HTETCO Zoo & Aquarium Exhibits

2021 Awards Information

2021 Scholarship

Test Your Ethics - Results
## ASPE BOARD OF DIRECTORS
### 2020 - 2021

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### CONTENTS

- ASPE National President  3
- ASPE Industry Awards  4
- New Members, CPEs + AEPs  5
- ASPE National Awards  7
- Test Your Ethics ... Results  10
- Call all CPE’s  14
- HTETCO a Zoo and Aquarium Exhibits  15
- Remembrance of Steve Bingman, FCPE  23
- Critical Calendar  27
- Chapter Meetings  28

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**CONTACT THE ASPE BUSINESS OFFICE**

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615.316.9200 • ASPEnational.org

**Standards Committee • Accounting • Membership • Website • Publications**

**Certification Committee & Program • Education Committee • Online Classes**
I hope that this finds everyone safe and prosperous so far this year. As I have stated previously the board is looking at everything. To date we have set up an ad hoc committee of the board they are reviewing the website, LMS as well as the marketing and communication aspect of ASPE. We have also set up an ad hoc committee to proceed with planning the Summit and to look at all the options associated with that program. The National Board is shaking things up. Each of these committees will be reaching out for assistance from the membership.

I have the privilege to represent ASPE as a trustee on the American Council for Construction Educators. This is the council that issues the accreditation to Universities construction programs. Marcene has represented ASPE for last two years and has done a great job promoting ASPE with this organization. I hope to continue the great relationship between ASPE and ACCE.

Several of us are working on the value proposition. This is a statement that tells both members and non-members just what the value of ASPE is. 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. Again, I would welcome anyone’s comment or ideas on this type of statement. Please send you comments directly to my email or give me a call.

We continue to watch the dollars going out and coming in. With the environment as it is, membership is critical and we need to work on retention of members as well as new membership.

We will continue to 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.

Melvin D. Cowen, CPE
ASPE National President 2019-2021

Connect at:
Mel@Cowen-Est.com
Cowen Estimating & Construction Service
Chapter 7 – Chicago
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

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
## Welcome to Our New Members (December + January)

<table>
<thead>
<tr>
<th>NAME</th>
<th>COMPANY</th>
<th>CHAPTER</th>
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<tr>
<td>Luke Rideout</td>
<td>Newhaven Builders, Inc.</td>
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<td>Rodney Percival</td>
<td>Capproso</td>
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<td>Mostafa Sobah</td>
<td>H&amp;E Equipment Svc</td>
<td>Orange County 3</td>
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<td>Craig Steele</td>
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<td>Edna Rodriguez</td>
<td>Swinerton Builders</td>
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<td>Laura Kingfisher</td>
<td>Stantec Engineering</td>
<td>Denver 5</td>
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<td>Chris Ludow</td>
<td>Samir Jaysukh Rajpara</td>
<td>Arizona 6</td>
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<td>James Beal Consulting LLC</td>
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<td>James Beal</td>
<td>Bundren Painting</td>
<td>Houston 18</td>
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<td>Andrew Roberts</td>
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<td>Billy Cordova</td>
<td>Cash Construction Company</td>
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<td>Aaron Goertz</td>
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<td>Wayne Baptiste</td>
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<td>Ryan Bosworth</td>
<td>Icon Mechanical</td>
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<td>Markon Solutions</td>
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<td>Paul Macko</td>
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<td>James Loomis</td>
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<td>Andre Lacerda</td>
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<td>Brian Guillemette</td>
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<td>Matthew Smith</td>
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<td>William Schaeffer</td>
<td>Scungio Borst &amp; Associates</td>
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<td>Mohamed Askar</td>
<td>Southern Utah University</td>
<td>Las Vegas 72</td>
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<tr>
<td>Kim Williams</td>
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<td>Richmond 82</td>
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## Membership Classification Count (as of 02/10/2021)

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<tr>
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## Congratulations to New CPEs + AEPs (December + January)

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<th>CHAPTER</th>
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<tr>
<td>Lauren A Bergeron Jr, CPE</td>
<td>WSP USA, Inc.</td>
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<td>Gerard Naab, CPE</td>
<td>Integrity Project Cost Assessment</td>
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<tr>
<td>Kyle Bashay, CPE</td>
<td>CCS International, Inc.</td>
<td>Houston 18</td>
</tr>
<tr>
<td>Steven Muir, CPE</td>
<td>Madsen Kneppers &amp; Associates, Inc.</td>
<td>Baltimore 21</td>
</tr>
<tr>
<td>Jay Patel, AEP</td>
<td>Crawford Consulting Services</td>
<td>Three Rivers 44</td>
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<tr>
<td>Mark Morris, AEP</td>
<td>Crawford Consulting Services</td>
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<tr>
<td>Donald Crean, AEP</td>
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<tr>
<td>Donald Vasi, AEP</td>
<td>Crawford Consulting Services</td>
<td>Nutmeg 60</td>
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<tr>
<td>Christopher Palmarozza, CPE</td>
<td>Standard Builders</td>
<td>Southwest MAL 91</td>
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<tr>
<td>Chris Heidrick, CPE</td>
<td>Oak Springs Associates LLC</td>
<td>Southeast MAL 93</td>
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<td>Kevin Wagoner, CPE</td>
<td>Progressive Concrete LLC</td>
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<td>Lindsay Lane, AEP</td>
<td>Crawford Consulting Services</td>
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<td>David Treganowan, AEP</td>
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<td>Samuel Babbitt, AEP</td>
<td>RSMeans/Gordian</td>
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<td>Rupen Dankhara, AEP</td>
<td>Molinar Property Group</td>
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<td>Anthony Guzman, AEP</td>
<td>Cullen Construction Management</td>
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<tr>
<td>Tracy Preston, AEP</td>
<td>Crawford Consulting Services</td>
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</tr>
</tbody>
</table>
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)

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- **Legitimize your work to your peers.**
- **Contribute to a unique historical database development tool that enables the construction industry to develop cost models based on actual construction.**

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*Do something good for your company today!*
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
ConsensusDocs... BUILDING A BETTER WAY!

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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Marcene Taylor Inc. - Platinum
Delta Innovative Services, Inc. - Bronze
EnviroVantage - Basic
Flynn BEC LP - Basic

Corporate Partners
Bluebook * ConsensusDocs * DCD Magazine * On Center Software
2021 Scholarship Program

Multiple Scholarships Available
Up to $25,000 to be Awarded

Application Due Date - April 23, 2021

Applicant Eligibility:
• Course of Study - Construction Related Field
• Enrolled as a Full-Time College Student
• Currently a College Sophomore or Junior
• GPA - 3.0 or Higher
• No relationship with any member of Scholarship Committee

For more information, visit ASPEnational.org
Education Tab - Scholarship
The November/December 2020 issue of Estimating Today, I posed the question, “what would you do if a mistake was made in your favor in the amount of approximately $300,000 on a negotiated project?

Following are the comments received.

- If this was a competitive bid situation, no questions, you just hit the jackpot.
- Negotiated work where you are acting as the owner’s agent, also no questions, you put your tail between your legs and let them know there was a mistake in their favor. I would ask for a portion of the money to go into a fatter contingency to cover potential unknowns and issues that any arise but no doubt, give it back.
- Take the money & run. If it was the reverse, would the Owner pay you more? NO
- One of the Rules of Law is that you do not take advantage of mistakes. When the Schedule of Values is developed and published how do you “hide” that amount of money. If the Owner does an audit, they will find the mistake. Word of mouth will send you down that rabbit hole. You have to make the Owner aware of the mistake.
- You tell the Owner of the mistake in their favor. Also, you tell them of a mistake against you. It takes years to get a good reputation and one moment of indiscretion you lose it.
- It’s called the risk of business. Transfer part into contingency, part you immediately give back once you have completed buyout of all scopes of work.
- No brainer
- Call the client and tell them the good news. Anything else is unethical, You have been hired to represent the owner interest and that is why you get to earn your fee.
- Regardless of the overall outcome of the Project, that money is the clients and even if you all screw up the project costing it money does not change that fact today, and today that is the client’s money.
- There may be pluses and minuses in the project and the allowances handle themselves. The contingency is a rightful insurance. The facts that based the GMP contract must be kept in a truthful manner as a responsible contracting company.
Test your Ethics ... continued

- Interesting question: What do you do if your GC Owner says "they are keeping the money. Some jobs make more and some make less, they don't call and ask for more money from the client when there has been a mistake." - True BUT - That is why the scope is clarified, there are allowances and a contingency for that.

- If my owner told me he was keeping the money I would quit. Not sure if it's my place to inform the client or not. I would want to, but what are the ethics of that. I was representing the GC's interests as an employee and I don't know at that point what would be the right thing.

- It's not the client's money. It's my risk, it's my money.

- What if the tables were turned, what if the mistake was against me. I doubt the owner would give me more money.

- In an equitable world—which construction is not most of the time, you cannot take advantage of a mistake. Unfortunately, it doesn't play out that way in most projects. Negotiated—tell the client. Hard Bid—lucky you.

- What if I was the Client? I would want to know and I will guarantee this general contractor all my future work.

- Ethics be damned. Is it illegal? If not, I'm keeping the money.

- If the Owner is on their toes, they will find out eventually. Don't try and hide it. Make the Owner aware of the mistake.

- I asked this question of our Company President. His direct comment...“hell no, we are keeping it...”

Some very interesting perspectives. (and ethics).
2021 ELECTIONS
BOARD OF DIRECTORS

The following elected positions will appear on the 2020 Ballot

PRESIDENT

FIRST VICE PRESIDENT

SECOND VICE PRESIDENT

SOUTHWEST GOVERNOR

CENTRAL PLAINS GOVERNOR

NORTHEAST GOVERNOR

Elections will open March 3 and close March 17
What next steps will you take to advance your estimating career?

Consider earning your Certified Professional Estimator or Associate Estimating Professional designation.

The Certified Professional Estimator (CPE) and Associate Estimating Professional (AEP) designations acknowledge that you have met, and continue to meet, the criteria established by the American Society of Professional Estimators, recognizing the estimating proficiency and ethical awareness of the individual. These nationally recognized Programs attest that a construction estimator has met the necessary education requirements and has the capabilities necessary of the profession.

The Certified Professional Estimator (CPE) designation is the highest form of professional recognition an estimator may earn and celebrates the years of experience needed to pass the rigorous requirements of this CESB accredited Program.

5+ Years of Experience Required!

The Associate Estimating Professional (AEP) designation offers recognition of the education and general estimating knowledge required to be part of this exciting and growing field of construction industry professionals.

Education in a Construction Related Field is the Key!

Each Program is offered in an open cycle format that allows candidates to progress at a self-guided pace while successfully completing the following steps.

Steps to earning your CPE designation ...

* 5-Years of Estimating Experience  * General Estimating Knowledge (GEK) Exam  
  * Discipline Specific Test (DST) Exam  * Submit a 2,500+ Word Technical Paper

Steps to earning your AEP designation ...

* General Estimating Knowledge (GEK) Exam

Both the CPE and AEP Programs require annual renewal, including the earning of Professional Development Unit (PDU) credits.

This ensures that the Estimator keeps abreast of construction industry changes and is motivated to personal growth through continuing education and interaction with others in the field.

Learn more at ASPEnational.org / Certification
Calling All CPEs!

- Imagine you are a young estimator who is assigned to work on an estimate for a new hospital radiology floor?
- Suppose you have been a healthcare estimator for 10 years, change jobs and are asked to estimate a new casino?
- What are your next steps if you encounter a project type that you have never estimated before, and are not even sure what you don’t know?

The Standards Committee is working to address this challenge by introducing a new SEP publication that will support estimators, at all levels of experience, to expand their skill set and detail unique information about specific project types. But your help is needed!

ASPE is calling upon all CPEs to share your knowledge by writing Technical Papers on various project types in which you consider yourself an expert. So whether you are an expert in estimating for banking institutions, hospitals, casinos, manufacturing plants, sewer treatment plants, grocery stores, restaurants, office buildings, housing or hotels, we hope you will participate. To reward this effort, the Certification Committee will award the author of successful Technical Papers with 12 PDUs. In addition, if the Technical Paper is selected for publishing, an additional 4 PDUs will be awarded! (Successful Technical Paper = Earning a Passing Score of 24+)

ASPE is seeking very specific topics. To ensure that a variety of Technical Papers are received, please contact Cinder McDonald, Certification Committee Coordinator (Certification@ASPEnational.org) prior to proceeding, for a list of possible topics. After a topic is approved, you will be provided with the established parameters / the standardized format for the Technical Paper. To be included in the 11 Edition of Standards Estimating Practice, you must submit your topic by April 1, 2021.

If you have any questions regarding Standards, please contact Dave Garman, CPE, Standards Committee Chair at dgarman@weigandconstruction.com.

Thank you for considering this opportunity to be part of this first of its kind estimating reference book! Please note the following paper as a great example!
HTETCO a Zoo and Aquarium Exhibits

TABLE OF CONTENTS

Section 1: Introduction
Section 2: Factors that Affect Takeoff and/or Pricing that are Unique to this Project
Section 3: Special Risk Considerations Related to this Project
Section 4: Parametric Estimating and Rules of Thumb
Section 5: Miscellaneous Pertinent Information
Section 6: Sample Plans and Take-off
Section 7: Sample Budget Estimate
SECTION 1: INTRODUCTION

Every project type accommodates components unique to its industry, whether bedding and linen for hospitality projects, medical equipment for healthcare projects, or technical audio-visual equipment for briefing centers. Zoo and aquarium exhibits are also specialized. The purpose of this paper is to highlight unique characteristics of these types of exhibits and discuss estimating approaches to ensure estimates are built upon a strong foundation and are robust.

When dealing with unique aspects of zoo and aquarium exhibits, the estimator needs to know what questions to ask. Having enough subject matter knowledge will facilitate asking the right questions (and even knowing what to ask), particularly during the early stages of the design phase when many gaps in the design information exist and are to be expected.

This paper does not intend to recommend preferred design solutions or offer unit pricing information, since costs vary significantly from project to project and location, but rather equips the estimator with enough information to ask appropriate questions. A Sample Cost Estimate for an elephant exhibit is included at the end of this technical paper for reference. Vendor references are also provided to assist a first-time exhibit estimator.

Main topics include:
- Interpretives
- Audio Visual Equipment
- Media Content
- Animal Barriers
- Animal Capital Cost & Transportation
- Animal Husbandry
- Rockwork
- Landscaping / Foliage
- Pool / Water Body Construction
- Life Support Systems
- Acrylic Panels

SECTION 2: FACTORS THAT AFFECT TAKEOFF AND/OR PRICING THAT ARE UNIQUE TO THIS PROJECT

The following subject matter knowledge is essential to be an effective estimator for zoo and aquarium projects:

INTERPRETIVES

Interpretives or interpretive signage are the educational signage that accompany exhibits. They typically provide background information about the animal being housed such as geographical habitats, origination, diet, and other species information including its protected or endangered status.

These are incorporated into every zoo project. Traditionally, signage comprised solely of exterior grade, durable materials with the ability to withstand a variety of weather conditions and physical contact by thousands of guests (e.g. embossed on metal or printed on vinyl). Today, many exhibits include interactive elements or video monitors to replace or supplement traditional methods.
Data for collection of Interpretives include:

1. Materials – Panels and lettering type for traditional signage and/or media-based displays.
2. Sizes – Overall square footages.
3. Quantities – Typically there is one panel in front of the exhibit but there could be secondary panels depending on size of exhibit frontage.

Armed with this information it is relatively easy to apply appropriate costs for the interpretives using cost / sf based on previous projects, also referred to as historicals. If this is not available, then vendor pricing should be sought and kept in a database for future reference.

Note: Look out for additional framing or foundation requirements. The Sample Cost Estimate includes pricing for interpretives.

**Audio Visual Equipment**

As you walk around a zoo, you may hear many different sounds, some are natural while others are artificial and piped through speakers within the space to provide an immersive environment. Sounds may include birds, a variety of animals, wind, rain, etc. In addition, there may be monitors and screens to provide visual interest as well as information (e.g. wait times, special events, and shows).

Pricing these components requires the following information:

1. Number of speakers - Quantities can be estimated during the early stages of design based on known metrics, such as 1 speaker per 20’ of pathway or an allowance based on sf of landscape per speaker.
2. Extent of “point source” speakers – These are speakers that have specific messages and may be triggered or are “show controlled” (the use of automation technology to link together and operate multiple entertainment control systems in a coordinated manner), as guests walk by.
3. Number and size of monitors / screens - Restaurants often have digital menu boards and the zoo may have a central display screen for large advertisements.
4. Systems playback - A centralized location for playback of these systems (location, sophistication, number of racks).
5. Media content – Content played through the speakers and displayed on the monitors.

Pricing speakers is straightforward with historicals or vendor input (note: Point speakers can cost thousands of dollars). Pricing of monitors can also be obtained once a size is known (e.g. 55” LCD monitor). If using internet sources, ensure commercial grade equipment is used for pricing.

In all instances, brackets, supports and the need to theme the encasement with shrouds and covers to fit in with the surrounding environment or simply to be hidden, must be a consideration, the extent varies from zoo to zoo. Consider Disney’s Animal Kingdom which is incredibly immersive in comparison to a local petting zoo, each has vastly different levels of theming.

Pricing the playback equipment can be performed by using historicals and vendor input. It is important to identify the location of the playback equipment and racks to capture the appropriate electrical infrastructure requirements (conduit wire, cable tray etc.).

A verification check should be performed once all items are priced. This can be done by taking the overall cost of the AV systems hardware and deriving a cost / sf (excluding media production which would skew any metrics) as a comparison to other projects.

**Media Content Production**

This is a specialized field in and of itself. The estimator must confirm if the cost of the media is to be captured in the cost estimate.

For example, if an area of the zoo is supplemented with bird sounds played through speakers, are those sounds “off-the-shelf” sounds that can be purchased and played through the playback device or do they need to be produced specifically for the zoo. There is a very big difference in cost between these two options. Similarly, for the visual media, what type of content will be playing, who produces it, and should those costs be captured in the estimate?

**Animal Barriers**

As one can imagine, animal barriers play a big part in estimating zoo exhibits, particularly when larger animals are involved. Consider the needs for elephant barriers compared to enclosures housing emus!

For larger animals, the barriers need to be robust and strong enough to withstand active load forces of thousands of pounds. Electrified and spiked fencing may also be incorporated into the design for safety. More and more projects now try to adopt design solutions for guest and animal safety by using glass or clever terrain and elevation changes to ensure safe distances.

Note that the construction of barriers could range from poured in place concrete or masonry walls to steel tube railing wrapped with FRP (Fiber Reinforced Plastic) for a themed look (i.e. like wood products). The foundations and thicknesses of the walls drive the cost and are determined by the animal type being housed (compare needs for an elephant versus an otter exhibit). If FRP wrapping is used, one should develop a surface area and then apply an appropriate cost / sf.
Elephant barriers are a good example of a unique item requiring vendor input to obtain current pricing, unless recent historicals are available for the same locale (which is unlikely). Costs run in the hundreds of thousands of dollars (the Sample Cost Estimate incorporates elephant barriers).

Smaller animals such as monkeys, small cats, and birds, often use containment mesh, cables, and cages for housing. The snippet below is an example of vendor pricing for animal containment fabricated from mesh and cables:

<table>
<thead>
<tr>
<th>Animal</th>
<th>Capital Cost &amp; Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Animal Capital Cost & Transportation**

The cost of the animals is often excluded from the cost estimate (generally, the owner carries and manages budgets for animal purchases separately). However, it is worth exploring everything associated with bringing livestock from point of purchase to the final habitat to ensure clarity regarding what exactly is to be excluded from the estimate.

The animal supply chain can include the following:

1. Point of purchase – Establishes where the animal will be sourced from (could be local, national, international).
2. Holding Costs prior to transportation – It is unlikely that all animals required would be purchased at the same time and transported. There is likely to be a gap between actual purchase and transportation, therefore costs associated with a holding station, general care, feeding, and medical costs need to be accounted for.
3. Transport – There are specialized companies that transport animals from point of purchase to delivery location. Special cages and transport vehicles are used.
4. Quarantine costs – Once transported, it is unlikely that animals will be allowed to go straight to their final destination without a period of quarantine to ensure they do not have health issues.
5. Off-site / Acclimatization – There may need to be an acclimation period required to limit trauma prior to exposure to guests.
6. Veterinarians / Support staff – Costs to accompany animals during travel and cover additional staff during the settling in period.

Below is an example of a cost worksheet including costs of capturing animals, holding costs, transportation, and staff (for a project in Hong Kong using HK $).

<table>
<thead>
<tr>
<th>Animal</th>
<th>Animal Cost</th>
<th>Holding Cost (prior to transportation)</th>
<th>Animal Care Cost (HK$)</th>
<th>Staff Cost (HK$)</th>
<th>Transportation (HK$)</th>
<th>STAFF TRAINING (HK$)</th>
<th>Total Cost (HK$)</th>
</tr>
</thead>
</table>
Animal Husbandry

Soft costs associated with additional staff to support on site teams may be required.

This could include trainers, veterinarians, curators, specific animal experts and experience designers overall for the zoo. This is relevant if the estimator is expected to capture all design fees in their estimate or to ensure their list of exclusions captures these disciplines.

Below is an example of staff and support costs (costs also in HK$)

<table>
<thead>
<tr>
<th>Staff</th>
<th>Curator</th>
<th>Veterinarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meal Expenses</td>
<td>Accommodation</td>
<td>Airfare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td>Mammal</td>
<td></td>
<td>Airfare</td>
</tr>
<tr>
<td>Polar Bear</td>
<td>210,000</td>
<td>211,000</td>
</tr>
<tr>
<td>Atlantic Otter</td>
<td>320,000</td>
<td>316,000</td>
</tr>
<tr>
<td>Killer Whale</td>
<td>420,000</td>
<td>422,000</td>
</tr>
<tr>
<td>Giraffe</td>
<td>210,000</td>
<td>211,000</td>
</tr>
<tr>
<td>Harbour Seal</td>
<td>210,000</td>
<td>211,000</td>
</tr>
</tbody>
</table>

Rockwork

Rockwork has an essential role in creating environments within zoos. There are a few drivers that influence the cost of rockwork:

- Height – rockwork requires more structural steel support and the higher you go, the larger the steelwork “cake” to support it.
- Complexity – this will vary from project to project and is dictated by the desired design intent. Steel for rockwork can be field fabricated by bending steel bars to desired shapes or produced using “chip and tabs,” (typically for taller more complex designs) where chips are designed using 3D software and delivered to the site for assembly and attachment to the tabs.
- Proximity to water – any steel that is close to water will need to be stainless or possibly encapsulated. Stainless steel is preferred due to the complexity involved in ensuring any encapsulation is watertight. However, stainless steel comes at a price as the difference in material cost can be significantly higher over mild steel or low carbon steel.

Metrics to estimate quantity of steel tonnage can be derived by taking the total tonnage from similar projects and dividing it by the surface area. Note: Capture all steel including both primary and secondary steelwork (and sometimes tertiary support members). The actual carving of the “rockwork”, which is themed plaster or shotcrete, (i.e. what the guests see) should be based on a cost / sf and accounts for the complexity of the desired rockwork. This should be discussed with the design team.

Having a good basis for surface area of rockwork is critical to establishing cost. Often during the early stages, the drawings may simply indicate location of rockwork without specific details to allow an accurate estimation of quantities. The estimator should work with the design team to establish quantities that the design will be vetted against as it progresses. The design team may also offer surface scans of physical scale or digital models to assist with quantification. Metrics from other projects can also be helpful and allow quantities to be generated once footprints and heights are known or can be assumed.

Landscaping / Foliage

Landscaping within exhibits and in general areas of a zoo may be designed around geographical habitats of the animals living in regions such as the Amazon Rainforest or the Sahara Desert. This provides authenticity for guests and is critical to the acclimatization of the animals. It is important to clarify this with the designers as there may be premium costs to capture, including:

- Shipping – Shrubs and trees may be sourced from all over the country or overseas. Costs are heavily influenced by size, whether the plantings are saplings or mature trees.
- Potential need for a tree farm – Some projects may procure saplings and have an on or off-site tree farm to grow the trees to a certain level of maturity before final placement when the exhibit / project is completed. If mature trees are delivered, craneage costs will need to be factored.
- Specimen trees and shrubs – It is worth clarifying with the design team the extent and nature of specimens, as these can be far more costly than non-specimen plantings.
- Special construction – This may include the construction of a greenhouse to house plants and shrubs that may not survive in open areas of the zoo.
- Irrigation – General shrub irrigation, drippers, isolated systems, and the resulting controllers for different zones.
- Maintenance – Estimates often include an allowance for maintenance for a minimum of 6 months from the date of opening.
HTETCO a Zoo and Aquarium Exhibits ... continued

- Soft Costs - If the cost estimate is to include soft costs, then costs for a horticulturist must be factored in.

**Pool / Water Body Construction**

Some form of water retention basin is often required for exhibits, whether housing an otter, penguin, or a sea lion. Shotcrete construction is predominantly used for the animal pool construction and costs can be derived based on the square footage involved (walls and slab). The costs need to allow for waterproofing and lighting. Water treatment for the pools is captured below.

The Sample Cost Estimate includes costs for pool construction.

**Life Support Systems (incl. Water Treatment)**

Life Support Systems (LSS) are unique elements to environments with animals and often comprise a significant portion of the overall cost. Costs should be isolated from mechanical systems for comparison purposes as the estimator moves from project to project.

LSS comprise of the following:

- Heating / cooling for animals
- Filtration requirements in water habitats
- Feeding equipment

During the early stages of a design, the estimator needs to know something about the animal being housed to understand whether heat (e.g. as for snakes) or water filtration (e.g. for seals) is required, and to have a better understanding of the main LSS components needed for the particular animal (filters, skid system, Ultra Violet, etc.).

With this information relevant questions can then be asked such as:

- Water turns per hour (to ensure the appropriate equipment is factored).
- Size of exhibit (to ensure the appropriate number of heaters are accommodated).

Metrics including cost / gallon can be used by type of system and animal in the exhibits. Water treatment equipment for larger animals needs to be able to handle more turns per hour to clean the water and more turns equates to more cost.

Note that the LSS consultant on the team often provides their own benchmarks and are important to keep in the loop as costs are developed.

The Sample Cost Estimate includes priced LSS systems and piping.

**Acrylic Panels**

Aquariums and water-based exhibits require acrylic paneling. These can be several feet thick to provide the required strength to retain the water and withstand animal collisions (think of a whale). Acrylic panels are often comprised of several pieces of laminated acrylic to reach the required thicknesses and are sometimes priced by the lb. Without good historical data, the estimator should reach out to experts for supply and installation pricing. Note: The desire to limit visible seams can influence the cost.

The chart below was developed using vendor pricing and equations to derive metrics that could be incorporated and used as a historical base for other projects for different thicknesses of acrylic.
SECTION 3: SPECIAL RISK CONSIDERATIONS RELATED TO THIS PROJECT

The items discussed above are unique to animal habitats and exhibits. If the estimator does not have existing projects to benchmark against then they must reach out to appropriate vendors for pricing checks. The specialized nature of the work often limits a pool of qualified subcontractors to perform the work (compared to general concrete or earthwork trades).

In addition, the zoo or aquarium may have a list of preferred vendors they will only consider for the work. This can create premiums due to limited competition.

There may be constraints that impact productivity or general conditions and requirements. These could include working within the proximity of active habitats, noisy work only being permitted during off-hours, or the need for special training and permits.

All of these risks plus any soft cost considerations and budget allocations should be discussed with the team and incorporated into the estimate (or clearly excluded).

SECTION 4: PARAMETRIC ESTIMATING AND RULES OF THUMB

Pricing of zoo and aquarium exhibits with so many specialized elements generally warrant vendor pricing input. As more estimates are performed, key data can be captured to develop metrics for future parametric estimating, particularly in the early stages of design when specific details and specifications are not available. These same metrics can then be referenced later in the design process when it is time to confirm that detailed estimates fall in line with those established metrics.

Several examples of rules of thumb metrics have already been described, including: Speakers per sf of landscaping, cost per sf of surface area of rockwork, or gallon turns per hour for water treatment.

Internet sources can also be very helpful to gain general knowledge of different animal habitats (zoolex being a very good source) and also for bid results, providing overall costs for different projects (many public zoos publish bid results).

The estimator needs to establish the appropriate cost estimating approach for the item to be priced in the development of the cost estimate. Below is a sample worksheet deriving metrics for the LSS system of a dolphin habitat. It was prepared using vendor feedback for a project and then used for developing estimates for other projects (the yellow highlighted cells are input cells for use on subsequent projects). Periodically, vendor or bid pricing should be sought to ensure the metrics still apply.

SECTION 5: MISCELLANEOUS PERTINENT INFORMATION

There are other aspects to pricing zoo and aquarium exhibit work that will need to be considered as the estimator gains experience and acquires knowledge by simply working on different projects.

For example, the materials used in construction may be determined based on safety to animals (e.g. some materials may be harmful to some animals so there may be a need to swap out the material for a safer alternative or cover the material in some way so the animal cannot gnaw on a harmful substance). Anti-dig mats are another unique item that are often required to prevent animals from escaping exhibits by digging under fencing.
### SECTION 6: SAMPLE PLANS AND TAKE-OFF

#### Elephant Exhibit
Los Angeles, CA
100% Construction Document Design Stage Estimate

**Project #: 20-00XXX**

**05/21/20**

**SUMMARY**

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<tr>
<th>Element</th>
<th>Area</th>
<th>Cost / SF</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>SITEWORK</td>
<td>215,885</td>
<td>$48.45</td>
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<tr>
<td>ELEPHANT BARN</td>
<td>17,476</td>
<td>$593.03</td>
<td>$10,363,826</td>
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<tr>
<td>EXHIBITORY &amp; INTERPRETIVES</td>
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<td>$47.89</td>
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<td>LIFE SUPPORT SYSTEMS</td>
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<td>$17.28</td>
<td>$3,729,632</td>
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**TOTAL HARD COSTS**

<table>
<thead>
<tr>
<th></th>
<th>Area</th>
<th>Cost / SF</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>215,885</td>
<td>$161.62</td>
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HTETCO / A Zoo and Aquarium Exhibits ... continued
### SECTION 7: Sample Budget Estimate

**Elephant Exhibit**  
Los Angeles, CA  
100% Construction Document Design Stage Estimate  
05/21/20

#### SUMMARY MATRIX

<table>
<thead>
<tr>
<th>Element</th>
<th>Site Work 215,885 SF</th>
<th>Elephant Barn 17,476 SF</th>
<th>Exhibitory &amp; Interpretives 215,885 SF</th>
<th>Life Support Systems 215,885 SF</th>
<th>Total 215,885 SF</th>
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<td>05 Metals</td>
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<td>$405,625 $22.06</td>
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<td>07 Thermal And Moisture Protection</td>
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<td>13 Special Construction</td>
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<td>14 Conveying Systems</td>
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<td>25 Integrated Automation</td>
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<td>26 Electrical</td>
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<td>$43,350 $0.20</td>
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</table>

**Total Direct Construction Hard Costs**  
$7,466,017 $34.58 |

**GC Markups & Indirect Costs**  
- General Conditions: 8.00% $597,281 $2.77 |
- General Requirements: 4.00% $322,532 $1.49 |
- Bonds & Insurance: 2.00% $167,717 $0.78 |
- Contractor’s Fee: 4.00% $342,142 $1.58 |
- Design Contingency: 1.00% $88,957 $0.41 |
- Escalation to MOC, 30 Sep 2021: 5.83% $576,226 $2.67 |

**Total Construction Hard Costs**  
$10,459,337 $48.45 |

---

### SECTION 8: Sample Budget Estimate

For complete sample budget please visit: aspenational.org - Resources - Estimating Today
Remembrance in Honor of Steve Bingman FCPE

Fred Freshley, former member of Arizona Chapter #6 and National President in 1980 & 1981, called me on January 13, 2021 to notify me of the passing of Steve Bingman FCPE on January 11, 2021 at his home in Bullhead City, Arizona. Steve joined ASPE on May 1, 1972 as a member of Arizona Chapter #6, and subsequently moved to California and joined Orange County Chapter #3. He served as Chapter President for both groups and was elected National President for the 1977 term. The Society honored him as their National Estimator of the Year in 1977 and inducted him as a Fellow in 1986. He was instrumental in helping to plan and host the 1978 National Convention in Newport Beach, CA. Steve attended Arizona State University at the Del Webb School of Construction, and worked in the Estimating Department for Kitchell Contractors in Phoenix, Arizona and Irvine, California, eventually becoming their Chief Estimator and a Vice President. His wife Della indicated that no services were planned, and following cremation, his ashes would be scattered at sea in the Pacific Ocean.

Professionally, our construction firm in San Diego, California, had the privilege of working with Kitchell Contractors at Scripps Memorial Hospital in La Jolla, California. Steve and Gus Files, another ASPE Orange County Chapter #3 member, were instrumental in helping us during those projects. Steve was always available to help the Fellows after his retirement from the industry. He and his wife shared time in Bullhead City during the winters, and on the Oregon coast in the summers. I recall that he enjoyed hunting for gemstones and making jewelry pieces from those treasure troves. He is survived by his wife Della, 2 children, 4 grandchildren and 1 great-grandchild. ASPE and the band of Fellows have lost another dedicated member. We would suggest making a contribution to the ASPE National Scholarship Fund in his honor.

Fred Freshley
Freshley Contracting

Frank E. Young FCPE
CSOS Consulting
ASPE San Diego - 4
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## 2021 ASPE Critical Calendar: January - April

### March

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Last day for Society Business Office to determine the voting body for the election of Board of Directors</td>
</tr>
<tr>
<td>3</td>
<td>Last date is issue Ballots for the Board of Directors Election</td>
</tr>
<tr>
<td>10</td>
<td>Certification Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>15</td>
<td>Standards Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>TBD</td>
<td>Education Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>17</td>
<td>Last date to vote in Board of Directors Election</td>
</tr>
<tr>
<td>26</td>
<td>Last day to announce Board of Directors election results</td>
</tr>
<tr>
<td>31</td>
<td>Deadline to submit ‘Intent to Submit’ form for Award Submittals</td>
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</tbody>
</table>

### April

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>14</td>
<td>Certification Committee Meeting via Conference Call</td>
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<tr>
<td>TBD</td>
<td>Education Committee Meeting via Conference Call</td>
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<tr>
<td>16</td>
<td>All Award Nominations / Applications due to SBO</td>
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<tr>
<td>19</td>
<td>Standards Committee Meeting via Conference Call</td>
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<tr>
<td>23</td>
<td>Deadline: Scholarship Applications</td>
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<td>24</td>
<td>Board of Directors Meeting via Video Conference</td>
</tr>
</tbody>
</table>

### May

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Deadline for Chapters to submit Chapter elections result form to Society Business Office</td>
</tr>
<tr>
<td>12</td>
<td>Certification Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>17</td>
<td>Standards Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>TBD</td>
<td>Education Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>27</td>
<td>Committee and Technical Committee Chairs progress reports due to their respective Vice President and Society Business Office</td>
</tr>
<tr>
<td>29</td>
<td>Scholarship Winner(s) to be announced (to Winners only)</td>
</tr>
<tr>
<td>29</td>
<td>Deadline: 2021 July/August <em>Estimating Today</em> articles to Society Business Office</td>
</tr>
</tbody>
</table>

### June

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>9</td>
<td>Certification Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>15</td>
<td>Award Winners to be announced (to Winners only)</td>
</tr>
<tr>
<td>21</td>
<td>Standards Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>TBD</td>
<td>Education Committee Meeting via Conference Call</td>
</tr>
<tr>
<td>30</td>
<td>2021-2022 Board of Directors take Office</td>
</tr>
</tbody>
</table>
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
Tucson
*Date:* Varies; *Time:* Varies
*Meeting Contact:* Larry Lucero, CPE
llucero@redlineinsulation.com

**ARKANSAS**
Arkansas #33
*Where:* Varies
Little Rock - 72201
*Date:* Varies; *Time:* Varies
*Meeting Contact:* Jack Guess
jguess@baldwinshell.com

NW Arkansas #79
*Where:* Varies
Bentonville
*Date:* TBD; *Time:* TBD
*Meeting Contact:* Carri Morones, CPE
aspe.ccm@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
la1ofaspe@outlook.com

Golden Gate #2 (CONTINUED)
Orange County #3
*Where:* To Be Determined
San Francisco - 94105
*Date:* TBD; *Time:* TBD
*Meeting Contact:* Steve Watkins
steve.watkins@bnbuilders.com

*Where:* Virtual Meeting
Costa Mesa - 92626
*Date:* TBD; *Time:* TBD
*Meeting Contact:* Dan Schottlander, CPE
dpschottlander@cox.net

San Diego #4
*Where:* Varies
To Be Determined
San Diego
*Date:* TBD; *Time:* TBD
*Meeting Contact:* Paul Chang
aspesd4.paul@gmail.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:* Spencer Gravelle
info@aspe55.org

**COLORADO**
Denver #5
*Where:* Virtual Meeting
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:* Bill Jacabacci
jacobacci@gmail.com

**DELAWARE**
Delaware #75
*Where:* Varies
To Be Determined
Wilmington
*Date:* TBD; *Time:* TBD
*Meeting Contact:* Gregory Williamson, CPE
gwilliamson@bondbrothers.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:** Virtual Meeting
  - **Tampa - 33609**
  - **Date:** TBD  **Time:** TBD
  - **Meeting Contact:**
    - Jim Cummings
    - jim.cummings@jedunn.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:** To Be Determined
  - Orlando - 32801
  - **Date:** TBD  **Time:** TBD
  - **Meeting Contact:**
    - Danny Chadwick, CPE
    - estimatordan@gmail.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
    - ca45@gatech.edu

**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:**
    - Scott Robinson, CPE
    - scottr@jlbradyco.com

- **Greater Des Moines #73**
  - **Where:** To Be Determined
  - Des Moines
  - **Date:** 1st Thursday  **Time:** Varies
  - **Meeting Contact:**
    - Andy Pullen
    - andyp@hrtlnd.us

**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:**
    - Carri Morones, CPE
    - aspe.carri@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:** Virtual Cup of Coffee
  - Boston - 02116
  - **Date:** 3rd Wednesday  **Time:** 8:30 AM
  - **Meeting Contact:**
    - Eric Rennell
    - ericrennell@aspe25boston.com

**MICHIGAN**
- **Detroit #17**
  - **Where:** Auch Construction
  - 65 University Drive
  - Pontiac - 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
<table>
<thead>
<tr>
<th>Chapter</th>
<th>State</th>
<th>Meeting Location</th>
<th>Date</th>
<th>Time</th>
<th>Contact Person</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viking #39</td>
<td>Minnesota</td>
<td>St. Paul</td>
<td>Varies</td>
<td>Varies</td>
<td>Matt Burress, CPE</td>
<td><a href="mailto:mburress@performanceservices.com">mburress@performanceservices.com</a></td>
</tr>
<tr>
<td>St. Louis Metro #19</td>
<td>Missouri</td>
<td>Virtual</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>John Smith</td>
<td><a href="mailto:john.smith@helawrencegroup.com">john.smith@helawrencegroup.com</a></td>
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<tr>
<td>Heartland #32</td>
<td>Missouri</td>
<td>Virtual</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Lonny Mills</td>
<td><a href="mailto:lonny.mills@flynncompanies.com">lonny.mills@flynncompanies.com</a></td>
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<td>Great Plains #35</td>
<td>Nebraska</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Matt Burress, CPE</td>
<td><a href="mailto:mburress@performanceservices.com">mburress@performanceservices.com</a></td>
</tr>
<tr>
<td>Roadrunner #47</td>
<td>New Mexico</td>
<td>Fiestas Restaurant</td>
<td>1st Wednesday</td>
<td>5:30 PM</td>
<td>Jimmy Sample, CPE</td>
<td><a href="mailto:jimmysample@bixbyelectric.com">jimmysample@bixbyelectric.com</a></td>
</tr>
<tr>
<td>Empire State #42</td>
<td>New York</td>
<td>Virtual</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Michael Briggs, CPE</td>
<td><a href="mailto:mbriggs507@gmail.com">mbriggs507@gmail.com</a></td>
</tr>
<tr>
<td>Western NY #77</td>
<td>Nevada</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Gregory Williamson, CPE</td>
<td><a href="mailto:gwilliamson@bondbrothers.com">gwilliamson@bondbrothers.com</a></td>
</tr>
<tr>
<td>Buckeye #27</td>
<td>Ohio</td>
<td>Virtual</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Chris McCarthy</td>
<td><a href="mailto:chris.mccarthy@danis.com">chris.mccarthy@danis.com</a></td>
</tr>
<tr>
<td>Southwestern Ohio #38</td>
<td>Ohio</td>
<td>Virtual</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Mike Phillips, CPE</td>
<td><a href="mailto:mphillips@flemingconstructiongroup.com">mphillips@flemingconstructiongroup.com</a></td>
</tr>
<tr>
<td>Landrun-OK City #80</td>
<td>Oklahoma</td>
<td>Ingrid’s Kitchen</td>
<td>1st Wednesday</td>
<td>11:30 AM</td>
<td>Mike Phillips, CPE</td>
<td><a href="mailto:mphillips@flemingconstructiongroup.com">mphillips@flemingconstructiongroup.com</a></td>
</tr>
<tr>
<td>Columbia-Pacific #54</td>
<td>Oregon</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>To Be Determined</td>
<td>Steve Watkins</td>
<td><a href="mailto:steve.watkins@bnbuilders.com">steve.watkins@bnbuilders.com</a></td>
</tr>
</tbody>
</table>
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:** Gregory Williamson, CPE  
gwilliamson@bondbrothers.com

Three Rivers #44  
**Where:** To Be Determined  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:** Gregory Williamson, CPE  
gwilliamson@bondbrothers.com

Philadelphia #61  
**Where:** Varies  
**Date:** Varies; **Time:** Varies  
**Meeting Contact:**  
Rick Baus  
rickb@bencardino.com

Central Pennsylvania #76  
**Where:** Virtual  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:** Greg Roscoe  
gcr817@gmail.com

**TEXAS**

Houston #18  
**Where:** To Be Determined  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:**  
Larry Lucero, CPE  
lucero@redlineinsulation.com

Rio Grande #40  
**Where:** Virtual  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:** Rodolfo Barba, CPE  
rodolfobarba1@gmail.com

Dallas/ Ft. Worth #43  
**Where:** See Chapter Website  
**Date:** Varies; **Time:** Varies  
**Meeting Contact:**  
Rick Wyly, CPE  
rick@buildcostcontrol.com

**UTAH**

Great Salt Lake #51  
**Where:** Varies  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:** Steve Watkins  
steve.watkins@bnbuilders.com

**WISCONSIN**

Brew City #78  
**Where:** To Be Determined  
**Date:** TBD; **Time:** TBD  
**Meeting Contact:** Matt Burruss, CPE  
mburress@performanceservices.com

**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

Richmond #82  
**Where:** Baskerville  
101 South 15th Street, Suite #200  
Richmond - 23219  
**Date:** 4th Wednesday; **Time:** 5:00 PM  
**Meeting Contact:**  
Sid Bass, CPE  
sbass@reynolds.edu

**VIRGINIA**

Please Note: Information is subject to change. Report changes in your Chapter’s information with an email to Tina@ASPNational.org
ASPE CORE VALUES

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.