements in the subcontract agreement

Whether stipulated in the contract with the owner or not, subcontractors should be required to submit lien waivers with each request for
payment. The subcontractor’s lien waiver stipulates and warrants that all proceeds from the previous payment have been used to pay for all labor, materials, and equipment installed in the project during that period. Lien waivers are not required with the submission of the subcontractor’s first application for payment since no prior payment was received for their disbursement. However, lien waivers for all subsequent payments should be a contract requirement, including a final waiver containing a statement that all outstanding claims have been either resolved by the subcontractor or withdrawn when final payment is received.

This lien waiver requirement must be rigidly enforced—that is, no lien waiver, no payment.

The second- and third-tier subcontractor lien waiver problem. Most subcontract agreements contain a provision requiring the subcontractor to advise the general contractor of any second- or third-tier subcontractors they plan to employ on the project. Often, subcontractors ignore this provision and fail to notify the general contractor, which may create a problem.

Typically, mechanical subcontractors will employ lower-tier subcontractors—possibly sheet metal duct fabricators, pipe and equipment insulators, control wiring contractors, and air and water balancing contractors. Other subcontractors may also “sub” out a portion of their work to another contractor. The project manager must be alert to, and advised of, these lower-tier subcontractors since they will also be required to submit lien waivers. There is a danger that the prime subcontractor, once paid, may fail to pay their lower-tier sub, and if so, that second- or third-tier subs may lien the job.

In such a case, a demand by this lower-tier subcontractor may have to be honored by the general contractor who having already paid the prime subcontractor for this work, in effect will be paying twice for the same goods and services. A subcontractor filing a fraudulent lien waiver could face legal action, but that lower-tier subcontractor must be paid by either the prime sub of the general contractor.

Avoiding the problem. To lessen the possibility of such a problem, a detailed schedule of values should be requested from each subcontractor performing significant portions of work, and all potential lower-tier contractors identified. The field superintendent should also be on the alert to sort out and identify any subcontractors that come to work on the site and have them identify their company and who hired them.

The joint check. Monies received from the general contractor for a specific project are expected to be paid by them to either a subcontractor for labor, materials, and equipment incorporated into that project, or
materials and equipment purchased from vendors. But cash-flow problems are not unknown in the construction business, and funds received from one project may often be disbursed for use on another project—a process known as the “co-mingling of funds.” If a subcontractor’s financial status is perceived or known to be weak or shaky, the general contractor can suggest that joint checks be issued to their subcontractor or vendors for major or expensive pieces of equipment or materials. This will ensure that the appropriate funds are paid to that vendor. The joint check is made out to two parties—the subcontractor and their vendor/supplier—and both will have to endorse the check before cashing it: the subcontractor first, the vendor second. This provides an assurance that the funds dispersed by the general contractor reach the parties for whom these funds were intended.

If the subcontractor is amenable to this procedure, a formal joint check agreement should be prepared for their signature. If the subcontractor balks or is reluctant to sign a joint check agreement, that should send up a red flag. Why are they resisting? Some subcontractors say that the issuance of a joint check by the general contractor casts an aspersion that the subcontractor’s financial position is weak and they don’t want that stigma. If that’s the case, ask them to furnish receipted and paid invoices from their suppliers, along with their lien waivers.

**Purchase Orders**

Purchase orders are written for materials or equipment where only the material or equipment, but no labor to install, is required. Purchase orders, while not as detailed as subcontract agreements, should include certain basic elements, such as the following:

- The vendor’s name, address, telephone, fax number, e-mail address, and the contact person for product or delivery information.
- The project name, project number, purchase order number, and cost code for the product or material with instructions to include all three designations on all receiving tickets and invoices.
- The project address, field office phone, e-mail, fax number, the superintendent’s name, and their cell phone number.
- The quantity of materials and equipment ordered, a brief description of the material and/or equipment, a unit price (if applicable), and the total price. Trade or payment discounts should be included along with freight charges defined as either FOB job site or shipping point. Taxes, if applicable, should also be included. If tax exempt, the tax exemption number or a copy of the tax exemption certificate should be included/attached.
A preprinted statement on the purchase order form should designate that signed receipts for all deliveries must be attached to the vendor’s invoice and that all invoices must include the project name, project number, and the product cost code. These duplicate receiving tickets will help the accounting department verify that deliveries have actually been made since receipts from the field are often misplaced.

Another preprinted statement on the purchase order form should stipulate that the price(s) included in the purchase order are not subject to change without prior notification, in writing, and presented before the delivery of the purchased material or equipment.

There should be a line for the signature of the person issuing the purchase order; some contractors require the recipient (vendor) to sign one copy acknowledging receipt of the terms and conditions.

Any special delivery instructions should be appended to the purchase order, such as “All deliveries must be made between the hours of 7:30 A.M. and 3:30 P.M.” or “All deliveries to be made via Elm Street entrance to project.”

The job superintendent should be consulted before establishing a delivery date, and if deliveries are scheduled for several weeks or months ahead, a statement such as the following should be added: “Do not release for shipment unless authorized by Mr. Joe Purcell, Project Superintendent” (or whoever is authorized to make releases).

A copy of the purchase order should be distributed to the Accounts Payable department so it can be compared to the invoice when submitted for payment. Another copy can be filed in the project Purchase Order file or in the file pertaining to the product or material purchased.

A copy of each purchase order will be sent to the jobsite so that the superintendent is fully aware of all purchases and can either anticipate their delivery or schedule deliveries as required. Some materials such as extruded polystyrene (ESP) and batt insulation are so bulky that adequate areas must be cleared and set aside for their delivery. The superintendent must be prepared to make these arrangements before shipment.

Ordering when exact quantities are not known

When orders for some items such as framing lumber or lumber for blocking are placed, the actual quantities required are not known but only estimated. Careless storage and handling procedures or unanticipated waste factors can increase the actual quantity consumed on the job site, or, conversely, proper storage, handling, and the skillful use of materials may result in substantially smaller quantities than originally anticipated.

Approximate quantities can be used to obtain pricing, but rather than stating a specific amount of the product in the purchase order, an
approximate amount can be included within the range of the pricing discount, and a minimum-size shipment can be stipulated. For example: 1000 board feet of No.1 Hem/Fir studs—minimum shipment: 250 bft, $245.00/mbf

This gives the superintendent some latitude when releasing an order and avoids large shipments that may remain in storage for some time. A proviso may be added that if quantities released exceed those specified in the purchase order by, say, 25 percent, a lower price will be subject to negotiations. Partial releases provide the superintendent with better control over waste and theft. When smaller quantities of framing lumber or sheet rock are stored on the job site, it is easier to spot excessive waste or theft of materials. It may be slightly more expensive to have purchases delivered in a series of partial releases, but in the long run that might be more economical, considering waste and theft.

**Price protection and the purchase order**

Often, what goes up must come down, and vice versa. Commodities such as framing lumber, plywood, and drywall prices rise and fall over the short term, and are often influenced by the residential housing market, and recently by worldwide demand for certain basic building materials such as cement.

There are several ways in which purchase orders can be negotiated to obtain a full or partial measure of price protection. When purchasing transit or ready-mix concrete, it is standard to request that the supplier guarantee the price for the duration of the project. Other factors, some of which might not be so apparent, should also be considered when purchasing ready mix concrete.

Projects constructed in those parts of the country where winter means cold weather require “winter concrete.” For those in southern climates, the term *winter concrete* refers to concrete shipped from the batch plan during certain times of the year when temperatures are likely to fall below, or remain close to, freezing. The ready-mix supplier will generally begin shipping winter concrete on a pre-established date, and publish this date to all customers. At that time, the supplier will heat the sand and aggregate before it goes into the mix and will add hot water to prevent the mixture from forming ice crystals before the heat of hydration process begins. Standard procedures call for suppliers of winter concrete to automatically add an up-charge for each cubic yard shipped after the specified date; not all plants establish the same date for the start of winter concrete shipments.

By estimating how much concrete will likely be placed during the winter months, the project manager may be able to negotiate a more favorable price for winter concrete during their initial dealings with
the ready-mix suppliers. With respect to lumber and sheetrock, negotiating a firm price for extended deliveries can be a two-edged sword; if prices advance in coming months, savings will accrue, but in a falling market, the supplier will benefit. For large quantity orders, pricing arrangements with suppliers can usually be made with provisions to adjust prices in changing market conditions, or the project manager can lock in a firm price and gamble on making the correct decision; however, suppliers of basic construction materials are very aware of market trends and will price their products accordingly.

**Is price the only consideration?** After reviewing the plans and specifications, and discussing the job’s progress with the field superintendent, a shopping list of materials required (with approximate delivery dates) can be established.

Price is important, but other variables enter into the equation. For example, a better grade of framing lumber may result in less waste and discards, and therefore cost less overall than a lower grade, where waste factors may be greater.

Or less expensive material may not be readily available and using a more expensive grade will result in continued, uninterrupted operations. No need to be reminded of the high cost of labor and what a crew’s downtime costs. So look beyond price to evaluate other options that may ultimately be more cost-effective.

**The Domino Theory in purchasing.** The purchase of one item may force the expeditious purchase of another item. If architectural or custom-grade wood veneer doors must be bought, and the intention is to have these doors “prepped” (prefitted and premachined to accept hardware installation in the field), obviously other items must be purchased concurrently. Doors to be installed in hollow metal or aluminum door frames require frames to be purchased along with finish hardware for coordination with the frame manufacturer and the door supplier.

So one delivery—wood doors—will depend upon receipt of approved shop drawings from hardware and door-frame vendors before the production of wood doors can begin—a process that often requires 14 to 16 weeks lead time.

The purchasing of major HVAC roof-top equipment will be required to produce information for the structural steel subcontractor since they will need confirmation of the weights and sizes of the equipment in order to properly locate roof beams and supports for roof-deck penetrations, as well as provide the proper dunnage for the equipment. Other roof-top accessories, such as roof hatchs, will also require prompt purchase in order to complete the roof-top penetration scheme for the steel fabricator, miscellaneous metal, and the roofing contractor.
Embedments in concrete foundations or slabs may necessitate the early purchasing of miscellaneous steel, even though these steel items are not required for many months down the road. It is important to think through the chain of events that must be followed in order to provide a prompt, well-coordinated flow of materials to the jobsite.

Pitfalls to Avoid When Issuing Subcontracts and Purchase Orders

The following problems should best be avoided during the issuance of subcontracts and purchase orders:

- Intelligent buying is based upon knowing as much as possible about the item or items to be purchased. Rather than hurriedly attempting to buy out a subcontractor, purchase materials, or pieces of equipment, spend some time researching exactly what’s required, and how it might impact other related items. Review the specifications carefully and examine all the drawings to uncover items to be purchased that might appear on drawings where they shouldn’t be. Make lists of key requirements or use some form of subcontractor interview form to jog your memory when discussing these items with the subcontractor or vendor during negotiations.

- When a project is just getting started, there never seems to be enough time to select all of the subcontractors and vendors needed. Thus, set priorities and goals that can reasonably be met—first, second, third, and so forth. This priority list can be updated on a daily or weekly basis.

- Create an “A” list—activities that must be accomplished that day—and make a “B” list to be used if all of the A list items have been completed. The A list should not be overly ambitious, but once made, make it a rule to always complete those items—no matter what. This type of discipline will pay off.

- Immediately after a construction contract has been awarded, subcontractors who have submitted bids will begin to call, requesting a meeting to review their proposal. Calls from landscape contractors, flooring contractors, and painting contractors are often received at this early period—items that are fairly far down on the project manager’s list of priorities. Avoid being rude or abrupt, but tell these less-than-urgent subcontractors or vendors to call back in two weeks, one month, or whatever time may be more convenient. Don’t even discuss their proposals at this early date, you have more important things to do.

- Avoid crisis management whenever possible so that enough quality time can be spent on each purchase order and subcontract agreement. Again, this relates to time management and doing what is necessary
to take care of immediate and near-term requirements. By reviewing job sequences and the project schedule with the project superintendent, one can develop a list of priority items during those first hectic weeks of construction activity.

- Recognize the long lead items and concentrate on them. Lumber prices can be obtained and analyzed, and a purchase order negotiated, all within a relatively short period of time, but hollow metal doors and frames require considerable coordination, along with purchasing several related items.

- Although the elevator installation will not commence for months and months, this equipment must be purchased early on since shop drawings will verify or change hoistway openings, miscellaneous items such as sill angles, roof openings, and the configuration of the elevator machine room. By reviewing construction sequences, other such priority items will undoubtedly be discovered.

- There are difficult decisions to make when potential awards exceed the budget and possibly generate losses. It is easier to award contracts and purchase orders when they fall within budget or result in savings. The tough decisions arise when the costs of certain subcontracted items have been drastically underestimated, for whatever reason, and all bids exceed the budget. The natural tendency is to delay making these awards in anticipation that somewhere, somehow, a subcontractor or vendor will appear magically with a price that matches the budget. This seldom, if ever, happens. When four or five qualified subcontractors submit pricing that exceeds the estimate, it is logical to assume that their bids are correct and the estimate is not. If these overbudget items of work are not dealt with on a case-by-case basis, and analyzed and finalized in a timely manner, additional costs will occur since job progress will likely to be affected by these delays.

These are difficult problems to deal with, and there are no easy answers to them, but positive steps must be taken to resolve them promptly in order to mitigate potential losses. Placing the problem at the bottom of the stack accomplishes nothing.

Do Your Subcontract Agreements Include These Key Provisions?

All subcontract agreements have legal consequences, and any alterations to existing subcontract formats should be reviewed with the company’s legal counsel. But the following offer some suggested provisions:

- If not already a part of the subcontract agreement, insert a clause binding the subcontractor to the contractor by the same terms and
conditions of the contract between the owner and general contractor. Although this provision gives the subcontractor the right to be privy to the terms and conditions of the general contractor and client contract, this clause is worthy of inclusion in the subcontract agreement. It thus enhances the “flow through” concept, as it relates to “paid when paid”—the general contract can withhold payment from the subcontractor if payment is not received from the owner. If the owner is still reviewing a subcontractor’s change order and has not yet approved it, the general contractor does not have an obligation to pay the sub for work included in that change order. If there are penalties for failing to meet the construction schedule, and the subcontractor is at fault, any such penalties assessed by the owner can be passed on to the subcontractor. There are other reasons why the general contractor would like to apply flow-through owner contract provisions to the subcontractor. Think of a few.

- A performance clause that affords the general contractor more control over the flow and pace of the subcontractor’s work is critical. This type of clause generally stipulates “The Subcontractor agrees to commence and complete the Subcontractor’s work by the date or within the time frame set forth in Article X (the article that includes the project start and completion date) and to perform the Subcontractor’s work at greater or lesser speeds and at such times and in such quantities as, in the Contractor’s judgment, is required for the best possible progress of construction of the job or as shall be specifically requested by the Contractor, and the Subcontractor shall so conduct the Subcontractor’s work as to facilitate and so as not to interfere with or delay the work of the Contractor.” This clause effectively gives the contractor control over the pace of the subcontractor’s work, which can then be directed to be “sped up” or “slowed down.” However, one must keep in mind the construction schedule, which if accepted by the subcontractor may make enforcement of any “speed up” or “slow down” requests more difficult. The subcontractor may take the position that they have been directed to deviate from the initial (baseline) schedule to which they were bound contractually. One way to possibly avoid such a dispute or claim by the subcontractor is to issue a revised construction schedule with a revised time sequence for their work and have them accept this revision with no time or cost impact.

- A nonperformance clause is as essential as a “performance” clause in the subcontract agreement. “Should the Subcontractor fail to prosecute the Subcontractor’s work or any part thereof with promptness and diligence, or fail to supply a sufficiency of properly skilled workers or materials of proper quality and/or quantity or fail in any other respect to comply with the contract documents, the Contractor shall be at
liberty after seventy-two (72) hours (or 48 hours if you so chose) written notice to the Subcontractor to provide such labor and materials as may be necessary to complete the work, and to deduct the cost and expense thereof from any money due or thereafter to become due to the Subcontractor under this agreement.”

- An article dealing with changes and change orders is also important. Although most subcontract agreements require that the general contractor provide written authorization for a subcontractor to proceed with extra work, some subcontractors will do so only if they have established the cost of such work before starting it. A general contractor can always fall back on the Construction Change Directive (CCD), which is basically a time-and-material instrument, or they can insert a suitable clause in their subcontract agreement. “Should the Contractor and the Subcontractor be unable to agree as to the amount to be paid or allowed because of any alteration, addition, or extra work, if so ordered to do so in writing by the Contractor, the work shall go on under the order or orders of the Contractor with the understanding that the reasonable value of such work shall be paid or allowed, and in case of the failure of the parties to agree, the determination of the amount to be paid or allowed, as the case may be, shall be referred to arbitration as hereinafter provided.” This assumes that an arbitration clause is part of the subcontract agreement.

Speaking of change orders, there is often confusion about the authority to authorize change order work and authority to approve related costs. Consider the following clause:

Any extra work must be authorized by the contractor’s “office” not the contractor’s “field.” The “field may only verify that work has been performed, not be responsible as to payment.”

Job cleaning, as previously discussed, is often a contentious issue at the site, but a clause included in the subcontract agreement may make it somewhat easier for the general contractor to keep the project clean. Subcontractors often claim that they require a written demand to clean up their work before a general contractor can claim them in default and backcharge their account for all such associated costs. Occasionally, the project manager or project superintendent doesn’t have the time to prepare a written notice. Therefore, just insert the following paragraph in the subcontractor’s agreement:

The Subcontractor shall at all times keep the job site orderly and free from dirt and debris arising out of the Subcontractor’s work. At any time, upon the Contractor’s request, the Subcontractor shall immediately clean up and remove from the job site anything which it is obligated to remove hereunder, or the Contractor may, at its discretion, and without notice, perform
or cause to be performed such clean up and removal at the Subcontractor’s expense.

Note: Even though no written notice is required, the Subcontractor may challenge the verbal one, conveniently stating that they were “unaware” that such direction was given. So to be safe, even though a verbal directive was issued as required by the subcontract agreement, follow up with a written one.

- Subcontracting by the subcontractor, without advance notice to the general contractor can present problems such as the lien waiver situation previously described. Also the general contractor must be aware of the identity of all subcontractors working on the site for safety and security reasons. To lessen the chance that these types of situations will occur, insert the following in the subcontract agreement:

  The Subcontractor shall not subcontract or delegate all or any portion of its work, nor shall it assign any amounts due or to become due or any claim or right arising in connection with the subcontract agreement without the prior consent of the Contractor.” (Alert the project superintendent to this subcontract provision so they can be sensitive to the presence of any lower-tier subcontractors working onsite without the general contractor’s knowledge and approval).

- Payment issues are always important and the “pay when paid” clause is standard issue in most subcontract agreements. Of late, there has been increased resistance to this method of payment. Some states have passed legislation that voids this “pay when paid” provision, stating that it is not in the public interest. In some tight labor markets, subcontractors are demanding to be paid when their work is installed and accepted, not when the general contractor receives payment from the owner. Various subcontractor organizations have mounted campaigns to eliminate this clause from subcontract agreements. If your company has a “pay when paid” clause in the subcontract agreement, review any recent court rulings to determine whether this provision is still enforceable.

- Delays frequently occur in construction projects and these delays may impact subcontractors who share no responsibility for the delays but may have incurred additional costs due to the actions of others. These “damages,” generally referred to in legal terms as consequential damages, include such items as loss of productivity, working out of planned sequence, extended corporate overhead, an inability to procure other work because their supervisors are tied up on the delayed projects, and so forth. To fend off such potential claims, insert a “no damages for delays” clause in the subcontract agreement, such as:
Contractor shall not be liable to Subcontractor for any damages or extra compensation that may occur from delays in performing work or furnishing materials, or other causes attributable to other subcontractors, the owner, or any other persons."

Relationships in this business are very important, and good relationships with a nucleus of knowledgeable, hard working subcontractors working in an ethical environment will produce buy-outs that are beneficial to all parties.