HTETCO a Medical Gas System for a Hospital

Call for Nominations

KALWALL

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2020 - 2021

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ASPE Industry Awards

**Best Estimate**

The ASPE Industry Best Estimate Award honors those entries that display the best overall estimate of a proposed project across any sector. Benchmarks can include, but are not limited to, the following.

- Estimate Efficiency
- Estimate Accuracy
- Budget Control
- Material Efficiency
- Revisions
- Client Satisfaction
- Tools and Technology Used
- Solutions for Unexpected Challenges

**Most Innovative Project**

The ASPE Industry Most Innovative Project Award honors those entries that display the most unique and innovative benchmarks across the entire scope and process of the project submitted. Benchmarks can include, but are not limited to, the following.

- Innovative Design Build
- Creative Design Build
- Technology Elements of Project
- Technology Solutions
- Use of Advanced Techniques/Software
- Green Innovation
- Community Involvement
- Addressing Environmental or Coding Concerns

*ASPE reserves the right to honor multiple Award Entries based on submittals received*

**All Entries Must Include a Project Narrative**

Your narrative must not exceed a maximum of 750 words. The narrative should focus on why the project should be considered the best in its category. The descriptions of each of the required elements are meant to be used as guidelines. You should interpret all criteria based on your own unique project submission and respond accordingly. This information will also be during award presentation.

**Visual Presentation**

While points are not awarded for the visual presentation, the photos may impact your entry in that they help to tell your story. Support your narrative with photos that display the scope and process of the project and any challenges described in the narrative. You may include up to 3 photos in your project submittal.

Begin Planning Today for 2021 Awards!
Award Applications are Due April 2, 2021

www.ASPEnational.org
First, I hope all of you had a very Merry Christmas. And my wish is that everyone will have a prosperous New Year. With all the COVID-19 restrictions and changes it was a very different Holiday season.

With the New Year, the board is looking at everything. We are reviewing marketing methods, the learning management presentations, Summit and just about every aspect of ASPE. We need to shake things up. I would like to see a value proposition developed. A statement that tells both members and non-members just what the value of ASPE are. A short statement that puts a point on it. Improvements like this is what we need to push our name to the front of the industry. I would welcome anyone’s comment or ideas on this type of statement.

Financially ASPE is in a good position. Paul and Tina are doing a great job on watching the dollars.

The board and SBO are developing new ideas about the Summit, watch for the releases with information in the next month or so. Should be exciting.

Additional work is being done on the Learning Management System (LMS). Ideas about instructors, classes and how to present the information in a format that is easy to access as well as relative information and educational topics. This is the future and we are working to have our LMS on the cutting edge. It takes a lot of work but there are members of this Society that are willing to put in that time. Thanks Team, for the time and the great ideas as well as the program development.

We would like to re-issue the challenge to each Member to recruit just one new member and the second challenge of earning your CPE or AEP. With both of these challenges we will be able to increase our membership.

We will continue to strive to make this Society the construction industry’s leader and recognized authority in professional estimating. Communication between Board Members and Membership is a high priority. Your thoughts and feedback are extremely valued. Please communicate with a Board Member.
ASPE Introduces a New Feature to our Educational Offerings; OnDemand Seminars

- Building a Succession Plan
- Fiduciary Responsibility in Estimating
- Mentoring Your Replacement
- Quantity Surveying: Introduction
- Quantity Surveying: Arch + Structural
- Plus Much More

Learn More ..

ASPENational.org - Education Tab
ASPE Members $35 / Non-Members $45
Each Seminar = 1 Professional Development Unit (PDU)
Welcome to Our New Members (October + November)

### Membership Classification Count (as of 12/09/2020)

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### Congratulations to New CPEs + AEPs (October + November)

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<th>CHAPTER</th>
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<td>Golden Gate</td>
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<td>Jon Endsley</td>
<td>El Camino Construction &amp; Engineering</td>
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<td>William Bloom</td>
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<td>Johnny Savage</td>
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<td>Brian Anderson</td>
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<td>Sammy Louis</td>
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<td>Keith Potter</td>
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<td>Alan Lerkins</td>
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<td>Michael Harvey</td>
<td>Crown Electric LLC</td>
<td>Richmond</td>
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PO Box 140710
Nashville, TN 37214
615.316.9200
ASPEnational.org
CALL FOR NOMINATIONS FOR NATIONAL BOARD OF DIRECTORS

The American Society of Professional Estimators Governance Committee calls attention to your duty as a Member in good standing of the Association to nominate those individuals who are qualified, willing to serve, and capable of being an officer of the Society and a Director to establish policy and conduct National business.

Positions to be filled for the 2021-2022 and 2022-2023 year (for a term of two years) are as follows.

- President
- First Vice President
- Second Vice President
- Southwest Region Governor
- Central Plains Region Governor
- Northeast Region Governor

✓ With this notice is the Nominations Form to use for submitting a nomination. (Form also available on the ASPE Website: Home / Board of Directors / Link @ Bottom of Page)
✓ This form must be completed in full, certified by the nominator's Chapter Nominations Committee Chairman or the Chapter President.
✓ If the nomination is a MAL, the form must be certified by the Governor of the nominator’s region.
✓ The nomination must also be accepted by the person being nominated and the associated fact sheet completed by him/her.
✓ The form must be received no later than midnight, February 5, 2021.

Nominations and questions are to be submitted to the Director of Operations at Tina@ASPEnational.org.

Thank you.

ASPE Business Office
2021 AWARDS

Honoring Members + Chapters for their contributions to ASPE and the construction industry

Honoring Member Estimators for their project successes

ESTIMATOR OF THE YEAR
For excellence in advancing the art of construction estimating thru Standards, Ethics and Practice, while leading and training others, and promoting ASPE throughout one’s career

CHAPTER PRESIDENT OF THE YEAR
For excellence in leading, promoting and supporting the goals and growth of the Chapter

FELLOW AWARD
For having attained national recognition for achievements in the art of construction estimating and who have made exceptional contributions to the Society

LEGACY - HOWARD S. PROUT FOUNDER OF CERTIFICATION AWARD
For excellence in promoting and utilization of Standards of Ethics and Practice

LEGACY - FRANK E. YOUNG EXCELLENCE IN EDUCATION AWARD
For excellence in pioneering and promotion of Educational Opportunities and Advancements

LEGACY - MERLE W. HECKENLIVELY FOUNDER OF STANDARDS AWARD
For excellence in promoting and utilization of Standards of Ethics and Practice

INDUSTRY AWARDS
Celebrating projects displaying overall estimate efficiency and accuracy, unique and innovative design, technology solutions or community involvement

CHAPTER CHAMPION
For dedicated effort and contributions made to the advancement and growth of the Chapter

CHAPTER ACHIEVEMENT
For excellence in promoting ASPE and supporting its Members at the Chapter level

TECHNOLOGY AWARD
For promoting Technology innovation in advancement of the estimating profession

Intent to Submit Forms – Due March 29, 2021
Candidate Nominations + Chapter Applications - Due by April 16, 2021
Begin planning by nominating an ASPE Member who exemplifies the qualities needed and who deserves acknowledgement for their contributions

ASPEnational.org / Resources / Awards Requirements + Scoresheets
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Whether working at the office, from the road or even at home, the ConsensusDocs platform provides instant access to your contract documents from any computer through a secure, web-based portal. Simply log-in and your personalized dashboard makes it easy to locate recent projects, edit contracts, review changes made by your collaborators or start a new contract using any of our 100+ contracts.

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FACES OF ASPE: Spencer Gravelle, AEP

Best advice I ever received

As an Estimator, you know the project better than anyone during preconstruction; so use that knowledge in justifying your estimate.

Best advice I share with young (and not so young) estimators

When walking a client through an estimate, start with the big picture cost deltas, then work into the details to explain what has changed.

ASPE goal for 2021 - 2022

Find creative ways to raise money during the COVID-19 pandemic, so we can continue to give scholarships to the universities we support.

If I wasn’t doing this, I would be

Working on my golf game!
ANNOUNCEMENTS

On October 1, 2020 Membership Renewal Invoices were sent to the email address noted in your Member Profile. To ensure accuracy, please verify that all contact information is current and correct (by logging into the ASPE Website and updating your Profile) as soon as possible. (This also ensures accurate delivery of your Membership Renewal Packet, as well Estimating Today and other mailed updates!)

Recommended Bidding Procedures, an ASPE guide for Competitively Bid Construction Projects, has been updated and is available for (complimentary) download by Members. The revised 8th Edition is available on the ASPE website by selecting Resources / Publications.

Note … Non-Members may purchase for a minimal cost of $5.
Project Report

Middle West Spirits

Columbus, Ohio, USA

Wall Systems  |  Skyroof™ + Skylight Systems  |  Canopies + Walkways  |  Hurricane-Rated E-Series™ Windows
FINDING THE RIGHT BALANCE

The ability to balance design, cost and function can sometimes be a complicated, lengthy and expensive process.

And then there are cases such as the Middle West Spirits expansion project in Columbus, Ohio, when one element can make everything come together. In this instance, that element turned out to be Kalwall® translucent sandwich panels.

Jonathan Barnes Architecture and Design of Columbus selected Kalwall as the signature feature in the expansion of a historic 1920’s era warehouse that is home to this artisan small batch distillery.

JBAD describes the 55-foot (17 m) tiered structure clad in Kalwall as a “parabuilding” — an addition or alteration to an existing building that transforms the essential character of the original structure.

In addition to a tasting room, bottle shop and office, the expansion needed to accommodate new distillery equipment to increase production, including two new towering stills, one 50-foot (15 m) high and the other 35-foot (11 m) high, as well as several large mashing tanks.

Working within a restricted footprint, a center portion of the 10,000-square-foot (1,000 m²) warehouse’s original steel bow truss and wood roof was removed. Kalwall panels were used to clad the entire new structure, creating what the architect describes as a monolithic translucent white tower with both a striking and subtle daytime presence and a glowing, beacon-like quality at night. The adjacent tasting room was positioned to have a striking view of the distillery.

In addition to being a distinctive feature, Kalwall translucent sandwich panels provide the owners with a bright space that allows them to easily monitor the equipment within the distillery. Kalwall’s daylight modelling service allowed the architects to design the building so that different elevations transmit different amounts of light to provide completely balanced, museum-quality daylighting™.

And while Kalwall panels provided a solution that fulfilled the required design and function aspects, they were also particularly appealing for the cost savings.

John Kelly, the Ohio sales representative for Kalwall, said both JBAD and Sullivan Builders of Worthington, Ohio, were looking for a single-source cladding solution that was within budget and could meet their timetables.

“The decision to clad the building with Kalwall was made after the excavation work had started,” Kelly says. “I’m not sure what the original cladding material was to be, but after our shop drawings were issued, we began getting questions from Sullivan about the steel supports required. They learned that they could eliminate quite a bit of the steel behind our panels due to our span capability and the lightweight nature of Kalwall. This was an unexpected cost-savings to the team.”

Awards:

AIA Columbus’ 2017 Architecture:
Honor Award

For unparalleled thermal performance in translucent daylighting, consider specifying Kalwall with CABOT’s Lumira® aerogel insulation. Available in 2.75” (70 mm) panel formats up to: 4’ x 12’ (1200 mm x 3600 mm) and 5’ x 10’ (1500 mm x 3000 mm) maximum.
HTETCO a Medical Gas System for a Hospital

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SECTION 1: INTRODUCTION

The intent of this technical paper is to guide the reader through the process of estimating the cost of a medical gas system designed to support new medical facility units, and additional patient rooms in an existing hospital. Tying into an existing system poses an additional set of challenges that requires knowledge necessary in understanding a hospital renovation setting.

Brief Description of Subject Matter

Throughout this technical paper, the author will help the reader set forth to understanding the development of a medical gas system estimate by addressing key components in the process, such as studying the scope of work at hand, and creating a platform in which typical cost implications and inherent renovation complexities are captured. Samples and references will be used to help formulate the prescribed process presented. This paper will lend the reader guiding principles from the perspective of a General Contractor preparing budgets and cost estimates required to support and inform the Construction Manager at Risk Delivery Method. This setting requires a detailed take-off process, extensive due diligence, consistent dialogue between the Estimator and their supporting subcontractors and in most cases supporting language that documents the Estimator’s assumptions and clarifications related to the estimate presented. In this case, the General Contractor’s Estimator must develop and maintain complete knowledge of the overall project scope so that captured costs for the specific subdivision of Medical Gas Piping can effectively inform CSI Division 22 within the Guaranteed Maximum Price required in the Construction Manager at Risk Project Delivery Method.

SECTION 2: TYPES AND METHODS OF MEASUREMENTS

As an Estimator prepares to perform a quantity take-off for a medical gas system, he or she will begin studying the related drawings and specifications provided to begin their understanding of the system’s components such as piping, outlets, valves, panels, line pressure monitors, pumps, tanks, equipment, installation methods and required certifications. Another key step for the Estimator to keep in mind as they begin the take-off process (no matter the program or tools used), is to confirm that the scale noted on all documents is accurate. Medical gas system components will require the Estimator to present the derived quantities using two typical units of measure – Linear Footage (LF) for the system’s respective distribution piping and Each (EA) for the remaining components. Depending on the general set up of the database that the Estimator will use, he or she can anticipate an extra step in assessing Linear Footage (LF) quantities through any necessary conversions to other common Units of Measure like Hundred Linear Feet (CLF) and Thousand Linear Feet (MLF). Depending on the required format for submission, the Estimator may decide to structure the Estimate using the CSI MasterFormat or CSI UniFormat methods of organization. Common piping materials used for medical gas systems are copper or stainless steel, with either one demonstrating a standard premium to consider. Distribution piping is used for common medical gases such as oxygen, medical air, nitrous oxide, nitrogen, surgical air, carbon dioxide, medical vacuum and waste anesthetic gas disposal.

 Especially when performing a linear footage take-off, the Estimator should consider including a waste factor in the final quantity presented. A safe rule of thumb for piping would be to calculate an additional amount by multiplying the base linear footage quantity by a range of between 5% and 15%. The waste factor will take into consideration the inherent waste generated onsite when cutting and bending the piping material, as well as any defective material. An Estimator must also attempt to capture necessary vertical piping that is sometimes not obviously articulated in the documents. This information can be found by studying supporting riser diagrams and by visualizing the path that the medical gas piping will take (i.e. through floors and to an existing system if necessary). Some pricing databases may have the option to capture this data separately using another common Unit of Measure – Vertical Linear Foot (VLF).

It is essential to differentiate piping sizes, piping material and gas distribution type when performing the quantity take-off, as each of these differentiators can impose a cost implication. Defining specifications such as size, material and distribution type throughout the estimate’s line item descriptions will also support important dialogue between the General Contractor, Owner, Designers, Manufacturers and Subcontractors.

SECTION 3: PROJECT SPECIFIC FACTORS TO CONSIDER

Supporting evidence maintains industry wide common knowledge, that as a project grows in scale, an Estimator can expect higher productivity rates, and in some cases lower material rates. As this technical paper attempts to study cost implications in a renovation setting, an Estimator should expect median or lower productivity rates and above average material rates. Renovation settings can incur costs related to additional
mobilizations and phasing required to coordinate necessary shut downs as needed to tie into an existing system, cost impacts related to decreased productivity rates from complex access and routes, and often costs to support testing requirements of an impacted existing system. Required testing recommendations and specifications can be driven by the Owner, Designers or Manufacturers. Often times, information related to testing requirements can be found in the Owner’s or Engineer’s commissioning procedures, and through the governing and licensing authorities required for the project.

Commissioning as a common practice is a growing trend throughout the industry, especially in a hospital setting. General Contractor industry leaders are moving toward carrying this expertise in-house by employing Certified Commissioning Agents who represent the General Contractor on the testing and coordination forefront with the Owner’s 3rd Party Agents and with the project’s Engineer of Record. If a robust commissioning plan is specified in the project documents, the General Contractor’s Estimator must consider these costs and schedule implications either through additional management rates carried in the General Conditions to cover trained in-house commissioning personnel, or by outsourcing this position to lead the commissioning effort on the Contractor’s behalf. Additionally, the Estimator should solicit to MEP subcontractors, or applicable trade contractors qualified to perform work on a medical gas system with the prescribed expectation of additional coordination from the subcontractor for the anticipated commissioning effort. In most cases, the plumbing subcontractor must be licensed and/or certified to perform work on a medical gas system. Because of these requirements, and the general complex nature of the skills necessary to perform work on a medical gas system, the estimator should expect a premium in pricing when searching for and contracting with a qualified plumbing subcontractor.

It is an Estimator’s duty in their continual due diligence effort to conduct research on installation, testing, certifications, third party verification, permitting codes and standard requirements set forth by various local, state, federal and industry organizations. They must hold a fundamental understanding alongside their team on which of these installation, testing, permitting and certification requirements prevail in the project’s respective jurisdiction.

Another critical factor for the Estimator to consider while studying a medical gas system design for a renovation setting is whether or not the system addition or modification will affect the hospital’s existing storage tank capacity and flow. Although this study is ultimately the responsibility of the design team, it is always a great question to maintain to otherwise mitigate substantial costs related to upsizing the storage tanks and supporting systems such as cooling and ventilation. If this information is not available as the Estimator works toward presenting the cost estimate, it would be wise to negotiate a contingency or an allowance related to unforeseen conditions. This contingency should aim to cover scope across all divisions, as just one component of a medical gas system can have a direct impact on another system; For example, if the design requires routing new piping through areas outside of the renovation space or construction zone, where information on existing conditions have not been provided. This idea applies to piping routes that affect spaces within the building, existing exterior pavement, and building or city utility lines that may obstruct the designed piping path to their supporting storage tanks.

A medical gas system can be considered as a specialized building component, and because of this, often times the materials and equipment required in its design are associated with long lead times. The Estimator must have a solid understanding of the proposed project schedule, and especially in relation to the long lead items that may necessitate a premium to expedite. The Estimator can begin to track these potential costs by studying required materials and proprietary equipment manufacturers listed in the specifications.

SECTION 4: OVERVIEW OF COSTS

As an Estimator works toward building any type of estimate, he or she must consciously attempt to capture and reflect common industry factors such as market rates, wage rates, escalation, contingencies, allowances, insurance requirements, applicable taxes, subcontractor bonds and required certifications to name a few. Although every client will have their own vision as to how these factors are carried, whether it is in the cost of work, general conditions or separate fees, each of these factors must be considered in order to provide a quality cost estimate.

A General Contractor’s Estimator must recognize the importance of subcontractor relationships throughout the preconstruction process. Quality input from the local subcontractor community throughout the budgeting stages is essential in being able to appropriately capture previously listed factors like market rates, wage rates, bonds, et cetera. An Estimator representing a General Contractor should anticipate that cost proposals provided by subcontractors are built similarly to their own estimate structure, and will include raw material and labor rates plus additional mark-ups that reflect direct and indirect costs required for the firm to perform the work.

SECTION 5: SPECIAL RISK CONSIDERATION

In order to address special risk considerations applicable to the setting that this paper aims to address; the Estimator should consider the renovation setting in their evaluation along with the implications of a medical gas system. Especially in a hospital, a renovation setting may require the General Contractor to carry additional insurance requirements above the commonly requested Builder’s Risk policy. Often times, an Owner will request that the General Contractor insure adjacent existing spaces or buildings. The Estimator can expect to find this information in the original Request for Proposal (RFP), in the front end portion of the project’s written specifications or in the facility’s standard specifications. The Estimator should confirm insurance requirements in the beginning of the preconstruction process, especially
SECTION 6: RATIOS AND ANALYSIS

Common questions from any perspective when reviewing a cost estimate are often related to their accuracy. Beyond trust, how can an Owner or Stakeholder depend on a proposed cost estimate that aims to cover a seemingly large amount of contingent components, and to what extent? This answer of course, depends on a vast amount of variables and is implicit given the definition of an estimate. Nonetheless, there are a few factors that an Owner should consider before relying on a presented cost estimate, similarly to when a General Contractor’s Estimator reviews the quality of any submitted subcontractor bids. A few questions to consider when making such decision from either perspective include:

- What programs or tools does the firm use to produce an accurate quantity take-off?
- What type of cost database does the firm rely on?
- If it is a custom in-house cost database, how is this information derived?
- How does the firm attempt to reflect current market rates?
- How does the firm incorporate subcontractor or manufacturer input?

An estimator should be readily able to answer any one of these questions. Specifically, questions related to the process behind creating the custom cost database, if that is a system that the firm typically relies on. A reliable in-house cost database should be subject to continual monitoring and adjustments. An Estimator should depend on real cost information from current and recent projects to inform the ideally continual database updates. Ultimately, constant dialogue with subcontractors and operations partners provide some of the most reliable feedback needed to appropriately inform the presented cost estimate. Especially in a Construction Manager at Risk setting, the Owner may hire a Consultant or Independent Cost Estimator to perform a third party review of the estimate. In this case, the Contractor’s preconstruction team must be prepared to engage in a cost reconciliation process.

SECTION 7: MISCELLANEOUS

In the Construction Manager at Risk setting, an Estimator can interpret any element of information as a cost impact, whether the documents provide clarity or lack thereof. This is why some contract agreements between the Owner and General Contractor include language that allows the General Contractor to support their presented cost estimate with documentation commonly referred to as Assumptions and Clarifications. Although the referenced Construction Manager at Risk Delivery Method is widely accepted as a fast-track option with benefits to all parties, the method also implies subsequent “risk” as its title suggests. This risk is most often tied to cost implications related to commencing work before receiving 100% construction documents, which is an inherent component in the structure of this delivery method. As the cost estimate for a medical gas system is created, the Estimator can use supporting language in their clarification document similar and related to the following:

- Includes certification of new medical gas piping only.
- Assumes the Owner will provide existing certification information.
- Assumes three mobilizations for the tie into existing system.

At the Estimator’s discretion, the referenced clarification document can provide as much or as little language needed to support the presented cost estimate.
SECTION 8: SAMPLE PLAN AND TAKEOFF

The image above is a medical gas system riser diagram. Riser diagrams can be found in the plumbing section of the design documents.

The image is the plan view of a medical gas system designed for a new space in an existing hospital. In this case, the space requires oxygen distribution and a medical vacuum system.
### SECTION 9: SAMPLE TAKE-OFF

Sample 1

<table>
<thead>
<tr>
<th>CSI DIV</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UM</th>
<th>TOTAL UNIT COST</th>
<th>TOTAL COST</th>
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Sample 1: shown above was created to reflect the level of detail typically presented to a client by a General Contractor’s Estimator in a Construction Manager at Risk setting. These line items specifically reflect the medical gas scope of work, and would be presented in the Cost of Work detail, within Division 22 – Plumbing. Ultimately, most of the project wide considerations mentioned in this technical paper would be calculated on the total Cost of Work.
Sample 2: shown below, provides a labor and material breakdown of the total unit cost presented in Sample 1. Additionally, Sample 2 also begins to incorporate typical considerations in a Construction Manager at Risk project by calculating escalation, design contingency, contractor contingency, owner allowance, overhead and profit to reflect an all-encompassing budget amount for the medical gas scope of work.

### SAMPLE TAKE-OFF AND PRICING OF A MEDICAL GAS SYSTEM

<table>
<thead>
<tr>
<th>CSI DIV</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UM</th>
<th>Material</th>
<th>Labor</th>
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The contingencies, allowances, and fee below are calculated on the portion of work detailed above.

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<th>Description</th>
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<tr>
<td>Design Contingency</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>104,841.47</strong></td>
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</table>

The value for each contingency and allowance calculated in Sample 2 each attempt to represent a justified amount that considers several factors discussed. The escalation amount should support both the anticipated project start date and market trends in the project location. The design contingency should correlate with the stage in design that the budget supports by attempting to mitigate costs for design and systems yet to be determined or detailed. This contingency should be reduced as the design progresses, and essentially redistributed within the estimate as necessary. Both the contractor contingency and owner allowance are carried through to the construction phase, and are typically regulated by requiring justification and approval for use throughout construction. Overhead for a construction project is typically referred to as general conditions, and in this case is presented in a lump sum amount. In a Construction Manager at Risk setting, an Estimator can reference the Agreement between the Contractor and Owner to better understand what can and cannot be charged as general conditions. The Contractor’s fee is a negotiated amount between the Owner and Contractor. This fee should also consider the project complexity as well as the market rate for the location.

While estimating the cost of a medical gas system in an existing hospital brings additional degrees of complexity and risk, the methodologies outlined in this technical paper serve as best practice recommendations for an Estimator to consider. And although this technical paper emphasizes several factors to recognize through the lens of an Estimator supporting a Construction Manager at Risk delivery method, in all settings, an Estimator should strive to deliver a cost estimate that illustrates their thorough due diligence, and supports the theory that a cost estimate is truly a delicate balance of both art and science.
SECTION 10: GLOSSARY

Commissioning
As defined by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE):
The Commissioning Process is the Owner’s quality-oriented process for achieving, evaluating and documenting that the performance of buildings, systems and assemblies meets defined objectives and criteria.

Cost Reconciliation
A reconciliation is an independent cost estimate that the end user can compare against the contractor’s cost estimate, mitigating budget shortfalls and correcting identified deficiencies. Reconciliations can help ensure that differences between the two estimates are appropriate and reasonably expected.

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Scope Sheets: Quickly level bidding subcontractors, minimize your scope gap risk exposure, and summarize your total project bid

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Erick Schmitz, Director of Preconstruction, Shiel Sexton, Chapter 59 – Central Indiana

For product details, visit 14Fathoms.com
As the construction estimating world has progressed into the early 21st century, our methods and processes have evolved as well. Nothing that resembles “old school” technologies anymore. Only yesterday, things we take for granted now, such as computer aided design, BIM, and on-screen takeoff, were still unfulfilled promises on the horizon, destined to make the lives of constructors easier and less stressful. But have they? Is it possible that we have become too dependent on these new advances, and that they have lured us into a false sense of security about our work?

Since I am a civil construction cost estimator, I’ll focus on these advances from my own point of view. We no longer draw cross sections in order to calculate earthwork cut and fill quantities. We don’t plot pipeline alignments in profile views to determine clearances between new and existing utility lines. We don’t even color in takeoff areas on site plans with different colored and strange smelling highlighters that have their own color coded meaning.

In the past we found ourselves making material lists, and determining production rates and crew compositions by hand. We also calculated predecessor and successor activities in our heads and on paper to develop schedules and durations. Each of these functions can easily be done in this modern age by many of the highly functional software and hardware components that we’ve come to know and love… or at least feel compelled to utilize in order to increase our speed of cranking out estimates and bids because there is so much work out there to bid, and such little time.

Nowadays, our tools (and toys) include implements like the following:

- On-screen takeoff software for one, two, and three dimensional quantities
- Importable CAD
- Vectored PDF files that we can bring right into our earthwork software to save us hours of time tracing contours and existing and proposed regions within the grading limits of any given project
- Cost estimating software that allows us to create crew assemblies that we can use over and over again to estimate the cost of similar kinds of work.

My architectural estimator pals have their own cool tools as well, such as BIM models and an ocular recognition feature in their on-screen takeoff software that allows symbols that repeat frequently to be counted at the click of the mouse. Even data resources like the well-recognized and highly utilized cost guides, are now available as searchable online directories. And how can I write about all these advances and not mention a new resource highly prized by me and so many others: Google Earth, allowing us to virtually visit a job-site from the comfort of our offices?

Do all these modern tools make us better at our jobs, or do they simply make us faster or capable of producing more work in the same time frame? My respectful suggestion is that they have made us better in terms of speed and accuracy, but that doesn’t necessarily mean we’re better as intuitive analysts of the mountains of data that we need to process to accurately predict the cost of a building, infrastructure, or renovation project. Here’s why.
In Defense of Paper ... continued

I’ve been teaching construction estimating for several years, to college students, tradespersons, other estimators, and architects and engineers, and the one point I always hammer home is my definition of construction estimating: “the combined art and science of the determination of the probable cost of any given construction project; this can include budgets, bids, proposal, and quotes; practiced by professionals called Estimators in collaboration with other professionals including architects, engineers, project managers, superintendents, and skilled tradespersons”.

The two most important parts of that definition are the art/science combination and the collaboration with others. The science part is easy – it’s the measuring, calculating, and the math. The modern tools we use today have made us better in this part of the definition. We can produce more accurate quantity takeoffs faster and with fewer mistakes, because the software helps us visually see what we’ve measured and what we haven’t. The software helps us calculate costs more accurately as well. These advances have made us better, but they cannot make us better at the “art” part of the equation.

Analyzing risk, assessing scope of work, determining constructability issues, visualizing the project, establishing production rates, and interpreting a pathway through the project while hitting milestone dates are all things that we do as estimators, separate and apart from performing quantity takeoffs. Dealing with subcontractors, vendors, suppliers, the design team, and the owner’s team are human interaction tasks at which no software can make us better. Thinking logically and minimizing the opportunity for error are still largely self-disciplinary matters, and no software can force an improvement in those arenas. All these things are included in the “art” portion of the definition, so we must still rely on ourselves to get that part right.

As my own career has evolved, I’ve adopted many of the modern tools we all use, but I’ve taken the approach that “all this machinery making modern estimates can still be open hearted” (homage to Neil Peart intended). By that I mean my heart, and mind, must still be open to performing that art part of the equation the old fashioned way – to bring my patience, maturity, experience, logic, and knowledge to bear in the preparation of any cost estimate for any purpose. I cannot simply rely on whatever my computer tells me the answer is.

One of the ways I do this is to use paper plans – not for takeoffs, but for scope review. For me, there’s nothing quite like hovering over a full-size set of paper plans as I get the feel for the overall project. As a civil estimator, I want to understand the topography of a site, to see how the drainage is being designed, to visualize what will be removed and what will remain. My peripheral vision has become a very useful tool for me over the years, and when I limit my field of vision to whatever size my screen is, I’m limiting the usefulness of that particular skill. For takeoffs, of course I use my computer and software tools because they allow me to go fast and be accurate, but that’s the science part of the equation, to me as important but still less critical than the art part. Whenever possible, I’ll call a human being to solicit material prices instead of relying on what a cost guide, or even my own cost history tells me. Not only do I get more current pricing, but it also allows me to develop human based relationships with others in my circles who have an interest in what things cost. I’ve always been amazed at the information that can be obtained from others with whom I maintain a cooperative, friendly business relationship. That has to be a two way street for this to work to its best advantage.

I also find it easier to teach takeoff techniques using paper. The same can be said for teaching the cost estimating part. If you can’t perform a task manually, you’ll never understand how the computer is doing it so quickly. I always caution my younger or inexperienced students to learn to do things the old-fashioned way. The new, more modern methods will become more reliable once the underlying methods are understood.
Chapter 26 – Garden State – Membership Chair
Contact: TR1197@hotmail.com

Best advice I ever received
Make sure you have a contingency plan, in both life and estimating.

Best advice I share with young (and not so young) estimators
Trust your instincts. If something doesn’t seem quite right, it probably needs a second look. Get it in writing.

Chapter goal for 2021 - 2022
Recruit one new member per month.

If I wasn’t doing this, I would be
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The industry standard for search!

Exclusively for commercial construction professionals, like you!

- Quick & easy **access to the nation’s largest database** of qualified commercial construction professionals
- Find exactly **who** you need, **where** and **when** you need them
- Always available, **always up-to-date**

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1-866-627-6246
2021 ASPE Critical Calendar: January - April

January
4  ASPE Membership: Membership suspended for non-renewal  *(Renewal due 12/31/2020)*
4  CPE Status: Expiring CPEs revoked for non-renewal  *(Renewal due 12/31/2020)*
9  Board of Directors Meeting via Conference call
13 Certification Committee Meeting via Conference Call
20 Education Committee Meeting via Conference Call
14 Standards Committee Meeting via Conference Call
18 Call for Nominations: Candidates begin submitting applications for Board of Directors positions

February
1  2021 Summit - Early Registration Opens
5  Last day for nomination of candidates for Board of Directors to Society Business Office
5  Chapter Reports due to Regional Governor for February Board of Directors Reports
10 Certification Committee Meeting via Conference Call
10 Committee and Technical Committee Chairs progress reports due to their respective Vice President and SBO
12 Last day for Board of Director Reports to Society Business Office for February Board Books
19 Society Business Office to confirm qualifications of candidates for election to the Board of Directors
18 Standards Committee Meeting via Conference Call
17 Education Committee Meeting via Conference Call
27 Board of Directors Meeting via Conference call

March
2  Society Business Office to determine the voting body for the election of Board of Directors
2  Last date to issue Ballots for the Board of Directors Election
4  2021 Summit - Registration Opens for Chapter Representatives
10 Certification Committee Meeting via Conference Call
18 Standards Committee Meeting via Conference Call
17 Education Committee Meeting via Conference Call
19 Last date to vote in Board of Directors Election
23 Last day to announce Board of Directors election results
29 Deadline to submit ‘Intent to Submit’ form for Award Submittals

April
14 Certification Committee Meeting via Conference Call
21 Education Committee Meeting via Conference Call
16 All Award Nominations / Applications due to SBO
22 Standards Committee Meeting via Conference Call
24 Deadline: Scholarship Applications
25 Board of Directors Meeting via Video Conference
ASPE CHAPTER MEETINGS

ARIZONA
Arizona #6
Where: Aunt Chilada's
7330 North Dreamy Draw Drive
Phoenix - 85020
Date: 2nd Tuesday; Time: 4:00 PM
Meeting Contact:
Gene Plum
gplum@mccarthy.com

Old Pueblo #53
Where: Varies
To Be Determined
Tucson
Date: Varies; Time: Varies
Meeting Contact:
Larry Lucero, CPE
llucero@redlineinsulation.com

ARKANSAS
Arkansas #33
Where: Varies
To Be Determined
Little Rock - 72201
Date: Varies; Time: Varies
Meeting Contact:
Carri Morones, CPE
aspe.cari@gmail.com

NW Arkansas #79
Where: Varies
To Be Determined
Bentonville
Date: TBD; Time: TBD
Meeting Contact:
Carri Morones, CPE
aspe.cari@gmail.com

CALIFORNIA
Los Angeles #1
Where: The Barkley Restaurant
1400 Huntington Drive
South Pasadena - 91910
Date: 4th Wednesday, Jan. - Oct.
Time: 6:00 PM Social Hour
Meeting Contact:
Bruce Danielson
lalofaspe@outlook.com

Golden Gate #2 (CONTINUED)
Where: Join
95 Minna Street
San Francisco - 94105
Date: 3rd Wednesday; Time: 6:00 PM
Meeting Contact:
Gustav Choto
gustav@join.build

Orange County #3
Where: Ayres Hotel
325 Bristol Avenue
Costa Mesa - 92626
Date: 2nd Wednesday; Time: 5:30 PM
Meeting Contact:
Dan Schottlander, CPE
dpschottlander@cox.net

San Diego #4
Where: Varies
To Be Determined
San Diego
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact:
Lisa Thibodeaux
Lisa@constructionclasses.com

Sacramento #11
Where: Rancho Cordova City Hall
2729 Prospect Park Drive
Rancho Cordova - 95670
Date: 2nd Friday; Time: 12:00 PM
Meeting Contact:
Bryan Hall
bryan.hall@vanir.com

Silicon Valley #55
Where: Varies
To Be Determined
To Be Determined
Date: Varies; Time: Varies
Meeting Contact:
Alan Jacobs, CPE
alan.jacobs@blach.com

COLORADO
Denver #5
Where: To Be Determined
To Be Determined
Denver
Date: 2nd Tuesday; Time: 5:00 PM
Meeting Contact:
Paul Jonez
pjonez@gtc1.net

CONNECTICUT
Nutmeg #60
Where: Back Nine Tavern
245 Hartford Road
New Britain - 06053
Date: Varies; Time: 6:00 PM
Meeting Contact:
Harrison Levy
klevy@petraconstruction.com

Yankee #15
Where: To Be Determined
To Be Determined
Stratford, CT
Date: TBD; Time: TBD
Meeting Contact:
Gregory Williamson, CPE
gwilliamson@bondbrothers.com

DELAWARE
Delaware #75
Where: Varies
To Be Determined
Wilmington
Date: 2nd Wednesday; Time: 5:30 PM
Meeting Contact:
Estel Taylor
etaylor@albireoenergy.com

DISTRICT OF COLUMBIA
Greater D.C. #23
Where: Jacobs
1100 North Glebe Road, Suite #12
Arlington - 22201
Date: 3rd Thursday; Time: Varies
Meeting Contact:
Maurice Touzard, CPE
mtouzard@gmail.com
FLORIDA
Tampa Bay #48
Where: Mitchell’s Fish Market
204 West Shore Plaza
Tampa - 33609
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact:
Jim Cummings
jim.cummings@edunn.com

Gold Coast #49
Where: To Be Determined
West Palm Beach
Date: TBD; Time: TBD
Meeting Contact:
Carri Morones, CPE
aspe.carri@gmail.com

Orlando #50
Where: Black & Veatch Offices
201 S Orange Avenue, Suite 500
Orlando - 32801
Date: 3rd Tuesday; Time: 6:00 PM
Meeting Contact:
Danny Chadwick, CPE
dkchadwick@bellsouth.net

INDIANA
Central Indiana #59
Where: To Be Determined
Indianapolis
Date: 3rd Thursday; Time: 5:30 PM
Meeting Contact:
Chris Neal
cneal@summitconst.com

Old Fort #65
Where: To Be Determined
Fort Wayne
Date: Last Thursday; Time: Varies
Meeting Contact:
Thad Berkes
tberkes@designcollaborative.com

IOWA
Quad Cities #71
Where: To Be Determined
Davenport
Date: Varies; Time: Varies
Meeting Contact:
Matt Burress, CPE
mburress@performanceservices.com

GEORGIA
Atlanta #14
Where: Sage Woodfire Tavern
4505 Ashford Dunwoody Road
Atlanta - 30346
Date: 2nd Monday; Time: 11:45 AM
Meeting Contact:
Clinton Aldridge
clintonaldridge@gmail.com

ILLINOIS
Chicago #7
Where: To Be Determined
Downers Grove - 60515
Date: 3rd Thursday; Time: 6:00 PM
Meeting Contact:
Bryan Mixer, CPE
bmixer_rvc@msn.com

LOUISIANA
New Orleans #9
Where: To Be Determined
New Orleans
Date: TBD; Time: TBD
Meeting Contact:
Jim Johnson
warrego@jm@gmail.com

MAINE
Maine #37
Where: To Be Determined
Portland
Date: 1st Wednesday; Time: Varies
Meeting Contact:
John Brockington, CPE
jbrockington@woodwardcurran.com

MARYLAND
Baltimore #21
Where: To Be Determined
Baltimore
Date: Varies; Time: Varies
Meeting Contact:
Clint Townshend
ctownshend@phoenix-eng.com

MASSACHUSETTS
Boston #25
Where: To Be Determined
Boston - 02116
Date: Varies; Time: Varies
Meeting Contact:
Eric Rennell
eric@rennellcapitalgroup.com

MICHIGAN
Detroit #17
Where: Auch Construction
65 University
Detroit- 48342
Date: 3rd Tuesday; Time: 5:15 PM
Meeting Contact:
Gerald McClelland
gmcclelland@auchconstruction.com

Western Michigan #70
Where: To Be Determined
Grand Rapids
Date: Varies; Time: Varies
Meeting Contact:
Mike Alsgaard, CPE
maalsgaard@fishbeck.com
ASPE CHAPTER MEETINGS (CONTINUED)

**MINNESOTA**
- Viking #39
  - Where: To Be Determined
  - St. Paul
  - Date: Varies; Time: Varies
  - Meeting Contact: Matt Burress, CPE
    - mburress@performanceservices.com

**MISSOURI**
- St. Louis Metro #19
  - Where: AGC St. Louis Training School
    - 6301 Knox Industrial Drive
    - St. Louis - 63139
  - Date: 3rd Friday; Time: 7:30 AM
  - Meeting Contact: Matt Burress, CPE
    - mburress@performanceservices.com

**NEBRASKA**
- Great Plains #35
  - Where: To Be Determined
    - Omaha
  - Date: Varies; Time: Varies
  - Meeting Contact: Keith Parker, CPE
    - gmwfam5@gmail.com

**NEVADA**
- (CONTINUED)
  - Las Vegas #72
    - Where: To Be Determined
      - Las Vegas
    - Date: 2nd Thursday; Time: Varies
    - Meeting Contact: Chuck James, CPE
      - wcjames2@cox.net

- (CONTINUED)
  - Reno #12
    - Where: To Be Determined
      - Reno
    - Date: Varies; Time: Varies
    - Meeting Contact: TBD

**NEW JERSEY**
- Garden State #26
  - Where: The Appian Way Restaurant
    - 619 Langdon Street
    - Orange - 07050
  - Date: 4th Tuesday; Time: Varies
  - Meeting Contact: Jeffery Senholzi
    - costnav@ptd.net

**NEW MEXICO**
- Roadrunner #47
  - Where: Fiestas Restaurant
    - 4400 Carlisle Boulevard NE
    - Albuquerque - 87107
  - Date: 1st Wednesday; Time: 5:30 PM
  - Meeting Contact: Jimmy Sample, CPE
    - jimmy.sample@bixbyelectric.com

**NEW YORK**
- New York #10
  - Where: To Be Determined
    - New York City
  - Date: Varies; Time: Varies
  - Meeting Contact: Bruce Schlesier, CPE
    - bruce_schlesier@msn.com

- (CONTINUED)
  - Western NY #77
    - Where: To Be Determined
      - Rochester
    - Date: TBD; Time: TBD
    - Meeting Contact: Gregory Williamson, CPE
      - gwilliamson@bondbrothers.com

**OHIO**
- Buckeye #27
  - Where: To Be Determined
    - Columbus
  - Date: Varies; Time: Varies
  - Meeting Contact: Matt Burress, CPE
    - mburress@performanceservices.com

- Southwestern Ohio #38
  - Where: To Be Determined
    - Blu Ash - 45242
  - Date: 3rd Thursday; Time: TBD
  - Meeting Contact: Chris McCarthy
    - chris.mccarthy@danis.com

**OKLAHOMA**
- Landrun-OK City #80
  - Where: Ingrid’s Kitchen
    - 3701 North Young Boulevard
    - Oklahoma City - 73112
  - Date: 1st Wednesday; Time: 11:30 AM
  - Meeting Contact: Phyllis Battle
    - pbattle@preconstructionservices.com

**OREGON**
- Columbia-Pacific #54
  - Where: Varies
    - Portland - 97201
  - Date: 3rd Tuesday; Time: Varies
  - Meeting Contact: Leanne Legare
    - leanne-legare@hoffmancorp.com
ASPE CHAPTER MEETINGS (CONTINUED)

► PENNSYLVANIA
Greater Lehigh Valley #41
Where: D’Huy Engineering Office
1 E. Broad Street
Bethlehem
Date: Varies; Time: Varies
Meeting Contact:
William Watkins
www@dthuy.com

Three Rivers #44
Where: Webinar
To Be Determined
Pittsburgh
Date: TBD; Time: TBD
Meeting Contact:
Siena Shilale
siena.shilale@aecom.com

Greater Philadelphia #61
Where: Varies
To Be Determined
Philadelphia
Date: Varies; Time: Varies
Meeting Contact:
Richard Baus
rickb@bencardino.com

Central Pennsylvania #76
Where: Loxley’s Resturant
500 Centerville Road
Lancaster - 17601
Date: 2nd Wed; Time: 6:00 PM
Meeting Contact:
Dan Dennis, CPE
dd@EGSConstruction.com

► TEXAS
Houston #18
Where: Spaghetti Westerns
1608 North Shepherd
Houston - 77007
Date: 2nd Monday; Time: 6:00 pm
Meeting Contact:
Dennis Pyland
dennis.pyland@gmail.com

Rio Grande #40
Where: Amigos Resturant
2000 Montana Avenue
El Paso - 79903
Date: 1st Thursday; Time: 6:00 PM
Meeting Contact:
Rodolfo Barba, CPE
rodolfobarba1@gmail.com

Dallas/ Ft.Worth #43
Where: See Chapter Website
To Be Determined
Varieties: N. Dallas/Mid-Cities/Grapevine
Date: Varies; Time: Varies
Meeting Contact:
Rick Wyly, CPE
rick@buildcostcontrol.com

► UTAH
Great Salt Lake #51
Where: Varies
To Be Determined
Salt Lake City
Date: 3rd Thursday; Time: Varies
Meeting Contact:
Phil Capell, CPE
president@aspe51.org

► TENNESSEE
Middle Tennessee #34
Where: Adventure Science Center
800 Fort Negley Boulevard
Nashville - 37203
Date: 1st Friday; Time: 11:00 AM
Meeting Contact:
Ricky Sanford
rsanford7159@gmail.com

► VIRGINIA
Richmond #82
Where: Baskervill
101 South 15th Street, Suite #200
Richmond - 23219
Date: 4th Wednesday; Time: 5:00 PM
Meeting Contact:
TK Farleigh
tfarleigh@baskervill.com

Please Note: Information is subject to change. Report changes in your Chapter’s information with an email to Tina@ASPeNational.org
EDUCATION:
ASPE educates and mentors professional estimators for the sustainability of the construction industry.

PROFESSIONALISM:
ASPE promotes the lifelong pursuit of excellence and credibility in professional estimating.

FELLOWSHIP:
ASPE develops a fellowship of professional estimators that connects and leads the construction industry.