

ON-SITE

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Home sweet hard drive

High-tech housing upgrades will soon become the norm

Digital homes, in which everything from the security system to the refrigerator is networked through a computer, still aren't ready for prime time. But they will be within a few years — the fevered collaborative efforts of technology and electronics companies will see to that.

In fact, according to the Consumer Electronics Association (CEA), 59% of new homes are already being built with the structured wiring needed to connect the many devices that manufacturers envision as part of every house in coming years.

But even though high-tech upgrades hold enough promise to encourage more builders to include them in their housing jobs, the upgrades have yet to show up significantly in their bottom lines. This, too, will probably change with time.

Daunting complexity

Although 49% of contractors surveyed by the CEA in 2003 reported increased revenues from upgrading the technological capabilities of the homes they built, that number dropped to 19% in the 2004 survey.

The problem lies primarily in the upgrades' complexity. Many home technology systems are still difficult for consumers to program and virtually impossible for most people to troubleshoot.

And though buyers appreciate buying houses equipped for high-speed Internet access and digital cable, they're not as cognizant of the advantages that digital networks can offer for, say, climate control and home security. Beyond that, many consumers just don't see the usefulness of an item such as the Internet-enabled refrigerator.

Another problem, more for contractors than consumers, is that the technology changes so quickly, it's difficult to bundle into priced



options — even if buyers were willing to accept packages that didn't require customization.

Growing awareness

Despite these difficulties, technology and electronics companies say the situation is improving. Increased acceptance of broadband Internet access and a growing awareness of high-tech media are making digital homes increasingly attractive. For example, more than 1.5 million people in the United States had TiVo digital video recorders in the first quarter of 2004, according to company reports.

Other manufacturers are responding to this surge, too. Last spring, Sony introduced a New Home Entertainment Solutions line that integrates audio and video components in three, five or seven rooms. What's more, Intel and a number of other companies formed the Digital Home Working Group last year to encourage innovation, some degree of standardization and greater partnership among computer and electronics companies.

Meanwhile, Samsung is conducting digital home trials in the United States, Canada, Australia and Europe. The company says it costs from \$2,000 to \$10,000 to equip a home with the networking gear needed for such previously unthinkable standard equipment as Internet-enabled ovens and security cameras.

Evolution, not revolution

Technology companies — and some builders — are betting that the high-tech house trend will continue. It's a fairly safe bet, though, the move toward digital homes will likely be more evolutionary than revolutionary.

Buyers in the starter and moveup markets are increasingly willing to pay the relatively low cost of structured wiring for proven items, such as

high-speed Internet access, even though the wiring is still not highly profitable for contractors.

In the luxury market, home technology is making more of an impact: Roughly a third of builders say adding it to their jobs has boosted their bottom lines, according to the CEA.

Even if you decide to join the digital home trend, you may need a year or more to learn how to incorporate the technology into your projects. And that's not necessarily a bad thing — during that time, manufacturers will continue to improve the usability and affordability of the products you'll be installing.

One thing's for sure: Don't wait around too long. Many construction companies are already positioning themselves as home technology experts. As

they refine their digital home services, consumers will feel more confident that resources are available to help them adapt to these capabilities. In turn, that confidence may make them more likely to buy digital homes.

Log cabins or log-in screens

Another participant in the drive toward popularizing digital homes is the federal government. Several of its agencies, including the Federal Communications Commission and the Department of Commerce, are working on policies to bring high-speed Internet access to all Americans by 2007 and to establish wireless as a third broadband option.

These capabilities, coupled with products such as digital media adapters, which allow users to transfer audio, photos and video among computers, televisions and stereos, will likely make digital homes less futuristic and more the norm someday soon. Make sure you're not still building log cabins when that day arrives. **T**

WHAT'S HOT IN DIGITAL HOMEBUILDING

Structured wiring and monitored security systems are the technologies builders most often install, according to the Consumer Electronics Association (CEA). But the organization anticipates an increase in other products as the digital home market broadens. Energy management installations, for example, jumped 7% last year alone, says the CEA.

Other CEA survey results, shown as percentages of builders who reported installing various types of home technology, include:

Technology type	2003	2004
Structured wiring	42%	59%
Monitored security	18%	26%
Distributed audio	9%	12%
Home theater	9%	9%
Automated lighting control	1%	7%
Home automation	1%	7%
Energy management	1%	8%

As technology and electronics companies make their products easier to use, digital home entertainment will likely become particularly attractive to homebuyers in the \$200,000 to \$500,000 price range. Larger, whole-house integrated networks, however, will probably remain the domain of upper-bracket buyers for several more years.

Got a great idea? Consider a patent

Every construction project is likely to require some innovation on your part, but a truly novel idea may be worth more than you realize.

Let's say you're working on a road project. In looking at the designs, you realize you can significantly lower costs by welding a new part on a piece of equipment to accommodate some particularly challenging terrain. Hold that thought.

Your brainstorm could not only help trigger any cost-reduction incentive clauses in the contract, but also create a new revenue stream if you patent it.

Time it right

A patent gives its owner 20 years to exclusively make, use or sell the patented invention. You can also license your idea to other companies. Just keep in mind that an idea or suggestion alone is not patentable — only a useful new invention or process can be patented.

Obtaining a patent, however, is neither easy nor inexpensive, but the journey may be worth it if your new idea catches on industrywide. Unfortunately, you won't have time to find out in advance. You must file a patent application before you've been using your method or invention for a year, because patents by law are given to only "new" inventions and processes. Once an idea is deemed to have been in public use for more than a year, it's unpatentable.

Write it out

Filing an application requires that you record every step of the process you used from the minute the light bulb went on in your head until you put the idea into operation. That means you need to diagram every modification and component, as well as

write down how and when you thought of the original concept and any improvements.

Then you need to find out whether your idea is truly new. To do so, you'll have to search all U.S. patents as well as journals and other publications. This search, which is time-consuming and may

require a patent attorney's help, will almost certainly reveal concepts similar to yours. If you can demonstrate that your idea is different from or better than earlier applications, you're on solid ground.

Take it slowly

Patent attorneys are expensive. If you have the time and determination, you can get a patent without one.

But even without counsel, you'll likely spend more than \$2,000 in fees. This expense makes it critical to research the market and determine the financial potential of your invention before you apply for a patent.

Also, you must study your project contract carefully to see whether an owner has the right to claim a portion of any royalties you may receive from a patent that was secured because of the owner's job. In addition, whether an owner can use your idea on subsequent projects without patent liability remains legally unclear. Generally, only the inventor may apply for a patent.

Think it through

Bear in mind that, though you aren't required to obtain an attorney to get a patent, you'll likely be better off consulting one. After all, at the end of the day, seeking a patent is a business decision. If the potential benefits outweigh the anticipated costs, consider applying. If not, head back to the drawing board. *T*



AIA-AGC primer addresses project delivery methods

You may know design-bid-build, design-build and construction management at risk (CM@R) as the three main project delivery methods used in the construction industry today. Yet you might not know that, historically, no widely accepted common definitions have existed for any of them.

To provide a critical first step toward industry-wide consensus, the American Institute of Architects (AIA) and the Associated General Contractors of America (AGC) recently joined forces to assign distinctive characteristics to each. They published their findings just last year as the *Primer on Project Delivery*.

Using the primer as our principal guide, let's look at the traits, advantages and disadvantages of each method.

Design-bid-build

Historically, design-bid-build has been the most common project delivery method. An owner first hires an architect to design a structure and then asks construction companies to bid on building it. The contractor with the lowest bid wins.

The primer defines design-bid-build as having:

- ☐ Three primary participants: the owner, the designer and the builder,
- ☐ Two contracts: one between the owner and the designer, and another between the owner and the builder, and
- ☐ Final contractor selection based on the lowest bid.

This method enjoys the advantage of being the most widely understood and broadly documented approach. It also allows more

detailed designs at the outset. At the same time, design-bid-build is a three-step process that typically takes longer and requires more coordination among multiple parties.

Design-build

Design-build, once viewed as the ugly stepchild of the construction world, has gained popularity in recent years. With this method, an owner contracts with either a builder or an architect to provide both design and construction services.

The primer defines design-build as having:

- ☐ Two primary participants: the owner and the designer-builder,
- ☐ One contract: between the owner and the designer-builder, and
- ☐ Final contractor selection based on cost and capabilities.

Perhaps the biggest advantage to this approach is that a single party shoulders the responsibility for the entire project, typically simplifying matters and preventing disputes. The designer-builder can also fast-track the process, overlapping the design and build phases to speed completion.

On the downside, because of their inherent complexity, design-build jobs can cost you more to bid on and, once under way, require earlier owner decisions. Change orders can be more expensive, too.

CM@R

A once uncomfortable blend of the first two methods, CM@R is also winning more widespread acceptance. Here the owner hires a construction manager and architect under

separate contracts. But the construction manager is involved in the design phase and then assumes responsibility for construction for a specified cost.

The primer defines CM@R as having:

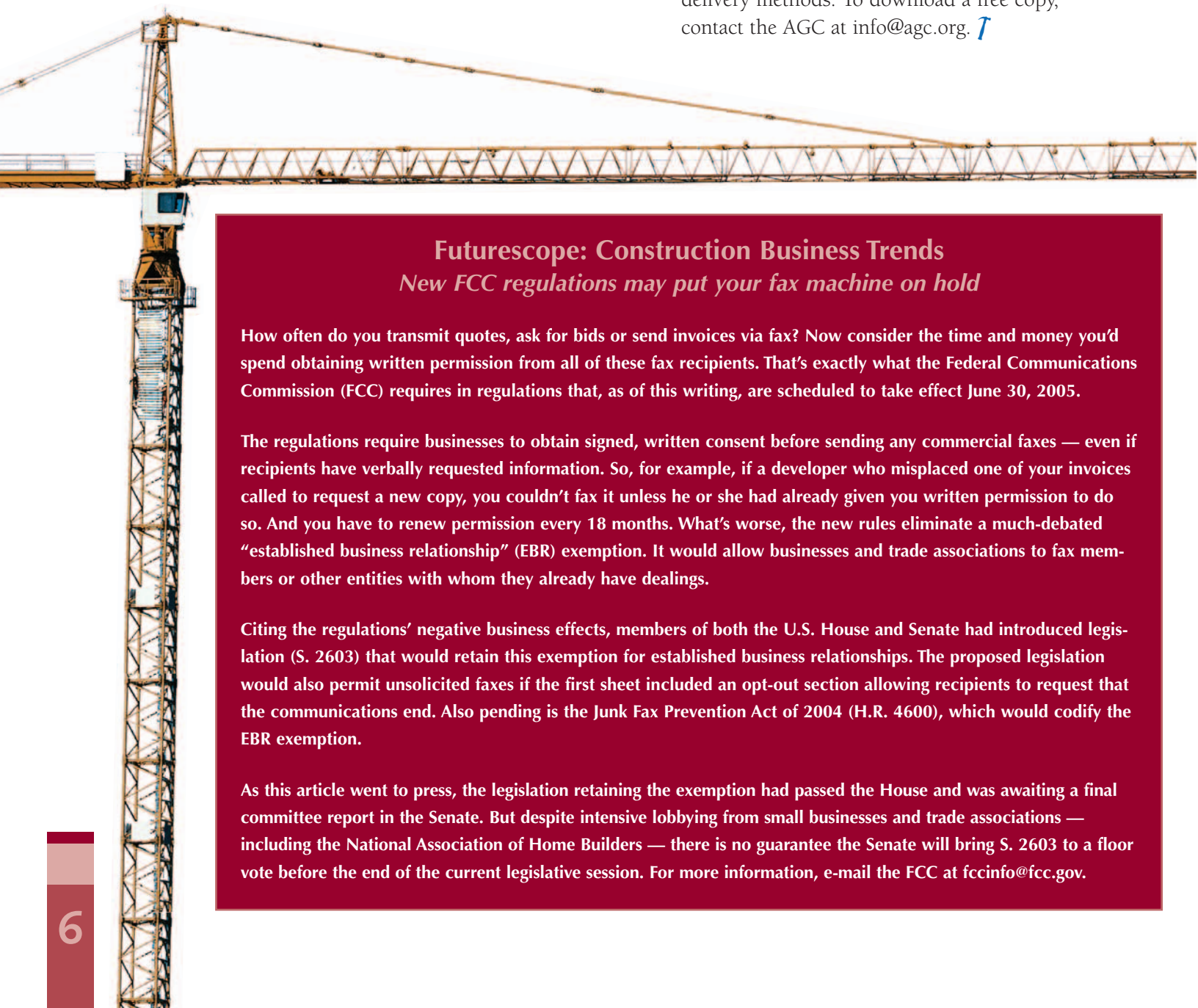
- Three primary participants: the owner, the designer and the construction manager,
- Two contracts: one between the owner and the designer, and the other between the owner and the construction manager, and
- Final contractor selection based on considerations other than total cost, including the construction manager's experience and expertise.

Like design-build, CM@R quickens project completion. It also involves the entire project team from the beginning, so jobs benefit from everyone's know-how throughout. Plus, CM@R frequently includes a guaranteed maximum price, encouraging more careful scrutiny of the building process.

The main disadvantage of this approach is that it may place you, as the construction manager, at increased performance or financial risk. This is because owners are more involved and, therefore, the likelihood of disputes may increase.

A big step forward

The AIA-AGC *Primer on Project Delivery* takes an important first step in standardizing project delivery methods. To download a free copy, contact the AGC at info@agc.org. 



Futurescope: Construction Business Trends

New FCC regulations may put your fax machine on hold

How often do you transmit quotes, ask for bids or send invoices via fax? Now consider the time and money you'd spend obtaining written permission from all of these fax recipients. That's exactly what the Federal Communications Commission (FCC) requires in regulations that, as of this writing, are scheduled to take effect June 30, 2005.

The regulations require businesses to obtain signed, written consent before sending any commercial faxes — even if recipients have verbally requested information. So, for example, if a developer who misplaced one of your invoices called to request a new copy, you couldn't fax it unless he or she had already given you written permission to do so. And you have to renew permission every 18 months. What's worse, the new rules eliminate a much-debated "established business relationship" (EBR) exemption. It would allow businesses and trade associations to fax members or other entities with whom they already have dealings.

Citing the regulations' negative business effects, members of both the U.S. House and Senate had introduced legislation (S. 2603) that would retain this exemption for established business relationships. The proposed legislation would also permit unsolicited faxes if the first sheet included an opt-out section allowing recipients to request that the communications end. Also pending is the Junk Fax Prevention Act of 2004 (H.R. 4600), which would codify the EBR exemption.

As this article went to press, the legislation retaining the exemption had passed the House and was awaiting a final committee report in the Senate. But despite intensive lobbying from small businesses and trade associations — including the National Association of Home Builders — there is no guarantee the Senate will bring S. 2603 to a floor vote before the end of the current legislative session. For more information, e-mail the FCC at fccinfo@fcc.gov.

The Contractor's Corner

Beware of payment problems when writing building codes

I recently received a phone call from the village president of a nearby community. He told me his board of trustees wants to revise the local building codes and then asked whether I'd be willing to do it. I said that I'd look into the matter and get back to him. Does this type of project pose any risks?

Cash-strapped municipalities are increasingly asking contractors to write their building codes in exchange for copyright royalties. But since the U.S. Supreme Court declined to hear a case involving copyright protection for those codes, you may want to think twice before taking on this task.

The case arises

In *Veeck v. Southern Building Code Congress International Inc.* (SBCCI), an individual, Mr. Veeck, without the permission of the drafters, published copyrighted building codes on his Web site, which anyone could access without a password or membership. Veeck bought the codes in electronic format from SBCCI, a nonprofit organization dedicated to standardizing nationwide building codes. (It's now known as the International Code Council.)

He then removed the copyright marks and posted them in their entirety on his site. When SBCCI obtained a cease-and-desist order against Veeck in 1998, he sued to uphold his right to use the material.

The first judgment came back in favor of SBCCI, but Veeck appealed. In the Fifth Circuit Court of Appeals, the three-judge panel's initial finding, delivered in 2002, also favored SBCCI.

But a full court hearing reversed all previous findings and ruled that Veeck's action did not violate copyright laws. Once adopted, the court said, a

law is in the public domain and therefore not copyright protected, regardless of who wrote it. Thus, the Fifth Circuit held that public laws cannot be copyrighted. And, because the model codes were adopted as law, they became public.

A hearing is denied

When SBCCI asked to appeal this decision in 2003, the Supreme Court refused to hear the matter. The refusal was surprising not only because the Fifth Circuit's final decision had six dissenting votes from 14 judges, but also because it was at odds with rulings in several other federal circuits. The decision established the copyright question for building codes as an issue of national interest and one unlikely to go away anytime soon — especially as conflicting decisions continue to pile up in lower courts.

With its final ruling, the appeals court severely limited the ways municipalities can pay vendors (such as contractors) for building codes. And if vendors can't generate royalties by selling copies of their work, and towns can't afford flat fees to buy it outright, higher-cost approaches may be necessary.

For example, as the dissenting opinion in the case noted, the municipalities involved in *Veeck* could have hired engineers and attorneys to draft their codes at considerably greater expense. The towns then could have recouped the cost through additional building fees or a tax increase.

Confusion reigns

If you're thinking about writing building codes for a municipality, consider carefully whether payment will include copyright royalties. If so, check to see where the town will use the codes, how likely you are to actually receive royalties, and how a court in that district would probably rule in case of a dispute. To answer these questions, be sure to obtain legal counsel. **T**

Mobley Adds Depth in the Construction Services Group



Roger joined the Elliott Davis audit and advisory department as a manager in January of 2004, bringing with him nine years of professional accounting experience. In addition to his experience with KPM Co., Roger has worked with Ernst & Young and Prudential Real Estate Investors.

Roger manages all aspects of the audit engagement from the planning stages and the execution of field work through drafting the financial statements. As

well as focusing his talents in the construction services arena, Roger also serves SEC clients in the manufacturing and distribution industries.

In his hometown of Charleston, South Carolina, Roger attended the College of Charleston where he received his BS and Master of Science degrees. He earned the top score in the state in 1996 when he took his North Carolina CPA exam. Roger is a member of AICPA, SCACPA and Carolinas Association of General Contractors and can be reached by phone at (864) 242-3370, or by e-mail at rmobley@elliottdavis.com.

Have You Evaluated Your Overhead Rates Lately?

A critical component to job cost accounting is the allocation of indirect costs to individual jobs through the establishment of overhead rates. Often these overhead rates are established and then forgotten. However, there are a variety of reasons that may necessitate adjusting your overhead rates including increases or decreases in actual indirect costs, a change in the type of work performed by a contractor or a change in a construction company's revenue volume. Evaluating your overhead rates periodically could have a direct impact on the profitability of your company and on your company's ability to obtain new work.

The types of indirect costs that are allocated to individual construction contracts vary greatly within the construction industry. Some costs that may be allocated to individual jobs include:

- Project management, estimating, safety, purchasing and engineering salaries
- Labor burden including payroll taxes, fringe benefits and insurance
- Small tools and expendable supplies
- Vehicle and communication costs
- Insurance — including builder's risk and umbrella
- Other costs associated with processing paperwork and/or accounting for projects

Essentially, any indirect costs that relate to a company's construction activities could be allocated to individual projects. These indirect costs are typically pooled together and then allocated to individual projects using an overhead rate.

Why is it important to evaluate your overhead rates periodically? Overhead rates should be as precise as possible in order to provide accurate contract bidding, customer invoicing, and project profitability evaluation. The overhead rate used by a company's estimating department should be identical to the overhead rate used by the accounting department to allocate indirect costs to each construction project. If the estimating department uses an overhead rate that is too low it could negatively impact the ultimate profitability of a construction contract. However, using an overhead rate that is too high could put a company at risk of submitting a bid that is too high, potentially resulting in losing the project to a lower bidder.

Overhead rates can also impact the amount that is billed to a customer. If job cost records understate the amount of overhead costs relating to a project, a customer

may be underbilled. This underbilling may be permanent under time and material or cost-plus type contracts. If customers are continuously underbilled, this will have a negative impact on both a company's cash flow and profitability.

In summary, indirect overhead costs represent real costs of providing construction services and should be allocated to individual construction contracts. By accurately allocating these costs, management will be able to determine the real profitability of each project. In order to accurately allocate these overhead costs, it is important to periodically evaluate overhead rates used in allocating indirect costs, since these costs are likely to change over time. Adjusting these rates periodically will not only lead to more accurate financial statements, but can also positively impact your bidding process, billings, cash flows and job profitability.

New Tax Law Changes

President Bush signed the Working Families Tax Relief Act of 2004 on October 4, 2004 and the American Jobs Creation Act of 2004 on October 22, 2004. These two pieces of legislation enacted almost 450 tax code changes, many of which are effective January 1, 2005. Following is a description of some of the provisions that may affect your business.

Depreciation and expensing of business assets is again addressed by the new legislation. The ability to expense up to \$100,000 of property placed in service during the tax year was set to expire for tax years beginning on or after January 1, 2006. The new provision extends the increased expensing for an additional two years to years beginning before January 1, 2008. In addition, this amount will be indexed for inflation in future years. However, the annual dollar limit for expensing SUVs rated at 14,000 pounds or less has been reduced to \$25,000. This applies to vehicles placed in service after October 22, 2004. One provision that did not get extended was the bonus depreciation for new property. This provision expires on December 31, 2004 for most property.

Beginning in 2005, as an incentive to hire employees rather than independent contractors, a new deduction for manufacturers will allow a deduction for a specified percentage of their qualified production activities income. For purposes of this provision, construction activities are considered to be manufacturing. For 2005 and 2006, 3% of qualified production activities income may be deducted. The amount increases to 6% for 2007 through 2009 and to 9% for tax years after 2009. This deduction may not exceed the taxpayer's taxable income. The deduction is also limited to 50% of the employer's W-2 wages for the tax year.

These two new tax acts add more complexity to our existing tax law. Please contact any member of the Elliott Davis Construction Services Group for clarification on these provisions.

Firm Services

Our service mix is constantly expanding to meet the changing demands of a diverse client base. In addition to highly specialized services for the Construction industry, our broader services include:

- Accounting & Auditing
- Asset & Business Valuation
- Strategic Advisory Services/M&A
- Employee Benefits
- Litigation Dispute Resolution
- Retirement Plan Administration
- Tax Planning & Preparation
- Strategic Advisory Services/M&A

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