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ConcreteWorks is a publication of the **Alabama Concrete Industries Association** and features articles and photographs pertaining to product applications, educational opportunities, as well as innovative construction techniques impacting the industry.

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TABLE OF CONTENTS

PAVING THE WAY



Concrete pavement has been gaining ground recently and is currently being used on an Alabama interstate for the first time in a long time. Better yet, experts see increased utilization of this durable surface on the horizon.

THE PEACE OF PROTECTION



In the wake of the devastation left behind by the tornadoes of April 2011, the value of concrete safe rooms is more evident than ever before, for both everyday assurance and guaranteed protection during severe weather.

TOUGH ENOUGH



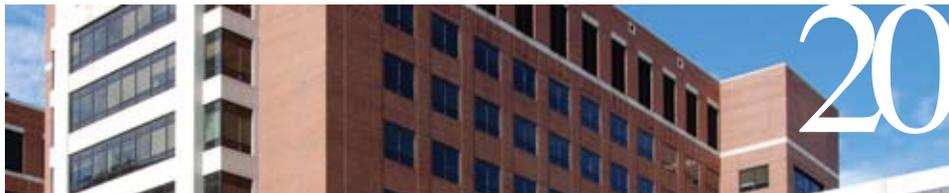
Only concrete has the strength to stand up to the rigors of heavy traffic on a daily basis.

MIXING IT UP



Admixtures are adding some major advantages to concrete, a material that's pretty hard to improve.

ARCHITECT SPOTLIGHT



Birmingham architect Patrick Davis has spent his career designing and building things of all shapes and sizes, but the relationships he builds with his clients account for a large part of his job satisfaction.

PAVING THE WAY

INTERSTATE 59 GADSDEN, ALABAMA



It's been over 25 years — a quarter of a century — since a major concrete pavement project has been placed in Alabama. Yet right now, on an 11-mile stretch of I-59 around Gadsden in northeast Alabama, an 11-inch-thick, unbonded concrete overlay is being put right on top of the existing concrete pavement, a surface that's been supporting the thousands of cars that travel this roadway daily for the last 40 years.

Robert Taylor, the Alabama Director of the American Concrete Pavement Association, explained why concrete was chosen for this project, which has already begun and should be completed in 2011/2012. "The existing interstate is concrete pavement, and while it was designed to last 20 years, it has lasted 47 years," he said. "That's over twice its expected lifespan. Thanks to this proven longevity, concrete pavement was picked to be used again, instead of asphalt."

Asphalt often has a lower initial cost than concrete pavement, but as it requires quite regular maintenance and upkeep, concrete pavement can end up being more cost effective, as Taylor explained. "Asphalt is usually cheaper initially, but over the life of the pavement, concrete is usually cheaper since it does not have to be resurfaced every eight to 12 years like asphalt," he said.

And as asphalt is a petroleum-based product, due to the recent rise in oil prices, the upfront costs of using concrete pavement have come much closer to those of asphalt. "Higher oil prices are narrowing the price gap between the two materials, and concrete is becoming increasingly competitive," Taylor said.

The concrete overlay being used on I-59 is described by Taylor as



“Thanks to this proven longevity, concrete pavement was picked to be used again, instead of asphalt.”

an “inverted oreo,” with the current concrete pavement on bottom and minimum 2-inch layer of asphalt that is then topped with the 11 inches of new concrete pavement. “It is the first major concrete project on an Alabama interstate since 1985; all others have been straight asphalt,” Taylor said. “In total, Alabama’s interstates are currently 20 percent concrete pavement, and 80 percent are asphalt.”

However, Taylor stressed that as concrete continues to outlast and exceed its own expectations, that may be changing, with concrete pavement no longer the rare exception to the asphalt rule when it comes to major roads. “Other sections of I-59 that are asphalt are usually resurfaced every eight to 10 years,” Taylor said. “Concrete pavement can provide excellent service for 20+ years with minimal maintenance, and this level of durability is a big benefit. I think we will be seeing more concrete pavement on interstates in future.”

So other than durability and the resulting long-term savings,

what other differences are there between concrete pavement and asphalt. Can drivers tell a difference? According to Taylor, no they can not. “The ride quality on either surface is the same,” he said. “The ride specifications for concrete pavement are the same as those for asphalt, so the experience on either is equally smooth.”

One other difference that’s also another benefit is often noticed by those who are actually installing and maintaining the roads. “Usually, concrete pavement can be put down faster and easier than asphalt because you can place an entire section or thickness in one pass as opposed to several passes,” Taylor said. “Most Departments of Transportation like the fact that they can get in, get out and stay out for a much longer period by making the decision to go with concrete pavement.”

Concrete pavement also boasts an additional plus — it is a very “green” and sustainable material, a fact that has gained more



CONCRETE PAVEMENT

READY FOR THE TEST

and more attention in the last decade as everyone becomes more concerned about environmentally-friendly products and practices. “Concrete is really eco-friendly,” Taylor said. “It can be recycled; old concrete can be crushed and used as aggregate in new material or used as a base. Its light color reflects heat, creating a cooler surface, which is a very important consideration in urban areas.”

Therefore, the next time you’re traveling around Alabama, take a moment to check and see just what kind of surface you’re driving on. Chances are that soon, more and more of it will be concrete pavement.

The longevity of concrete pavement has not gone unnoticed by the Alabama Department of Transportation (DOT), according to Johnny Harris, First Division Engineer for the DOT. He noted the durability of the concrete pavement on the stretch of I-59 that is currently being rehabilitated with an unbonded concrete overlay. “In this area, the concrete pavement had been in service since the late ‘60s,” he said. “There had been some rehab work done in the past with partial slab replacements and joint sealings, but nothing very substantial. The pavement has provided a really long service life.”

While it has been years since DOT has done any major reconstruction project utilizing concrete pavement, its proven long life is just one of the reasons the DOT decided to use concrete pavement again. “By using the overlay, we are leaving the existing concrete pavement in place,” he said. “This type of design is an alternative to an asphalt overlay, and when we bid the project out, the decision was made based on the bids received.”

Harris explained that the DOT will evaluate the overlay on I-59 to see how well it performs. “We want to see if it is a competitive option for the future,” he said.





the PEACE of PROTECTION

Prior to April 27, 2011, when most of us watched Dorothy's home being lifted from its foundation and whirled through the air in the beginning of the classic movie "The Wizard of Oz," the scene was obvious exaggeration, the stuff of movie magic and a far cry from any reality. Then, in one afternoon, the entire state of Alabama and the nation saw that life certainly can imitate art as we learned how over 60 separate tornadoes, including two EF-5s and seven EF-4s, cut a 1,100-mile-long path of destruction across the land, twisting and tearing metal, blasting through brick, snapping centuries-old trees like toothpicks and tossing cars and entire homes around as if they were nothing more substantial than children's toys.

That historic spring day is one that we will never forget, and so many of our fellow Alabamians are still reeling from the loss of friends and loved ones and working to rebuild ruined homes and shattered lives. Yet, even the darkest storm clouds can have silver linings, and perhaps in this case, one bright spot is the lessons we are now learning about the effectiveness and importance of concrete safe rooms in the face of Mother Nature's worst weather.

Safe Harbor in the Storm

On April 27, with an F-5 tornado and its swirling, sucking, 250-mile-plus-per-hour winds bearing down on his home in Athens in Limestone County, Ala., optometrist Dr. Chad Davis and his family took shelter in the concrete safe room they had built into their house five years before. In the blink of an eye, the storm blew over them, ripping open the roof, blasting shards of glass across rooms as it blew out windows, and pulling doors off of hinges. In just mere moments, the Davis family's house was destroyed, but when Davis, his wife and his three young children came out of the safe room to survey the damage, every one of them was, albeit quite shaken, completely unharmed. "Our house was a total loss," Davis said. "And I think I can say that our safe room saved us from what could have been some significant injuries."

Davis' safe room, made of steel-reinforced concrete block filled with more concrete, was built into the house during its original construction, placed where a closet had been in the blueprints. "We made it a little bigger than just a regular closet would be," he said. Before the tornado in April, the family had only retreated to the room two other times, but Davis stressed the everyday value of the space. "It's not just about the fact that it did its job and protected us this time," he said. "It's equally important for the peace of mind it

gives us all the time. Our house before had a basement, so we were used to feeling that we had some protection. When we built this new house, we wanted that again. I don't worry about stormy weather now, knowing we are prepared and have a place to go. Especially with small children. It just feels great to know we have quick, easy access to a secure spot for them. We also store treasured belongings like family photos in the room to keep them safe as well."

After hearing his story, family and friends have expressed their interest in having a concrete safe room of their own. According to Davis, the rooms are well worth the investment, and he wastes no time letting those who ask know that he'll be putting another one in the new house he's soon to build. "I've had countless people tell me that they want one in their home, and they've all been asking me what it costs, but I can't really remember," he said. "What I do know is that whatever it cost, it was worth the money. I don't really think it was that much, but again, for the peace of mind it gives you every day and the amazing protection and security it gives you and your family on that one fateful day, it is so worth it. We have to build a new home, and it will, without a doubt, have a safe room built into it."

“It's equally important for the peace of mind it gives us all the time.”

protection
peace
safe
security

Tuscaloosa contractor and owner of BLAKE Construction Company, William Blakeney showed some amazing foresight when he decided to put a concrete safe room in the home he built for his grandparents. The house was completed just seven days before the massive EF-4 tornado hit his city, and amid the piles of rubble left in the aftermath, that safe room was the lone structure left standing in the entire neighborhood.

When his grandparents moved into town and turned to their grandson to build them a home, they stressed their desire to feel safe in their new place, so Blakeney immediately decided to include a concrete safe room in the plans. “You just never know when you will need something like that,” he said. “And I wanted to take every precaution for them.”

His grandparents had actually not even moved into the house and so didn’t make use of the room, but had they been there, the implication of what might have been is quite clear. “The safe room was the only structure you could see anywhere around after the tornado hit,” Blakeney said. “It survived where nothing else did.”

Like many safe rooms, Blakeney built this one to look and function just like a regular walk-in closet, ensuring that the room wouldn’t detract from the look or use of the home. “It was not too big, but big enough for them,” he said. “It served as their master closet.”

As a homebuilder, Blakeney can attest to the level of interest in safe rooms, both before and after the storms. “There was not a lot of demand for safe rooms before the recent tornadoes,” he said. “Just not too many people had ever even thought about having them. People always think, ‘It won’t happen to me.’ Now I hear people talking about them every day, and the demand has increased exponentially.”

Blakeney and his team are doing a lot of rebuilding work as people begin to put their lives and their homes back together again. “People are trying to find a way to fit a safe room in their rebuild,” he said. “In many cases, it is very doable.” Blakeney outlined the process he uses. They pour a footing and pour a concrete slab like normal construction. Then on that, steel rebar is tied into the slab and run up. Next, concrete block (8- or 12-inch block) is stacked to the ceiling. Rebar coming down from the ceiling meets the steel coming up and bends over to go through the block. Finally, the ceiling is formed up with eight inches of concrete on top. “Concrete is concrete,” he said. “The strength is there, and you can reinforce it to add even more strength. With wood, there is only so much you can do, but to get the strength and durability you need for a safe room to truly be safe, you have to choose concrete. Plus, concrete’s flexibility is an asset too.”

While Blakeney took good care of his grandparents, he didn’t have a safe room in his own home at the time. He will soon. “We have one in our office. There is one in our hunting cabin. My dad has one,” he said. “I’m definitely putting one in my house now.”

He addressed the cost concern that some may have. “FEMA is stepping up and helping out, giving incentives to help people afford safe rooms, and in new construction, it is really simple to include one,” he said. “It is worth it to spend the money. It can save a life and gives you a real sense of security. When the weatherman says, ‘Take shelter,’ you can just walk into your closet and know that you and your family are secure. I think the ‘It can’t happen here’ mentality is gone,” he said. “We all know now that a tornado can hit anywhere, any time, and we need to be prepared.”

Still Standing

“It survived where nothing else did.”



As mayor of Moulton, Ala., Ray Alexander is tasked with many things, but the responsibility he takes most seriously is that of looking out for the safety and security of the city's 3,262 citizens. As the troubling weather reports kept rolling in on April 27, and it became apparent that a major tornado was nearing Moulton, Alexander was concerned, but calm, thanks to the concrete safe room the city constructed in 2008. "After a tornado in 2008, Moulton got a grant from FEMA to build a safe room that will hold 720 people," he said. "We had it maxed out on April 27."

The city itself was lucky. The F-5 tornado that had previously leveled Hackleburg just missed Moulton, striking four miles north of the city limits and sparing it from any real damage. Yet Alexander couldn't be any more thankful for the safe room. "Just the fact that we have a shelter that was sufficient to protect that many people gave us so much peace," he said.

The room, made of 12-inch, steel-reinforced concrete block on a 6-inch concrete slab with six inches of concrete on top, is above ground on the west side of the city. "I know it was money well spent, and I'm so happy we had it even though we didn't actually need it this time," he said. "I can say that because I know it would have saved hundreds of lives if the city had taken a direct hit."

Alexander so believes in the value of the safe room, he has applied for another FEMA grant to fund construction of four additional safe rooms in the city. "We are trying to put one in each council district," he said.

His advice to other city leaders is simple: "Get a safe room and try to get what you need to serve your population. You don't want to turn anyone away. When I think about the safe room, the value is in what it gives us every single day."

Prepared & Protected

“Get a safe room and try to get what you need to serve your population.”

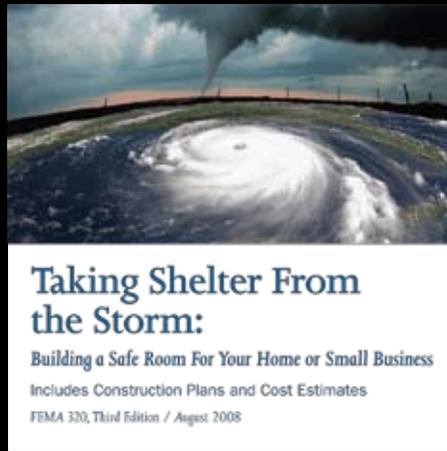
protection
safe
peace
security

CRETEWORKS

For those who might need more proof that concrete safe rooms are a good idea, consider this:
According to the Federal Emergency Management Agency (FEMA), when constructed according to approved guidelines, a concrete safe room can provide protection from winds ranging all the way up to 250 miles per hour and guard against projectiles traveling 100 miles per hour. It is the debris, traveling on the high winds of tornadoes and hurricanes, that pose the biggest threat to people.

In "Taking Shelter From the Storm: Building a Safe Room for Your Home or Small Business," a publication produced by FEMA in 2008, the standards for the design and construction of residential and small community safe rooms are spelled out. The beginning of the publication states, "Having a safe room in your home or small business can help provide 'near-absolute protection' for you and your family or your employees from injury or death caused by the dangerous forces of extreme winds."

The Statistics Behind the Stories



Get Your Peace

The common thread in all of the above stories is their emphasis on the "peace of mind" and the feeling of security that concrete safe rooms provide, not just when the warnings flash on the television screen and the sirens sound, but every single minute of every single day. As the number of severe weather outbreaks climbs, and National Weather Service studies suggest that it will continue to do just that, more and more people are looking to get their piece of that peace – and they're turning to concrete to find it.

please visit
www.mysaferoom.org
for more information





TOUGH ENOUGH

A N N I S T O N , A L A B A M A

Sometimes, there's really only one solution to a problem. When the City of Anniston was deciding how to best replace a cracked and crumbling intersection, that solution was concrete, as Public Works Director Bob Dean explained. "When Fort McClellan was closed down about two years ago, since it was within city limits, the roads on base became the city's responsibility," he said. "Some of the roadways were not up to the Alabama Department of Transportation's specifications, especially for the heavy truck traffic coming through."

The city is currently using some of the roads as a temporary bypass for I-20, which means more cars and trucks are driving over them every day. One intersection in particular was long overdue for repairs. After the city had a soil sample analysis done and found out the intersection was basically sitting on "muck," Dean realized quickly what needed to be done. "I knew we didn't want to lay in new asphalt and just have the same problem five years from now," he said. "So we started looking at concrete."

For Dean, the idea came easily. "I grew up in Michigan, and we use a lot of concrete up there due to the harsh weather, so I'm used to seeing concrete on roads."

After first looking at concrete, the city didn't need to think about it for long. "We just felt that it would work better."

The concrete intersection was completed in November 2010, and everyone involved has been more than satisfied with the results. Tony Hill, the project supervisor for the city, outlined the details. "This was





“ In the long-term, it is more cost effective.”

the biggest concrete project the city has ever undertaken. We've repaired sidewalks, driveways and such with concrete, but nothing ever this big," he said. "We used six inches of webbed concrete, and the webbed helps prevent cracking. It took us about four days to get the old asphalt out and then about four days to pour the concrete. We used 440 yards of it."

One of the biggest selling points for both Dean and Hill is concrete's legendary longevity. "Tony and I both have about 20 years before we retire, and with this concrete intersection, it will still be there when we retire, and we won't even have had to maintain it before we're off the job," Dean said. "Asphalt only has about a 10-year life span, and from what I've seen in my experience, that is only about one-third to one-half the life span of concrete."

Even under constant use and strain, Dean believes concrete will hold

up and hold out longer and better than anything else they could have done. "When you are looking at heavy traffic and heavy truck use, going with concrete is really just a no brainer."

Concrete is such a smart choice, according to Dean. The city is now considering using concrete for some other intersections it must maintain. "We're thinking about intersections throughout the city, especially those near heavy industrial complexes," he said. "With soft ground under an intersection and with the heat we have down here, asphalt simply can't hold up under heavy trucks. Concrete does not change with hot or cold. Asphalt changes, and big trucks wear grooves and ruts in the soft spots."

Jay Howard, the material supplier for the project and also a graduate engineer, agreed with Dean and pointed to an added benefit. "If the base material is poor and not stable, since asphalt is flexible, it will



ective, so it is a good use of taxpayers' money.”

mirror the movements of whatever surface it is on. Concrete is a rigid material, so any time you have a lot of traffic, it makes more sense to use concrete; it just holds up better,” he said. “Also in intersections, concrete is more reflective and is lighter and brighter, so it is actually safer, providing better visibility when you have cars and trucks coming from several different directions.”

The city is currently conducting a study to identify areas and intersections that receive the highest amount of heavy truck traffic and the most traveled intersections. “When we get ready to resurface the roads, we’ll take those intersections and lay them in concrete,” Dean said. “The new asphalt can be put in right up to the concrete.” Concrete’s flexibility also played a role in making the intersection project a big success. “The ease of labor and time it took is about the same as it would have been for other materials, but in this instance

because of the access points, using concrete was easier, and it fit into our timeline better,” Hill stressed. “The road has a crown in it, and we wanted to keep from tearing up the other sections. Concrete was easier to form up and manipulate like we wanted; it was very customizable, which is exactly what we needed for this project. Also, you can pour concrete in any type of weather. We didn’t have to wait.”

Howard highlighted concrete’s economic efficiency, a key factor when it comes to the limits of tight municipal budgets. “You can pour concrete and get traffic back on it fast, and there’s not much site prep needed,” he said. “In the long-term, it is more cost effective, so it is a good use of taxpayers’ money. The city seems really pleased with this intersection. For all of these reasons, I see the city using concrete for more and larger projects in the future.”



AD
MIX
TURES



mixing it up

to enhance
concrete's beneficial
properties

For years, folks in the construction industry have depended on concrete's many strengths in projects both large and small. But in the last decade, the material that has proven itself the best for multiple applications has gotten even better. These improvements come courtesy of advances in technology and chemistry resulting in the creation of "admixtures," which are ingredients added to concrete during mixing or right after. Admixtures vary in content and purpose, but all add to or enhance concrete's beneficial properties.

Today, Euclid Chemical, Grace Construction Products and BASF are three major producers and providers of admixtures for concrete in North America: Steven Bell, the southeastern regional sales manager for Euclid Chemical, summed up the multiple and diverse benefits that admixtures have brought to concrete. "Admixtures in general result in stronger, more consistent concrete with better water reduction, less shrinkage in the mixes, a better flow rate that leads to easier

placement, and therefore, a better finish, all with less cost," he said. "Admixtures allow the industry to make a better finished product for users and customers."

Richard Tyler, BASF's regional segment manager for the Eastern Division shared Bell's thoughts. "The benefits of admixtures are multi-tiered," he said. "You get improved in-place economics and contractor ease of placement. Admixtures have allowed us to take concrete to newer, higher levels and use it in new ways."

Some admixtures are mostly aesthetic in nature, like coloring admixtures, but most boost the quality and performance of concrete. Some accelerate the time it takes to set. Some slow that process

down. Some allow for frost or water resistance or reduce evaporation. Yet since they all make concrete easier to use and install, they also have a positive effect on the look of the end result, as Rickey Swancey, BASF senior sales representative explained. “A big part of aesthetics in concrete is affected by the installation,” he said. “So the easier you can make concrete to place and finish, the better end product you get. Admixtures increase concrete’s workability, flowability and finish ability while also adding to its durability.”



Tyler echoed Swancey. “As Concrete Chemical Admixtures continue to advance, we are continuing to improve the consistency of the material from its initial batching phase, through transportation and placement and finally into its hardened service life. That speeds up the entire construction process and provides more consistency in the delivered product, both of which are very good things.”

Terry Harris, North American technical services manager for Grace Construction Products pointed to the progress admixtures have brought to the versatility of concrete, comparing the multiple and creative ways it can now be used as art. “Thanks to admixtures, we can now cast concrete into any shape,” he said. “Those using architectural concrete are now doing things they would not have dreamed of doing a few decades ago. In the ‘70s and ‘80s, we had concrete structures, but no architectural concrete until admixtures came about. Admixtures take concrete from plain grey block to almost art.”

Harris went on to praise the increased strength that admixtures have brought into the picture. “I have about 30 years in this business, and when I first started, high-strength concrete was 5,000 or 6,000 psi,” he said. “Now, with high-range water reducer admixtures, we can make concrete with 18,000 psi or even higher. Without admixtures, this would be impossible to do.”

One of Grace’s recently unveiled admixture products called Adva X-T2 is a prime example of the continual march forward when it comes to the discovery and utilization of new technology. “ADVA XT2 is a patent-pending slump-retention admixture that allows for extended haul times and an extended placement window without retarding the concrete, he said. “ADVA 405 and 408 are also fairly new, and they allow a slump life or workability window of up to two hours.”

Euclid Chemical has adapted some of its new products to fit their surroundings. “High-range plasticizers are a new technology that makes concrete more flowable, and makes concrete more consistent so it lasts longer. Our Plastol Ultra 109 is a high-range water reducer

specifically fitted for the southeastern market and its warmer climate,” Bell said.

BASF’s RheoTEC Z-60 is a workability-retaining admixture that provides flexible degrees of slump retention without retardation, ensuring consistent concrete design by allowing those performing the install the ability to work in a time frame that meets their needs. “If you batch a six-inch slump with four percent air, you can add Z-60 to make it sustain that form for a certain length of time,” Tyler said. “This gives you more consistency in the overall strength and increases the life cycle of project.”

An additional plus that comes with the continual advancements in admixtures is increased savings, according to Swancey. “The use of admixtures and admixture systems allows you to optimize your labor force by making concrete easier to place and finish, so they are very cost effective too, and everyone is looking for ways to improve cost-effectiveness in this economy,” he said.

There’s another feature almost everyone is looking for in a building material these days: sustainability. Concrete is quite “green” on its own, but admixtures are taking this aspect of the material even farther. Harris explained. “Admixtures allow you to use more recyclable materials in concrete and use less cement, and many admixtures themselves come from waste from other industries,” he said. “So there are a number of ways admixtures contribute to the ‘greenness’ of concrete.”

Tyler agreed. “Concrete itself has a reduced environmental impact,” he said. “In last several years, admixtures have allowed concrete to play an even greater role in sustainability.”

For example, you can add an admixture to change the color and cut down on the heat island effect, or use pervious concrete products that incorporate several admixtures, including high-range water reducers, a hydration control admixture and a Rheomac viscosity-modifying admixture. Together, they create a pervious concrete product that is easier to work with, flows better, increases compressive strength and

“The more we research,
the more we learn,
the better concrete
will be.”



optimizes voids as well as inhibits paste draindown. “Our pervious concrete allows us to lower a project’s footprint and reduce the cost of underground water design,” Tyler said.

The company’s Green SenseSM Concrete is made possible thanks to admixtures. It is a revolutionary environmentally friendly, cost-effective concrete with optimized proportions in which supplementary cementitious materials, non-cementitious fillers or both, are used with special high-range water-reducing admixtures and/or the RheoTEC Z-60 admixture. This innovative product is a user-friendly mix that pumps and places efficiently, increases the service-life of structures and offers the opportunity to positively influence the environment. “Our Green Sense mix is very flexible and varies for each area as it uses readily available materials,” Tyler said. “It retains all the strength and durability that you want and expect from concrete, but also is highly flowable, easily workable and has lower shrinkage and cracking potential.” It also uses less carbon dioxide and energy per unit of concrete produced. This long list of assets made Green Sense concrete the choice at one of the largest — and most important — construction projects in the country. It is currently being used in

buildings at the new World Trade Center site, an endeavor that will require over one million yards of concrete.

While much progress has been made with admixtures, none of these companies are ever standing still. “We are always looking at concrete from many different angles and always working to advance technology and improve the functionality, look and durability of concrete,” Tyler said. “We have many exciting technologies that we look forward to introducing in the future. These products and processes will aim to enhance concrete and its properties from many different angles. The more we research, the more we learn, the better concrete will be.”

Harris whole-heartedly agreed. “Basically, admixtures have made it a totally different ball game for concrete and its wide range of uses,” he said.

Beyond Buildings

PATRICK B. DAVIS, AIA



Most of us would say that our physical surroundings can affect our mood and even our perceptions. There are some who take it a step further, believing that the environment we are exposed to in childhood and its aesthetics (or lack thereof) play a role in shaping who we become and what we like. This certainly seems to be the case with architect Patrick Davis. Growing up in Chicago surrounded by the artistry and majesty of structural marvels like The Tribune Tower sparked an interest in “how things are built” and “how buildings fulfill their purpose” in a young Davis. “The great architecture I saw in my childhood opened my eyes to the profession, and I’ve always been

heavily influenced by the structures there,” he said. Today, he’s putting that initial inspiration and over 40 years of real-world experience to work for CMH Architects, Inc. in Birmingham as vice president.

After some time in the Navy during Vietnam, Davis pursued his interest in architecture and graduated with his architecture degree from the University of Texas in 1975. He quickly went to work for an architecture firm in Alabama, and then spent 13 years with TRO, running the firm’s office in Sarasota, Fla.

Davis found himself drawn back to the heart of Dixie in 1995, and he went to work for Gresham, Smith and Partners in Birmingham in

1998 and stayed there for the next 11 years. But after decades in the profession that allowed him to imagine something and then see it take shape, he realized too much of his time was being devoted to the more mundane, administrative functions necessary in an architectural practice. He started looking for a way to get back to the basics of architecture and found that opportunity in CMH. "I decided I wanted to work in a more hands-on capacity, so I came to CMH with a good friend of mine," he said. "Here I get to do what I want to do, and I'm having so much fun. I can work more with the clients, instead of a lot of the administrative duties I was tasked with in previous jobs. That's important to me."

Those clients are benefitting from his vast expertise. "In the closing years of my career, it is very satisfying to be able to apply four decades of accumulated knowledge to solving problems on some really big projects," he said.

Most of these large endeavors are in the health care sector and his experience is diverse, including facility master plans, emergency centers, surgery centers, medical office buildings, intensive care units, cancer treatment centers and every major hospital department. These projects represent more than a job to Davis; they touch on issues very close to his heart. "I have long had an interest in and passion for public health. A lot of

my career has been devoted to health care. Recently, I've been doing a lot of work at UAB hospital," he said. Davis was lead architect for the UAB Women & Infants center, a 750,000-square-foot building that houses labor and delivery services, NICU and women's oncology services as well as associated doctors offices. He was the associate principal on UAB's North Wing. Davis also worked on Cooper Green Mercy Hospital, the Birmingham metro area's only county hospital, as both an architect and as a past chairman of its board of directors.

Working on such multi-faceted structures can present its own specific set of problems, one of which is creating harmony from the visions of many, sometimes disparate, sources. But this is actually a



challenge that Davis enjoys facing. "Creating the right chemistry with the client or clients is very important to make any project really successful," Davis said. "You have to have a lot of trust, and you have to build that. That in itself is an interesting process."

When it comes to hospitals and other health care facilities, working through the above process becomes even more complex, yet all the more satisfying. "You have to be able to manage the client, and in these cases, you have many different

people you work with and for - doctors, nurses, administrators. You have to gain their confidence and really listen to their needs. It's not always about what you think is best," he said. "When it's all said and done, and you've given them what they are looking for, what they need to do their jobs better, it is a great feeling."

While Davis' idea for a project or a component of a project may not always be the right one, as he humbly admitted above, sometimes it is, and communicating that in a diplomatic way is a necessary skill for any architect. "You also have to protect clients from themselves sometimes, and steer them away from things in a way that keeps everyone happy," he said.

The need for balance is one of the factors that is a constant in Davis' work on health care projects, binding them all together. Another is the major building material most often used. Concrete in various forms is usually the choice for several important reasons, as Davis explained. "The two hospital buildings I worked on at UAB are both concrete structures, and we used concrete for economic reasons; it is cost-effective. But we also chose it based on the fact that you renovate and remodel these buildings every five years or so. Buildings like that are always under renovation efforts as needs shift and change, and concrete structures are very forgiving, so they can be more easily modified. You can cut holes in flooring, walls, etc, much easier than you can if you're dealing with another material like steel," he said.

Concrete's superior fire-resistance qualities mean there are no extra steps needed to ensure a fireproof structure, an assurance crucial anywhere, but even more so in a hospital setting. Other pluses are concrete's strength and stability that make it almost unmovable. This quality is essential in the health care sector where highly sensitive equipment is depended upon daily. "In tall hospitals, you have things like MRIs and other machines that can be disrupted by vibrations," Davis said. "Concrete trumps all other materials when it comes to absorbing vibrations and not transferring movement. For example, in a recent project, the radiologists were very concerned about putting an MRI on the seventh floor; they thought there would be too much vibration, but because we were using concrete, we could do it. There was no problem."

In his long career, Davis has watched architecture change in many ways, some of them positive, some of them not. "One change for the better is the fact that we don't produce documents by hand anymore. We use CAD machines and software, which let us generate great, accurate drawings that make the coordination between disciplines like architecture, structural and mechanical much easier and smoother," he said. He also praised the advent of building information management systems and software that gives today's architects the chance to construct their designs in 3D and therefore



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Meet PATRICK DAVIS

THE ARCHITECT, THE MAN, THE PEANUT BUTTER BUFF

Patrick Davis, Vice President at CMH in Birmingham, took the time to answer a few questions for ConcreteWorks, giving us a glimpse into his interests both in and outside of architecture.

WHAT WOULD YOU BE IF YOU WERE NOT AN ARCHITECT?

I'd be a contractor. I know I'd still be involved in building one way or another, and I'd make more money as a contractor.

WHAT WAS YOUR FIRST JOB?

Shoveling snow in Chicago and being a caddy at the local country club. I've been working since I was eight years old. I was oldest of eight kids, so if I wanted something other than the basics, I had to pay for it.

WHAT IS YOUR FAVORITE BUILDING?

It's hard to name just one, but my list would have to include the Tribune Tower in Chicago. It's right where the river and bridge converge over Michigan Avenue and is a great urban space. Of course I love St. Peter's Basilica in Rome. The Seagram Building in New York City is a favorite from the early modern period.

IF YOU COULD HAVE DINNER WITH ANYONE, DEAD OR ALIVE, WHO WOULD IT BE?

Ayn Rand. I've always considered her to be a really interesting author and always enjoyed her viewpoints in her books "Atlas Shrugged" and "The Fountainhead."

WHAT IS WAS THE LAST BOOK YOU READ?

A book called "Architecture of the Absurd." The author makes fun of people he calls "brainitects," architects that design all these amazing-looking buildings that are completely non-functional.

WHAT'S THE ONE FOOD YOU COULDN'T LIVE WITHOUT?

Peanut butter. Definitely peanut butter.

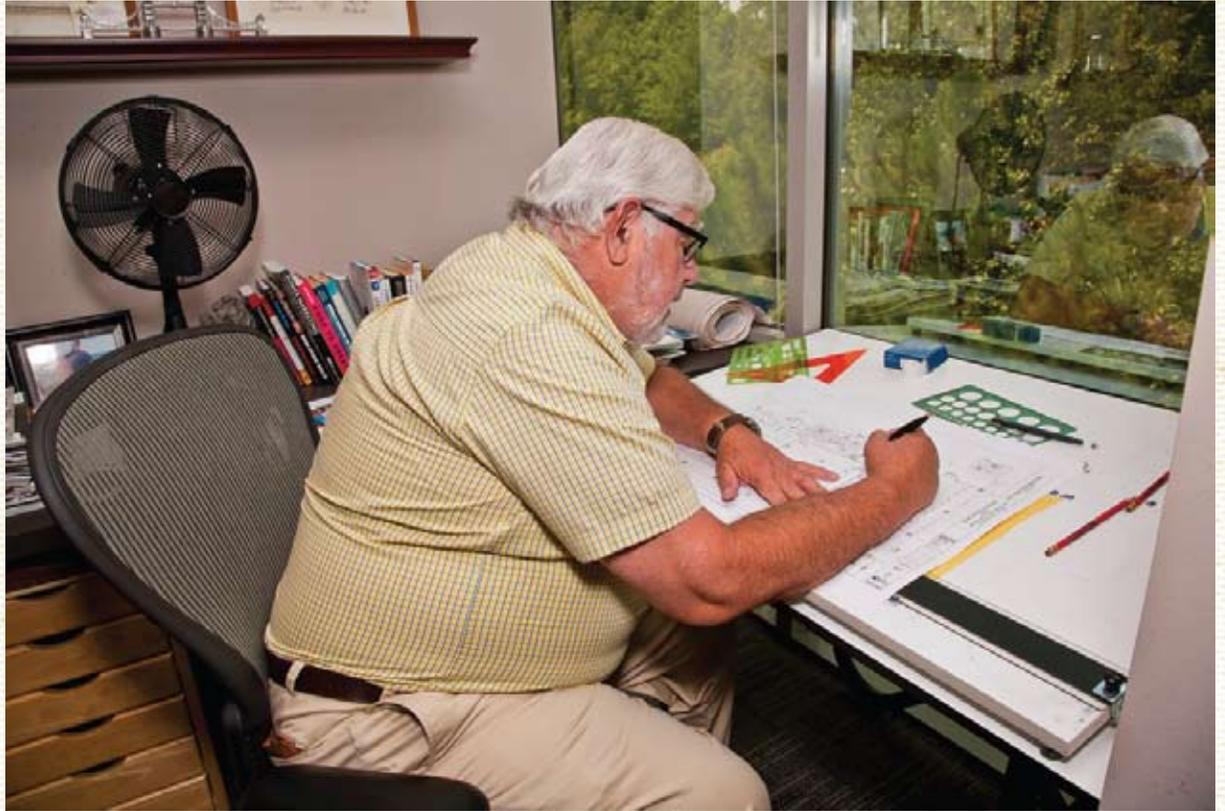
discover conflicts between systems before they begin the project for real.

On a negative note, increased litigation in recent years is threatening the architecture industry says Davis. "It has become so prevalent that we now tend to practice defensively," he said. "I think we are maybe not as bold with our decisions as we could be because we always have the fear of a lawsuit hanging over our heads. It's important to manage the risk of project rather than completely avoid it."

Another change that makes Davis happy is the current emphasis on green and sustainable building materials and practices. Here too, he explained, concrete is a smart choice. "In the last 10 years, I've been pleased by the real focus on green building," he said. "I believe it has been very positive for the entire design and construction industry. Concrete is a very green material. It is recyclable and made with renewable materials. And this is not new, concrete has always been 'green.'"

What has not changed, and never will, is Davis' passion for finding and creating solutions and his love of building something beyond the building itself. "One of my favorite aspects of what I do as an architect is not found in the sketches or the finished product. It's the relationship building with the clients," he said. "The other part that I love is the problem solving, being able to give someone a design that works for them and meets all of their goals and objectives. When I've done a design that is functional and attractive, is a nice place to work and does not leak, (not leaking is a very big deal), then I've succeeded."

Davis sees his retirement coming soon, but he's having too much fun to put away his drafting pen just yet. And even when he does "retire," don't look for him in some lounge chair somewhere. "I'm very involved in my community. I'm the chair of the Mountain Brook Planning



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Commission, so I do have other interests," he said. "I am still very involved in public health and will stay with that too."

It's also doubtful that he'll ever completely stop dreaming up designs. As he said, "I'm an architect. It's not just my job. Maybe when I retire, I'll start building beach houses. I'd do concrete ones though; they'd outlast me, and I like that."

And then, maybe a kid in the distant future, admiring some beach houses built a long time ago, will be inspired to become an architect too, just as Davis' desire was sparked by the works he admired in his youth.