DABEC DIGEST

volume 5, issue 1 jan, 2006

HANDICAP ACCESSIBILITY DESIGN

I am sure you have all noticed handicap parking spaces at Wal-mart, curb ramps leading up to public buildings of all kinds, and other built-in facilities that assist those of us with mobility problems to access public areas. You might be surprised to learn that these facilities are not built by the companies or municipalities totally by accident and that there are rules for the placement, design criteria, and frequency of these facilities that all developers of public spaces must adhere. In this issue, we will scratch the surface of the design criteria, and provide a side-bar on the Americans With Disabilities Act (ADA), which is the federal law governing all accessibility issues in buildings and on sites.

WHEN IS THE ADA APPLICABLE?

If the ADA rules applied to every site and every building, homes and garages that are being built today would also have to comply with the rule. Instead, the ADA rules apply to "places of public accomodation and commercial facilities." That may seem confusing, but essentially it means that any facility (or site) that people can visit without an invitation must be accessible.

"Accessible" is a term you will read in this article in multiple places and hear whenever you are discussing this topic. "Accessible" in this context means "a site, building, facility, or portion thereof that complies with" the ADA guidelines.

PARKING LOTS

ADA accessibility begins in the parking lot for most site plans and developments. This chart illustrates the standard accessible parking requirements:

Total Pkg.	Min. Access.
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% of total
1001+	20+1 for each 100 over 1000

For example, if the total parking provided at the facility is 738 spaces, 15 of them will have to be accessible (2%).

In addition, at least one in every eight (but not less than one) accessible parking spaces has to be "van accessible". Van accessible means it will have an 8' side access aisle instead of the standard 5' side access aisle. Therefore, for the example above, 13 standard accessible spaces are required along with 2 van accessible spaces.

Also, if the facility specializes in healthcare, treatment services, or other service that would naturally increase the need for accessible parking spaces, the accessible parking requirements go up

D. A. Brown
Engineering Consultants Inc.

AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act was passed in 1990 by the United States Congress specifically to "establish a clear and comprehensive prohibition of discrimination on the basis of disability."

The ADA has multiple sections and deals with discrimination on many fronts. Some of the sections of the bill/ law are:

TITLE I--EMPLOYMENT
TITLE II--PUBLIC SERVICES
TITLE III--PUBLIC ACCOMMODATIONS AND SERVICES OPERATED BY PRIVATE ENTITIES
TITLE IV--TELECOMMUNICATIONS
TITLE V--MISCELLANEOUS PROVISIONS

You can see that the ADA actually covers much more than wheelchair ramps and bathroom stalls.

One of the primary purposes behind this bill was to eliminate discriminational hiring of able-bodied employees over disabled applicants. Making work areas and public spaces accessible to all Americans is one way to reduce barriers to employment.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

ADA stands for: "American Disability Activation" plan.

2) True or False:

The Americans with Disabilities Act passed into law in 1990.

3) True or False:

If there are only two parking spaces at a small beauty salon, they don't need a handicap accessible space.

4) True or False

If there are 999 total parking spaces, 20 of them must be handicap accessible.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by Jan. 31, 2006 for a chance to win valuable DABEC Merchandise.

ADA...CONT

considerably. Outpatient units and facilities must provide accessible parking at a rate of 10% of the total parking spaces. Units that specialize in treatment for individuals with mobility impairments must provide accessible parking at a rate of 20% of the total parking spaces.

ACCESSIBLE ROUTES

Of course, sitting in a parked vehicle is generally not the final destination point for people visiting a public space. Therefore, criteria has been established by the ADA for the routes from the parking spaces to the accessible entrances of the buildings, elements, and all other required accessible portions of the site.

The first rule is that at least one accessible route shall be provided from public transportation stops, accessible parking, accessible passenger loading zones, and public streets or sidewalks to the accessible building entrances they serve. In conjunction with that rule, at least one accessible route shall connect accessible buildings, facilities, elements, and spaces that are on the same site. The accessible route must continue once in the building to connect all accessible spaces within that building.

What (you might be asking) is an "accessible route?"

An accessible route is defined by the characteristics of the route. An accessible route has specific surfaces and textures, slopes, widths, passing spaces, head room, changes in level, and door requirements.

The surface texture for accessible routes must generally be stable, firm and slip-resistant. No changes in level greater than 1/4" vertically are permitted without sloping the surface through the vertical change. If the vertical change is greater than 1/2", then it is considered to be a ramp (which has its own set of design criteria.)

Accessible routes must be at least 36" wide. If they are narrower than 60", then wheelchair passing zones must be provided at intervals of not more than 200'. Longitudinal slopes (direction of travel) of greater than 5% (1:20) are not permitted within the accessible route without following specific design criteria for ramps. Transverse slopes (left to right) are not permitted to be greater than 2% (1:50) for any reason.

Head room along the accessible route must never drop below 80". If areas adjoining the route have headrooms less than 80", barriers to warn blind or visually impaired persons must be in place. Doors must have a minimum clear opening width of 32".

I think we'll spend more time on this subject next month. Note: This article was derived from: 28 CFR Part 36-ADA Standards for Accessible Design.

D. A. Brown
Engineering Consultants Inc.

702 Goodwin Place *ph: 260.347.5599*
PO Box 128 *fx: 260.347.9484*
Kendallville, IN 46755

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 2 feb, 2006

ACCESSIBLE RAMPS, WALKS, ETC.

Last month we scratched the surface of the Americans with Disabilities Act (ADA) rules for accessible design. This month we are going into a little more detail about one specific part of the ADA design criteria--ramps.

When we think of "ramps," most of us might conjure up an image of a motorcycle jumping a bus, or a ramp built up to an entrance door which is above grade. Both images do indicate a ramp is in use, but the ADA defines a ramp a little more specifically.

Any surface which has a vertical change greater than 1/2" requires a ramp by rule. Let's consider this first criteria for a moment. Transition areas are places that generally fall under this rule. For example, where the curb gutter line meets the sidewalk ramp you would typically find a vertical transition. Also, where the sidewalk hits the front door of an establishment you will also find a vertical transition. If these vertical transitions exceed 1/2", a ramp must be built to reduce the likelihood of tripping, or not being able to move a wheelchair over the bump.

GENERAL RAMP TERMINOLOGY

Just saying that "you must build a ramp" doesn't really cover the criteria for the ramps, however. Therefore, the ADA has specific guidelines for ramp construction.

In order to understand some of this design criteria, we must understand some terms that are frequently used in "ramp terminology." The first term is "slope." **Slope** can have a variety of units, but it is basically defined as the vertical change from one point to another divided by the horizontal distance between those points. For example, if a sidewalk is one hundred feet long and one end is 5 feet higher than the other end (and it is straight), the slope of that side walk could be stated as 5% (5 feet in a hundred), 5:100, or 1:20. Whenever the last two ratios are used it is normal convention to put the vertical change first and the horizontal change last, but sometimes you might see them reversed, so be careful. The slope of the ramp in the direction of travel is called the "**Longitudinal Slope.**" The slope left to right of the ramp as one is walking up or down the ramp is called the "**Transverse Slope.**"

A ramp is defined by the ADA as any accessible route with a longitudinal slope greater than 5%. A 5% slope is relatively steep for finished grades in this area, but there still are many areas where the finished grade exceeds 5%. One example of this are driveways going up to houses in a lot of subdivisions. Most new homes in this area are about 35' from the curb. If the garage floor is more than 1'-9" higher than the curb, the driveway will have an average slope greater than 5%. This happens all the time, and leads into another problem with the sidewalk that crosses the drive.

D. A. Brown
Engineering Consultants Inc.

CURB RAMP SPECIALTY SECTION

Current curb ramp design and construction requires a special item that is not mentioned elsewhere in this article and it requires some additional coverage.

The item that is not mentioned elsewhere is the Detectable Warning Strip (DWS.) This strip is a somewhat recent invention whose purpose is to warn visually impaired pedestrians that they are entering a vehicular path. The DWS is generally made of concrete and the surface is covered with truncated domes. These domes are like big bumps on the surface of the strip that are just the right size to reduce the chance of tripping on them but still provide a warning for people walking or riding over them.

The DWS is also required to be a contrasting color (typically red) so that people with visual limitations can perceive the color change and know that they are entering a dangerous area.

The DWS also has specific dimension requirements and location requirements in relation to the pavement and the ramp.

The next time you see a red patch of concrete at the end of a curb ramp, you will know why it is there and can impress your kids.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

ADA defines any accessible route with a longitudinal slope greater than 5% as a ramp.

2) True or False:

The transposed slope is the left to right slope as one is traveling along an accessible route.

3) True or False:

The maximum allowable longitudinal slope for a ramp is 10%.

4) True or False

Landing areas are required every 30' along a ramp, no matter what the slope of the ramp is.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by Feb. 28, 2006 for a chance to win valuable DABEC Merchandise.

RAMPS...CONT

The ADA also stipulates that no accessible route can have a transverse slope greater than 2%. If the driveway is crossing the sidewalk at 5% grade, but the walk can't have a transverse slope greater than 2%, then the driveway must "flatten" out as it crosses the sidewalk, to allow the sidewalks transverse slope to remain at or below 2%. You can see how this could be very tricky to build and grade appropriately.

RAMP DESIGN CRITERIA

As with most design criteria, the specifications range from very general to very specific. We have already touched on a couple of the very important (but also very general) specifications. Any accessible route with a longitudinal slope greater than 5% is considered a ramp. The other general specifications that go along with that rule are this: no accessible route can have a longitudinal slope greater than 1:12 (8.333%), no ramp can rise or fall vertically more than 30" without having a level landing area at least 60" long, a ramp can never have a transverse slope greater than 2%, a ramp must always have a clear width of 36" or more, grading shall be completed to prevent storm water from standing on the ramp, and curb ramps shall have side flares or returned curbs to prevent wheelchair tipping (the flares cannot exceed 1:10, or 1:12 in special cases.)

All of these guidelines are designed to protect the safety of the public and to allow access to public venues for people of all abilities. However, compliance with all of the rules can be very difficult in "real-world" situations. For instance, one of the general guidelines is to prevent storm water from standing on the accessible routes and another requires curb ramps to be placed at intersections so pedestrians can cross in the cross walks. The potential problem with this scenario is that intersections are also typically the areas used to collect storm water in inlets and manholes. Since the curb ramps and the inlets are located in the same general area it is very difficult to provide for a dry curb ramp during rain events.

Another difficulty in real world situations is the requirement to have less than 1/2" "bump" in the curb ramp. Typically, the curbs are formed and poured with concrete and the gutter line must be maintained to direct the storm water into the inlets we mentioned previously. Normal gutters are about 4 1/2" deep, so reducing that to 1/4" can make the drainage issue even worse.

If you would like any specific clarification on issues not covered in this article, feel free to drop me an email or call. See you next month.... Note: This article was derived from: 28 CFR Part 36-ADA Standards for Accessible Design.

D. A. Brown
Engineering Consultants Inc.

702 Goodwin Place *ph: 260.347.5599*
PO Box 128 *fx: 260.347.9484*
Kendallville, IN 46755

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 3 mar, 2006

A BRIEF DISCUSSION ABOUT MATHEMATICS

Don't get nervous, people. We're not going to be covering anything too deep or complicated in this issue. However, I would like to spend some time talking about our good friend "mathematics" and all the great things he does for us (especially in the technical fields) everyday.

PROBABILITY AND STATISTICS

We, as human beings, cannot predict the future. I know that may be a shock to many of you, but it is true. The beauty of probability and statistics is that we can use these tools to predict possible futures that have a reasonable likelihood of coming true.

Here are a couple of examples:

The first example is pure chance. Let's say you are flipping a quarter. It is a standard quarter with a "heads" side and a "tails" side. Everytime you flip that quarter (assuming you are not altering the "flip" to get a different outcome) you will have a 50/50 chance of getting either heads or tails. In other words, you have a 50% chance of predicting the correct outcome.

The second example involves tracking historical data to have a better likelihood of predicting the correct future event. Let's say you are the office manager for a copy service. Each week you keep track of the number of reams of paper used, how many reams you have in stock, and how many copies you have sold. When you complete your monthly paper order, you need to make sure you have enough paper, but you don't want to have a room full of inventory, either. Naturally, you would track the usage rate, figure out how many reams you will need until the next delivery and order appropriately. Chances are, you will order approximately the right number of sheets to carry the copy service through to the next shipment. The odds of getting the exact number of sheets may be relatively low, but without the historical data, ordering the paper would be impossible.

The phrase "history repeats itself" is never truer than when dealing with historical data to predict future outcomes. Ignoring past performance when predicting future performance is fool-hardy, at best.

The probability part of "probability and statistics" is simply a measure of how likely an event is to occur. For instance, when rolling a standard six-sided die, one has a 1 in 6 chance of rolling any particular number shown on the faces of that die. When flipping a coin, you have a 1 in 2 chance of landing on any particular side.

The statistics part of "probability and statistics" really relates to the manipulation and comprehension of data being collected. In other words, each data set has particular characteristics which can be defined by the statistical nature of that set and how

D. A. Brown
Engineering Consultants Inc.

WE ARE MOVING OUR OFFICES

In an effort to provide even better services to our clients, and to provide room to grow, we are moving our corporate headquarters from Kendallville, IN to Auburn, IN.

The office building and surveying facility are almost complete at this writing. We are hoping to move into our brand new building in very early May, 2006.

We are planning our move very carefully to reduce the amount of "down time" our clients will experience, but we appreciate your patience as we make this transition.

Everyone in our office is very excited about moving into a facility specifically designed for our use and the improvements in productivity that will bring.

In addition, we will be located very close to I-69 which will make the daily commute to our clients, governmental agencies, and job sites much shorter.

A special thanks go out to our corporate partners that have provided services in the completion of this project.

More details (including our address) will follow next month.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

The average of a data sample must be calculated to be determined.

2) True or False:

The mean of a data sample is the number in the middle.

3) True or False:

The mean of the following data set is 5: 1,3,5,7,10.

4) True or False

The range of a data set is a measurement of how many data points there are in the set.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by March 31, 2006 for a chance to win valuable DABEC Merchandise.

MATHEMATICS...CONT

the data points interract with each other. Statisticians have developed all kinds of terms that have specific definitions to be able to discuss these characteristics of data sets. One which almost everyone is familiar with is "average." (Isn't it nice to know that we may not have the word average if it weren't for mathematicians?) The average of a data set is the calculated number that falls in the exact center of the entire group. For example, the average of 6 and 8 is 7. The term "average" is really the generic form of the term "mean". (Yet another word developed by mathematicians we could do without, right?) The "mean" of a data set is the same as the "average".

A statistical term that gets confused with the term "mean" frequently is the term "median." The median of a data set is the number which falls in the middle. Now, you can probably see why it is confusing. Note that when finding the median, you don't calculate anything. The median of a data set is found by lining up the data points in numerical order, and finding the one in the middle. For example, the median of this set (2,3,4,4,5,8,9,10,11) is 5.

Averages are really good numbers to know. Your average fuel usage (miles per gallon) will help to establish how many gallons of fuel you need to buy this month. Your average payroll each week will help you budget for your average expenses, like gas, utilities, food, etc. There are times, however, when averages can be misleading.

For example, let's say you're going on vacation to Crazytown, USA. Crazytown publishes their January average temperature (50 degrees) to encourage tourists to visit--particularly in the winter. What they don't tell you is that the weather pattern in Crazytown is crazy. Every other day it is 75 degrees (nice), while the other days it is 25 degrees (not nice). As a result, if you packed for 50 degrees, you won't have the right clothes for either day. But don't worry, statisticians have your back. They have developed other measurements of data which relate to the range of numbers, and the variability of the data set. Range (oddly enough) is the term that measures the numerical distance between the lowest number and the highest number in the set. Standard deviation measures the variability of the data set. Standard deviation is a beautiful tool to use (although it is somewhat cumbersome to calculate by hand) because it reveals to the user how far from the average the data set ranges. A small standard deviation means the data is very close to the mean. In the case of our good friends at Crazytown, the standard deviation will be real close to 25 degrees, which would indicate that it gets really cold and pretty warm. Better see if those plane tickets can be refunded.

Have a great month.....

D. A. Brown
Engineering Consultants Inc.

702 Goodwin Place *ph: 260.347.5599*
PO Box 128 *fx: 260.347.9484*
Kendallville, IN 46755

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

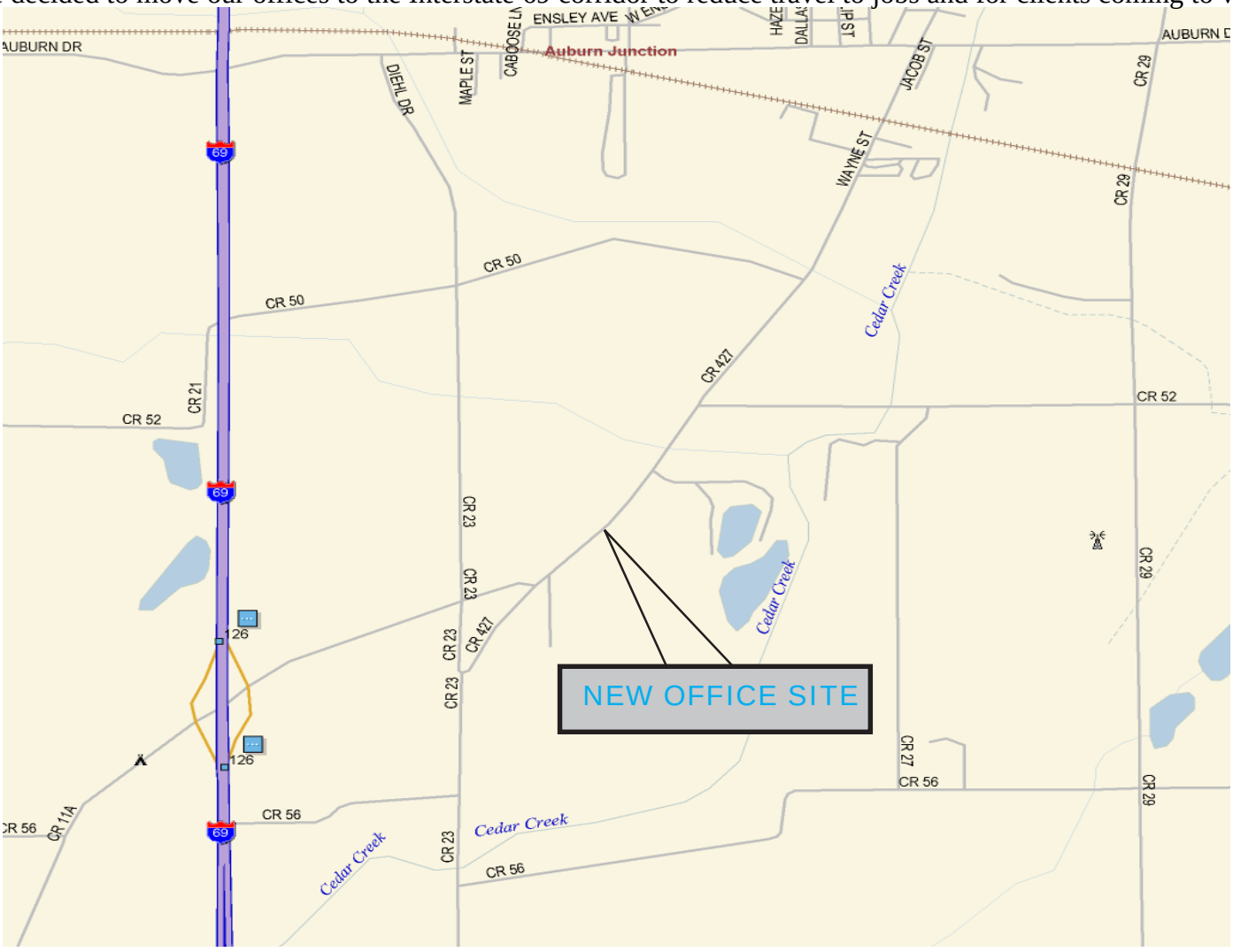
volume 5, issue 4 april, 2006

IT'S FINALLY HAPPENING .....

It seems like only five years ago (it really was five years ago) we began planning to move our corporate offices. After three complete site changes, a million floor plan changes, and several site plan changes we are finally getting ready to move into our new offices at the end of this month. The next time I sit down to write this newsletter I should be sitting in my new office. We can't wait and are very excited about this change, so I hope you'll bear with me as we share some of our excitement in this issue.....

Our new office is off the south side of Auburn, IN on CR 427 (Tonkel Road for those of you in Allen County), just about one minute from the CR 11A (Kruse Auction Park) exit off I-69. That puts us about 10 minutes from the I-69/Dupont interchange, 25 minutes from Downtown Fort Wayne, and really close to any project next to the Interstate system in our area.

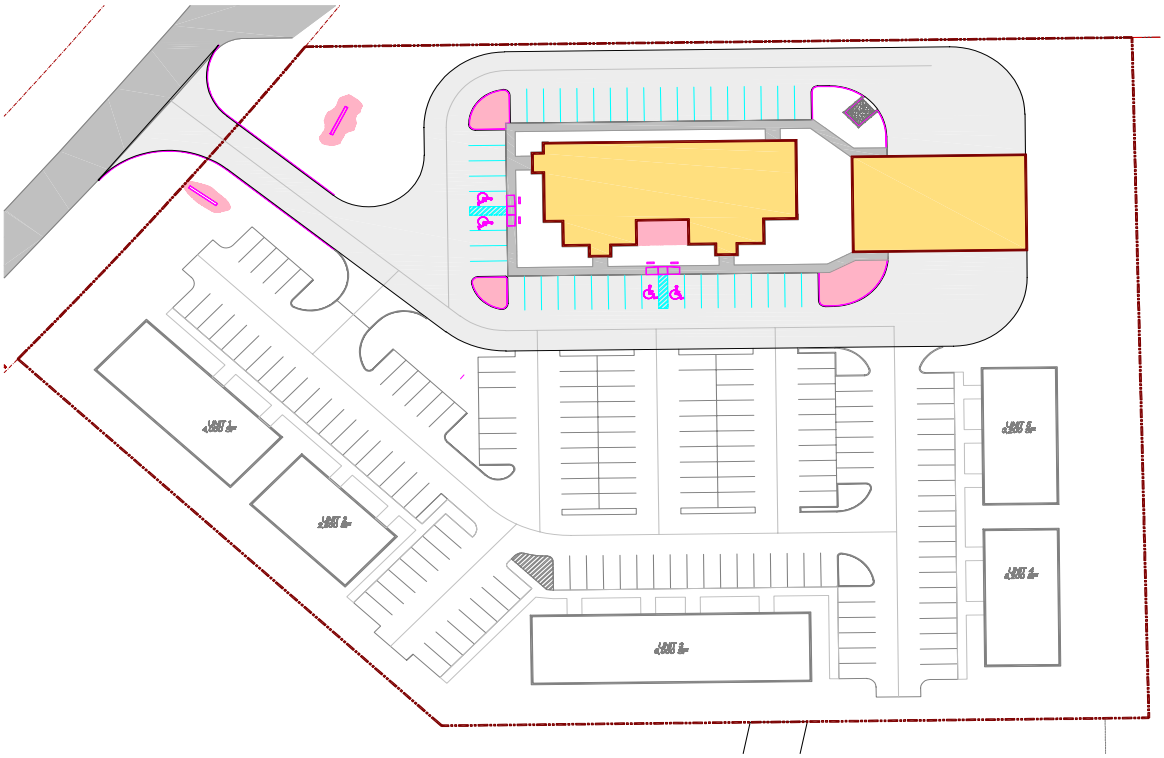
That's really the reason we are moving to Auburn. We do have some space issues where we are now (to say the least), but the real reason to move is accessibility to our projects and our clients. As Highway 3 (Lima Road) has continued to develop our commute time to our projects and our clients has increased dramatically. Therefore, we decided to move our offices to the Interstate 69 corridor to reduce travel to jobs and for clients coming to visit.



FINALLY HAPPENING ...CONT

In addition to improving our location, we also wanted to increase our office-flow efficiency and security for our field equipment. That's why we planned our increased office space to be on one floor, and planned a large out-building for our trucks, trailers, and ATV's. You will see the office building on the left below, and the maintenance building on the right.

We also have space within our new building for two more tenants, as well as room on site for multiple new buildings and more commercial uses. If you are thinking about opening a branch office in Auburn, we would love to have you as our new neighbors.....



effective May 1, 2006: ***5419 Co. Road 427, Suite C*** ***ph: 260.925.2020***
Auburn, IN 46706 ***fx: 260.925.1212***

D. A. Brown
Engineering Consultants Inc.

510 Lincolnway East, Suite A ***ph: 574.288.5599***
Mishawaka, IN 46544 ***fx: 574.288.9484***

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 5 may, 2006

WE'RE SETTLING IN TO OUR NEW HOME.....

D. A. Brown
Engineering Consultants Inc.

Welcome to our new office. I know how much everyone likes looking at other people's family pictures (ha, ha), so I decided to take this issue to share some photographs taken during our move.

We will be having an open house some time this summer, but these pictures will have to do until we can get our big event planned and scheduled.

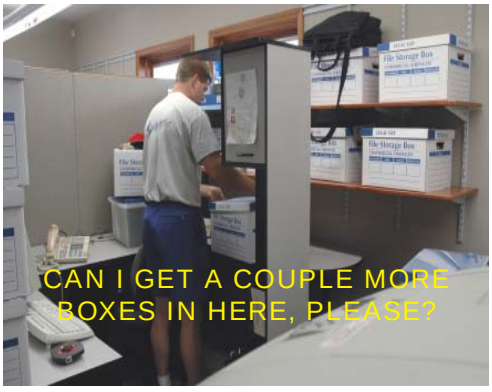
IF WE ALL STAND AROUND AND LOOK AT IT LONG ENOUGH, IT MIGHT SORT ITSELF OUT..

SOMETHING IS REALLY FUNNY OVER THERE, ISN'T IT, CASEY?

SETTLING IN...CONT


STEP BACK, BOYS. I FINALLY FOUND THE "BIGGER HAMMER"..


DO THESE JEANS MAKE MY BUTT LOOK BIG?


CAN I GET A COUPLE MORE BOXES IN HERE, PLEASE?


MY OFFICE HAS NEVER BEEN SO ORGANIZED.....

A special thank you to all our employees, clients, vendors, building contractors, and others that have been patient with us as we moved. Next month we'll be back to the normal newsletter format. Be safe!

effective May 1, 2006: ***5419 Co. Road 427, Suite C*** ***ph: 260.925.2020***
Auburn, IN 46706 ***fx: 260.925.1212***

D. A. Brown
Engineering Consultants Inc.

510 Lincolnway East, Suite A ***ph: 574.288.5599***
Mishawaka, IN 46544 ***fx: 574.288.9484***

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 6 june, 2006

IMPRESS YOUR KIDS AT THE LAKE.....

As always, we try to keep the newsletter as current and applicable as possible. Since we are in the summer months, and you are likely to be spending some time with your family near the water, I thought it would be good to give you some engineering information you can impress your kids with this summer.

BOATS

What makes a boat float? If you've ever tried to pick up one of those fancy ski boats (or bass boats) you know it's heavy. In fact, aircraft carriers are pretty heavy, as well. So what exactly makes a boat float, anyway?

The physics behind this phenomenom are really pretty simple. When one is talking about ships (like aircraft carriers), the term "displacement" is used to measure the size of the ship. "Displacement" is a measure of how much water is moved out of the way when the ship sets in/on it. In other words, if a ship weighs 100 tons, it will displace 100 tons of water when it is lowered into the ocean.

What actually determines whether it floats or not is the volume of the ship displacing 100 tons of water. Let me explain.....fresh water has a density of about 62.4 pounds per cubic foot. (Salt water is higher, depending on how much salt you add to the water.) If water's density is 62.4 pounds per cubic foot, you would need (100 tons=200,000 lbs) 200,000/62.4 cubic feet to equal the weight of the ship. In other words, the displacement of the ship will be 100 tons of water, which is the same as 3,205 cubic feet of water. So, if the ship has a volume of 3,205 cubic feet below water and still has some hull sticking up above the water, it will float.

An example of this that is more on our local scale would be a ski boat that weighs 3,350 lbs and has 4 adults in it with a total combined weight of 650 pounds. That means the boat will displace 4,000 pounds of water, with an equivalent volume of about 64 cubic feet. If the boat is 18 feet long, and has a beam (left to right) dimension of 7 feet, and a flat bottom (like a barge), it will sit 6" deep in the water. As long as the sides are taller than 6", it will float.

Note: Since ski boats don't have a flat bottom, the actual depth to the bottom of the hull will be more than 6". Probably more like 12-16". However, the volume of water displaced will still be equivalent to the weight of the boat, gear, and occupants-no matter what the shape of the hull is.

This floatation principle applies to everything-not just boats. Anything that is less dense than water will float in water-even if it looks really heavy.....

Coincidentally, this is the same phenomenom that makes life jackets work. As your body enters the water, the life jacket displaces more water than your body normally would, and since the life jacket is not nearly as dense as water, you float more than you would without the life jacket.

SKIS

Skiing is a different ball game. In fact, anytime an object is in motion on or through water it is different

CHECK OUT OUR NEW LOGO...

You might have noticed our new logo on this newsletter, or maybe some other information you have received from us since we moved to our new office in Auburn, IN.

All we have changed is our logo. We have the same owners, the same project managers, the same employees. We still have the same commitment to solving problems, delivering projects, and keeping our promises.

We just thought it would be nice to update our logo and keep our image fresh.

If you have any comments on our new look, please contact us and let us know what you think.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

The term "Displacement", when used in nautical terms, refers to the weight or volume of water moved by the boat or ship when at anchor.

2) True or False:

Force = Mass x Acceleration

3) True or False:

Larger skis allow for slower speeds than smaller skis because they accelerate more water and thus generate more force.

4) True or False

I used to enjoy boating until it got so technical.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by June 30, 2006 for a chance to win valuable DABEC Merchandise.

IMPRESS YOUR KIDS....CONT.

than just floating.

When the object is not moving, the only forces working on it are gravity and the bouyant force of the water. In fact, before the boat starts moving and pulling the skier, those are the only forces at work and the skier is usually in water up over their waist and the skis are completely submerged-except for the tips. What makes the skier come up out of the water?

Well, obviously it is the boat pulling them-but that doesn't really answer the question, does it? The skis obviously have something to do with it, otherwise you wouldn't need them to stand on the surface of the water while travelling at high rates of speed.

The answer lies in the good old physics equation:

Force=Mass x Acceleration

The force required to hold up the skier is essentially the weight of the skier, their life jacket, and the skis. (There is some bouyant force involved, since part of the skis are submerged-but we are going to ignore that factor.)

So, how do you hold up 200 lbs on the surface of a lake? You have to take a certain quantity of water below the skier (Mass) and Accelerate it. The amount of water we are moving is directly proportional to the size of the skis. The bigger the skis, the more mass of water we have to work with.

The Acceleration of the water is a function of the speed of the boat. Even though it feels like everything is moving, the water is actually standing still (velocity=0) right in front of the skier. When the skis run over that water that is standing still, they push it out of the way and increase its velocity. Increasing (or decreasing) velocity is the definition of acceleration (or deceleration).

BOAT PROPELLERS

Did you ever wonder why the boat moves in the first place? Everyone knows that the outboard (or inboard) motor moves the boat with the propeller, but how does the propeller work?

Propellers work like fans. The fan blade slices through the fluid and pushes the fluid on the front side of the blade and increases its velocity. Since we all know that increasing the velocity is the definition of acceleration, and that the Force=Mass x Acceleration, we know that the Mass of water moved times the Acceleration rate of that water equals the resultant Force. But Force on what, exactly?

That leads us to our other physics law we love to use:

"For Every Action, There is an Equal and Opposite Reaction."

In other words, when the propeller pushes on the water, the water pushes back.

Using these ideas, think about what makes a Sail Boat move until next month. Be safe....

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C *ph: 260.925.2020*
Auburn, IN 46706 *fx: 260.925.1212*

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 7 july, 2006

WHAT IS "LAND PLANNING" ANYWAY?

In our business (engineering and surveying for development purposes), we hear the term "Land Planning" all the time. You will see it in the newspaper when local governments are proposing new land uses to encourage city growth. You will also see it on the letterhead of a wide variety of professional consulting firms. "Land Planning" sounds professional and comforting, but what does it really mean?

LOCATION, LOCATION, LOCATION

Almost everyone knows the mantra of real estate sales shown above. Land Planning can really be distilled down into those three words-Location, Location, Location. If I stopped there, some of you would still have questions, and all of you would feel cheated by the length of the article this month, so I will go into more depth....

Land Planning is (at its core) simply trying to make the best use of the land that is available. In some cases, that means planning the development of a 5 acre office site, in other cases that means planning the zoning areas for a whole county. In both cases, however, the market ultimately determines what works on the land that is planned, and what doesn't. That is where "Location, Location, Location" comes into play.

Let me give you an extreme example: Imagine that we're in Pennsylvania in Dutch (Amish) country. As far as the eye can see there are Amish farms side by side and with no interruption. The only change in the landscape is the network of dirt roads that separate the farms. In the middle of this vast ocean of Amish farms, we find a 5 acre piece of ground for sale at a reasonable price. It is currently zoned for commercial use. As a developer, you have two options: a microwave oven repair shop, or a tack shop for horse equipment. Which use do you think is better suited to the land, and which one will the market encourage to be successful?

Even though that is an extreme example, it is the basis for land planning on a regional and local level. Do we encourage Industrial Development next to Retirement Villages, or Daycares next to Prisons? Obviously, we need transition zones between users to protect property values and to encourage investment in the community. Regional planning is the key to this growth and investment.

Locally, the Plan Commission and their staff are charged with providing this atmosphere for the public good. Additionally, the Board of Zoning Appeals maintains control over the unusual uses and is in place to prevent unacceptable abuses of the zoning system in their area.

ON-SITE LAND PLANNING

What about making the best use of an individual piece of property? For most investors, this is really where the rubber meets the road. Having a property zoned for a particular use does not guarantee that the project will be individually successful.

Planning the overall use of the property is really where the project

WE'RE HAVING AN OPEN HOUSE-AND YOU'RE INVITED!

We finally have most of our stuff sorted out and cleaned up and we want you to come help us celebrate being in our new office. Our open house will be on August 25, 2006 from 11:00 am until 2:00 pm, or until everyone finally runs out of food, whichever comes first....

That's right folks, we want to feed you lunch when you come to visit. Plan on eating free food and drinking free pop, etc. until you can't stand it anymore. Then you can go on a little tour of the office and maintenance facility to justify all that food you ate.

Pencil us into your calendar, and RSVP to our office so we can plan the food. See you on August 25th, we can't wait!!!

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

Wasted space on development sites includes: parks, detention basins, trail systems, community buildings, community recreation areas, and side walks.

2) True or False:

Efficient and effective land planning can result in increased economic activity and community growth.

3) True or False:

The free market economy generally will dictate what uses are appropriate for areas within a community.

4) True or False

DABEC'S open house is August 25, 2006 from 11:00 am to 3:00 pm.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by July 31, 2006 for a chance to win valuable DABEC Merchandise.

LAND PLANNING....CONT.

succeeds or fails.

For example, two planners can take the same forty acre piece of ground and plan a single family residential community on the property. If one plan takes advantage of the natural terrain and existing utilities and the other plan does not, it is not unusual for the development cost to be 20-50% higher for the plan that didn't use the natural state of the property. If you need gas for your car and two gas stations are sitting next to each other with a shared parking lot and one station costs $2.90 per gallon compared to $2.00, which one will you enter?

You can never ignore the market place when planning an investment in real estate-if you want to stay in business.

Another thing that can happen when planning the uses on a property is that space can be wasted. Inefficient transportation plans, poor open space planning, and severe slopes can all result in wasted space and loss of revenue.

It is important to understand the difference between wasted space and lower density development. If the proposed development is residential in nature and each lot is supposed to have one acre, every lot that has more than one acre can contribute to the wasted space on the property. Community parks and open spaces are not wasted space, but even dead corners or maintenance problems can result in loss of revenue for the overall property.

Even something as simple as reserving more property than necessary for the buffering between adjacent uses can result in wasted real estate and loss of revenue.

Wasted space is not the absence of saleable units. Every development needs some amenities that are common to the public good. These amenities could be something as simple as landscaping in the parking lot, or as complicated as a community pool or tennis courts. It is extremely important to provide such amenities as the market will demand on or around the product you are trying to sell. Without those amenities, what is a very desireable product may not sell.

Waste too much ground, or spend too much money fighting the natural tendencies of the property, however, and you could price your product out of the market and end up owning the whole thing yourself.

Land Planning is critical to the success of communities and developers alike. Appropriate zoning and development paths will cause a community to grow and thrive with new jobs, new homes, and new retail capacity. Excellent land planning for the private community results in attractive commercial centers, effective industrial sites, and beautiful and affordable home sites.

Think about that as you are driving around this month. Be safe, and see you in August.

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C *ph: 260.925.2020*
Auburn, IN 46706 *fx: 260.925.1212*

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 8 august, 2006

COMMUNITIES GROW ON INFRASTRUCTURE

As you will recall, we spent some time last month talking about "Land Planning." It is possible to put together a great Land Use Plan and not be able to use any of it. A primary issue with developing any piece of ground, or an entire region, is the capacity and availability of the infrastructure to support that growth.

In order to fully grasp this article, an understanding of the term "Infrastructure" must be gained. Infrastructure essentially means the structure within, or inside, and in this case it refers to all the support mechanisms that promote a healthy community.

In other words, the infrastructure that supports the growth of communities is much like the support system of the human body. Bones and muscles (transportation), nervous system (communication), digestive system (energy supply), and kidneys and livers (waste removal) all correlate to the infrastructure we use every day to support our communities.

BONES AND MUSCLES (TRANSPORTATION)

We live in a mobile society. It is not unusual for people to travel 20+ miles one way to work every day. It is also not unusual for parents to drive much more than that taking their children to dance class, karate, baseball, football, swim class, tee ball tournaments.....(well, you get the idea:-)))

We also like to shop. For everything. All that stuff we buy has to get to the store somehow, and most of it gets there in the back of a semi-trailer.

That means the transportation system in the community has to be top-notch to enable the community to support its current citizens and promote growth for the future.

Poor transportation systems cost a lot of money. Vehicle maintenance due to poor roads, fuel costs due to sitting in traffic, time wasted due to sitting in traffic, and collisions due to poor design and/or overloading the system are just a few ways that poor transportation systems cost the community money and inhibit growth of the community.

NERVOUS SYSTEM (COMMUNICATION)

Can you imagine living in a community with no cable tv, no high-speed internet access, no telephones, no radio stations, and no cell phones? If there was a community like that, I don't believe there would be people lining up at the gates to get in.

Aside from the obvious creature comforts, communication systems provide a vital role in supporting growth in a community. Access to high-tech communication systems encourage the development of high paying jobs in the tech industry, hospitals, communication centers, and the like. Additionally, readily accessible communication systems promote time savings and make the population more productive (even when they are sitting in a traffic jam.)

DIGESTIVE SYSTEM (ENERGY SUPPLY)

Without getting into too much detail (and grossing some of you out) we can simply say that the digestive

WE'RE HAVING AN OPEN HOUSE-AND YOU'RE INVITED!

We're finalizing the details for our open house on AUGUST 25, 2006 (it's a Friday). We'll keep the doors open from 11:00 am until 2:00 pm.

Plan to eat lunch with us that day. We'll be serving hot dogs, hamburgers, and chicken breasts-all cooked on the grill. We'll also have plenty of side items to go with the main course, and we'll guarantee you don't leave hungry. After you eat, you can go on a tour of our office and maintenance facility.

Pencil us into your calendar, and RSVP to our office so we can plan the food. See you on August 25th, we can't wait!!!

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

The Transportation System in a community is similar to the Five Senses in the Human Body.

2) True or False:

Infrastructure is defined as the structure that is only visible with Infrared Glasses.

3) True or False:

Solid waste travels through the sewer collection system to the treatment facility in most communities.

4) True or False

DABEC'S open house is August 25, 2006 from 11:00 am to 2:00 pm.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by August 31, 2006 for a chance to win valuable DABEC Merchandise.

COMMUNITIES GROW....CONT.

system in the human body provides the basic energy requirements that enable the functionality of the body to continue.

Communities need energy supplies, as well. Electrical systems, gas mains, and water mains all supply the basic energy requirements for the community.

Imagine everyone in a community (like Fort Wayne) having their own well, generator, and propane tank out back. Not only would those systems be much less reliable and cost more money than the community supply, they would be very loud and pollute the atmosphere of the community to an extent that living there would be unpleasant.

KIDNEYS AND LIVERS (WASTE REMOVAL)

If we weren't going to get too gross on the last topic, we definitely will have to watch it on this one..... The human body (just like every modern community) has a waste removal system. Part of that system is a transport system (which carries the waste stream to the filtering mechanism) and part of that system is the filtering mechanism, which removes the bad part from the system and leaves the good stuff behind. For example, your kidneys process the blood in your body, removing impurities and cleaning the blood as it passes through.

Most communities have two primary waste removal systems. One system handles solid wastes, which are typically placed in a dumpster or garbage can and picked up by trucks (utilizing the transportation system). The other typical waste removal system handles liquid wastes (sanitary sewer) from homes, businesses, and industry.

Imagine everyone in a community being required to dispose of their own solid wastes. Everyone would have a land-fill in their back yards (or they would load up their garbage in their trunk every week and take it to their friend's back-yard land fill.) What a mess. Even though our current solid waste disposal system isn't perfect, it sure beats having land fills on every property in a community.

Similarly, the sanitary sewer system centralizes treatment for the community. A system of pipes (and/or pumps) collects the waste from all the users and transports it to a centralized treatment facility which removes the impurities from the water and discharges clean water back into the environment.

CONCLUSION

Just like the human body, failure of any one of these systems will cause a sickness within the community. On the other hand, when all the systems are functioning at peak performance, the body grows and thrives.

Have a great month!!!!

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C *ph: 260.925.2020*
Auburn, IN 46706 *fx: 260.925.1212*

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 9 september, 2006

CONTINGENCY PLANNING

As many of you readers are probably aware, the site development market has been changing over the last twelve months. Since a high percentage of our work is tied to the site development market (residential, commercial, and industrial), we are seeing those changes first-hand. Over the past few months, we have been helping new clients and repeat clients remodel their site development plans to meet the new market requirements and still realize some profit from their projects. I have been thinking about this article for some time, and some recent conversations with clients and review agencies have triggered the writing at this time.

THE TIME FACTOR

Before we even start talking about Contingency Planning, there is a primary concept within Land Planning and Developing that must be understood. That concept is the Time Factor.

The issue with all Planning and Developing efforts is that very rarely does the entire Planning area or Developing area completely build out instaneously. In other words, it takes time to build a community.

For example, let's say you're developing a 60 Acre farm into residential lots. It takes about a year to complete the acquisition of the property, the re-zoning, securing all the construction approvals, and building the site improvements to allow new homes to be constructed on the site. Over the course of that year, many changes can occur in the market place that could make your development more attractive (or less attractive) to your potential buyers. Additionally, unless you're in a large market, you probably won't build out the entire 60 acre parcel in the first phase. If the second phase doesn't open for two years after the first phase is available, you now have spent three years from conception to second phase construction.

A lot can happen in three years.

In larger projects, it could be a decade between conception and final build-out (or even longer).

The attempt to protect the Development or Planning effort against these market changes is at the heart of Contingency Planning.

WHAT IS "CONTINGENCY PLANNING"

In case you've never heard the term, don't feel bad. "Contingency Planning" is a term I made up. There are two key concepts for the term "Contigency Planning". One definition for the term is that when the project is planned, contingencies are taken into account so that the project will be flexible over time. Another definition is that when contingencies happen, re-planning the project takes place to account for those contingencies. In short, Contingency Planning is like taking out an insurance policy on the development.

The idea might be better understood with this example: Let's say there is a property that is planned to be used as condominiums. If, during the planning stages, a plan is put in place to allow for developing the unused portion of the property into

THANKS FOR ATTENDING OUR OPEN HOUSE

I just wanted to send out a special "Thank You" to all those who attended our first open house in our new office location.

We ended up having about one hundred guests come through, tour our new facility, and have lunch with us in our new maintenance facility.

As far as we know, no one has reported getting sick from the food (and we didn't serve spinach of any kind.)

Thanks again for your patronage. We highly value each and every one of you.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

Contingency Planning revolves around the idea of allowing for unforeseen circumstances.

2) True or False:

Contingency Planning Flexibility is that ability of the plan to conform to new market pressures.

3) True or False:

Contingency Planning is similar to buying an insurance policy for your development plan.

4) True or False

I didn't even realize you had an open house.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by September 30, 2006 for a chance to win valuable DABEC Merchandise.

CONTINGENCY PLANNING....CONT.

villaminiums or apartments the property has a Contigency Plan that will allow for some market fluctuation during the life of the project.

THE IMPORTANCE OF A CONTINGENCY PLAN

It is interesting in this day and age of insuring everything, signing contract documents and liability waivers, and having our attorneys on speed-dial that we tend to plan and develop without a viable contingency plan. When you boil planning and developing down to their essential parts, the essence of both of them is predicting the future, and everyone knows that predicting the future is a difficult task, at best.

Communities and private companies alike can have problems with these areas. Community Planning for a certain number of new taxpayers in a developing area can result in budgets not being met if the market changes and those new taxpayers don't show up. Private companies planning for a certain number of lot sales within a development at a defined price can feel the pinch if the market changes and the buyers don't come.

ESSENTIAL PARTS OF CONTINGENCY PLANNING

Flexibility is without doubt the most important part of any planning or developing strategy. Since we are primarily concerned about the land planning and construction activities, I will spend the most time talking about them, but flexibility certainly extends into the budgeting of finances for the project.

A flexible land plan allows for future changes to the site layout. Maintaining flexibility for the site would include: limiting construction on portions of the property not being developed in phase one, keeping open and contiguous property available for future sections, and selecting properties that have the potential for multiple uses.

Here is an example of poor planning that led to a lack of flexibility for one client: I was recently consulted about a development owner that wanted to add some amenities and parking to his complex. While the total square footage of the amenities and parking would have easily fit on the property this owner purchased, it was very difficult to find space for them on his existing site because the original land plan centered his current use on the property and left only small "corners" of the property open for future uses. The amenities and parking were able to be added to the property, but the cost for developing those additional uses was much higher than it needed to be.

Next month we'll discuss other essential parts of Contigency Planning including: expansion, change in use, and infrastructure capacity. Be safe til then.....

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C
Auburn, IN 46706
ph: 260.925.2020
fx: 260.925.1212

510 Lincolnway East, Suite A
Mishawaka, IN 46544
ph: 574.288.5599
fx: 574.288.9484

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 10 ocotober, 2006

CONTINGENCY PLANNING-PART II

As promised last month, we are finishing up our discussion of Contingency Planning this month. You will recall that the term "Contigency Planning" is the ability of a development plan or land plan to adapt to change over time. Plans that account for contingencies are more likely to succeed over the long run than plans that are inflexible and depend upon constant market conditions.

Last month we defined Contingency Planning, discussed the importance of Contingency Planning, and spent some time discussing flexibility within the planning process.

This month (as promised) we will discuss: Expansion, Changes in Use, and Infrastructure Capacity.

EXPANSION

Most of the time, we consider contingencies to be negative in nature. The economy takes a downturn, a product becomes obsolete, a new competitor emerges and takes market share, and many other potential negative impacts. At times, however, Contingency Planning must take into account positive market forces that could require expansion of the vision of the original plan.

Industrial users deal with this factor the most frequently among our clients, but these trends can impact almost everyone reading this newsletter.

Failure to plan for required expansion can result in huge costs at a later date. For industrial users, it can mean moving entire production facilities, or maintaining production in two faciltities relatively close to each other. Both options are quite expensive. For commercial developers, an in-ability to expand can mean losing large clients to other sites.

The ability to expand the project site is key to taking advantage of new opportunities provided by the market place.

CHANGES IN USE

For private land developers the term, "Changes in Use" means a relatively minor change (or emphasis) in the prospective clients pursued by the project.

For example, a residential developer might have planned a community to incorporate large lots with spacious open areas and community amenities. By the time the first lots reached the market for sale, the emphasis from the buying community changed and the consumers wanted lots with waterfront and fewer community-wide amenities. If a Contingency Plan were in place to accomodate that market shift, adding the water to the plan would be relatively easy. If the low areas of the property were already developed and filling the lakes became a problem, adding water to the plan could be quite difficult.

It is difficult for a private developer to take a piece of property that is already half-developed into residential uses and develop the remaining half into industrial (or even commercial) uses due to market dynamics.

However, for municipal planners (who are taking into account thousands of acres at a time), major shifts like the residential/industrial example

EXPANSION PLANNING

How much is too much?

Most of our industrial clients plan for doubling their size over the useful life of a facility. That means double the square footage, double the parking, double the waste water generated, double the electricity used, and double the process water used.

If the development is commercial in nature, allowing for stub streets that extend into adjacent un-developed properties is very appropriate. Even if "those properties will never develop."

Over the long run-they usually do.

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

Contingency Planning revolves around the idea of allowing for unforeseen circumstances.

2) True or False:

Expansion of plans or developments only happens with residential developments.

3) True or False:

Changes in Use can drastically affect municipal planning efforts and their infrastructure.

4) True or False

Oversizing sanitary sewer to accomodate un-foreseen contingencies can be a wise investment.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by October 31, 2006 for a chance to win valuable DABEC Merchandise.

CONTINGENCY PLANNING....CONT.

above can quite easily happen.

Master Plans for municipalities change on a regular basis and result in areas that were planned for industrial being developed into other uses, and areas that were planned for other uses being developed into industrial sites. If these Master Plans are inflexible and don't allow for changes in use, a community can suffocate and die from lack of growth in jobs, housing, and commercial applications.

INFRASTRUCTURE CAPACITY

This one is a biggie. It really is amazing how many times we find areas that cannot be developed because the local infrastructure is inadequate. (Infrastructure is the system of utilities, transportation, and communication upon which communities are built.)

Some infrastructure is easier to upgrade and extend than others are. For example, it is easier to extend telephone service than it is to extend gravity sanitary sewer service. It is extremely important to plan accordingly. Make doubly sure the big ticket items have the flexibility to service the area even if it expands, changes use, or something else happens.

Sanitary sewer usually ends up being the problem with Contingency Planning, so I will include an example for that utility.

An 8" diameter gravity sanitary sewer main will handle approximately 500 homes within a development (surprisingly high-isn't it?). A 10" diameter gravity sanitary sewer line will handle approximately 800 homes (a 60% increase in capacity). Typically, the 10" diameter sewer line installed cost is in the range of 10% more than the 8" diameter line. Obviously, that is a pretty good bang for the buck.

Engineers and developers have to be careful about where to oversize the sewer lines. For one thing, the State will not allow oversized lines in every location due to maintenance costs, but in select locations a few dollars can provide insurance against contingencies later. It is terribly important to allow for these contingencies when planning a community or a development.

WHAT MAKES A GOOD PLAN?

Ideally, the best plan allows for all future contingencies with no additional dollars invested today. In virtually every "real-world" situation that is an unrealistic expectation. However, appropriate planning can drastically reduce the up-front investment for contingency planning and enable a development or community to proceed without undo delay or cost at a later date.

In short, a great Contingency Plan will enable a community (or development) to grow and remain competitive even as market demands change. See you next month!

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C
Auburn, IN 46706
ph: 260.925.2020
fx: 260.925.1212

510 Lincolnway East, Suite A
Mishawaka, IN 46544
ph: 574.288.5599
fx: 574.288.9484

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 11 november, 2006

BEING A GOOD NEIGHBOR

D.A. Brown Engineering Consultants

I've gotten involved in a couple of sticky development problems in the last couple months that have led me to write this article about "Being a Good Neighbor." I'm not talking about two private citizens living next door to each other (although it would be nice for everyone to have good neighbors). This article is about developments as good neighbors, and how that can be accomplished.

Fortunately for us, our clients are all ethical, upstanding citizens who are concerned about the legacy they are leaving behind after they develop a piece of property. (We have had some shady characters come through our doors, but they are very few and far between.)

As a result, very few of the developments we have been part of have resulted in major heartburn for the communities surrounding them, but that has really been accomplished by following a few rules to make sure no one is injured in the development process.

RULE #1-LOCATION

We've talked about this before, but location is really the most important factor for any development. In this case, a site that may have all the other pre-requisites must be eliminated from consideration if it doesn't fit in the existing neighborhood. For example, let's say we're looking for a site for a new metal stamping plant. The plant uses drop forges and will run 24 hours a day, 7 days a week. A site next door to a retirement village may have appropriate utilities, transportation, and drainage, but it really can't be considered for this plant because of the neighborhood. If the developer tried to push the stamping plant through on that property the neighborhood would get very angry (and rightfully so.)

Carefully selecting appropriate properties for the intended use is very important, and examining the local community composition to determine if the proposed use is compatible must be one of the key components of site selection.

RULE #2-COMMUNICATION

It is imperative (and reputable developers do) that the developer meet with the local community representatives as early as possible in the process to start up a dialogue between the parties.

Early dialogue gives the developer a chance to incorporate appropriate comments from the neighbors into the land plan in order to provide a development that enhances the neighborhood for everyone.

Failure to communicate with the community can result in a perfectly compatible use being fought by the residents due to a mistrust of the development team. Once the local community believes that the developer is out to pull one over on them, it is very difficult to regain any level of trust.

RULE #3-BUFFERING

Dis-similar uses (like commercial and residential, or industrial and residential) should be buffered appropriately.

Buffering (lanscaping, mounds, fences, etc.) should also be in the form that is appropriate to separate the uses from each other.

BUFFERING AREA

Let's say a planning department is requiring a 40 Acre development to buffer 50' on three sides from existing residential use for the proposed denser single family use.

The forty acre parcel is a standard sixteenth section (which is 1/2 mile by 1/8 mile).

Question: How many acres will be contained under the required buffering boundary?

Answer: The 40 Acre parcel is 2,640'x660', which means the buffering will take place on both of the 2,640' sides and one of the 660' sides-for a total length of 5,940'. At 50' wide the area becomes (5,940x50) 297,000 sq ft or 6.82 Acres. That's equal to 17% of the total area.

The buffering area adds up, doesn't it?

potpourri

Congratulations go out to last month's winners. Get your answers in for your chance to win!!!!!

This Issue's Quiz:

1) True or False:

It is important for developers to sugar coat everything about their development plans until they get approval.

2) True or False:

Educating the community about your development plans is a key component to securing community buy-in.

3) True or False:

NIMBY stands for "Not In My Back Yard."

4) True or False

Buffering dis-similary uses is rarely required or necessary.

Fax or email your answers to Brian at D. A. Brown Engineering Consultants by November 30, 2006 for a chance to win valuable DABEC Merchandise.

GOOD NEIGHBOR....CONT.

For example, a small mound with 6' tall evergreens might be an appropriate buffer zone between a denser single family development and an estate-lot single family development, but it probably will be insufficient between apartment units and estate lots.

Extraordinary buffer zones are expensive for the development in terms of property lost as well as construction expense, but these buffers can also protect the property values on both sides of the buffer--thereby increasing the sale-ability of the end product for the developer.

RULE #4-EDUCATION

Sometimes, a community's resistance to a development is due to a poor understanding of the finished product. This concept goes hand-in-hand with "Communication" mentioned earlier, but education can be such a big part of the equation I am including it separately.

Every campground does not look the same (for example). If I were to say I am putting an "RV Park" next door to your property a different mental image comes up for just about everyone. It is important to make sure that the mental image people are carrying about your proposed development is the actual picture--not a bad experience they have had in the past.

RULE #5-HONESTY

Which brings me to my next point. This one is also part of communication, but what a big part! Being honest when communicating the vision and plans for your development can not be over emphasized.

In fact, we have seen instances of simple mis-speaking end up killing projects. Everyone occasionally says the wrong word when speaking, but that can be a fatal flaw when discussing your project with a neighborhood association. Even when it is a simple accident it can have dire consequences. Be careful!

(How many times have you seen something like that come back to haunt politicians for months or even years after the fact?)

THE NIMBY EFFECT

"Not In My Back Yard" has become a motto (or even creedo) for many Americans. While everyone would acknowledge that we need landfills, cemeteries, power plants, steel mills, and oil refineries, no one believes they need to be built near our house. It is also odd that we generally don't see the break in logic within that thought.

There are appropriate places for even those uses listed above. And sometimes those places are near your house (or mine). The important thing is to recognize the greater good and work with the developer to protect our property values as the ground around us is developed. See you next month!

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C *ph: 260.925.2020*
Auburn, IN 46706 *fx: 260.925.1212*

510 Lincolnway East, Suite A *ph: 574.288.5599*
Mishawaka, IN 46544 *fx: 574.288.9484*

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com

DABEC DIGEST

volume 5, issue 12 december, 2006

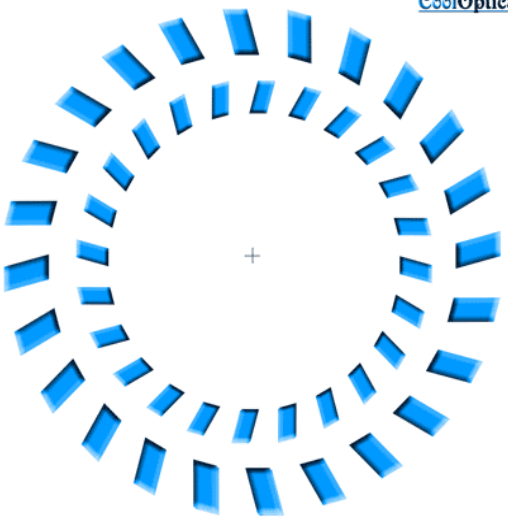
HOW ABOUT RELAXING FOR A MONTH?

D.A. Brown Engineering Consultants

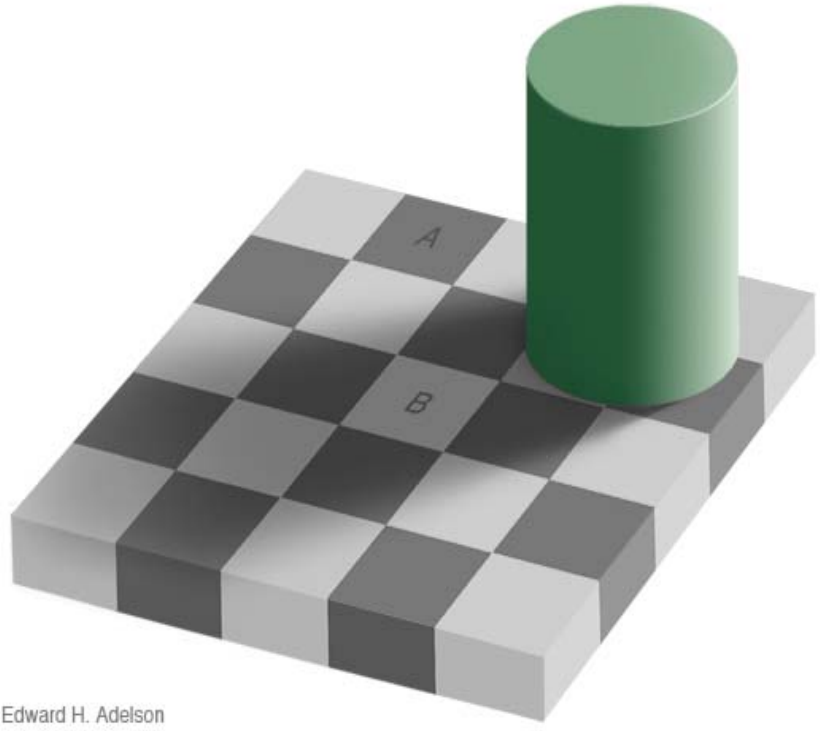
As is our custom, we are giving you the month of December off. No heavy learning, no studying for the exam, no new topics to push into your brains, just some good, old-fashioned fun....

This year, I thought some optical illusions might be fun for you, so here you go:

CoolOpticalIllusions.com



Stare at the center of the "wheel" and move the paper farther and closer to your eyes. Watch the wheels rotate.



Edward H. Adelson

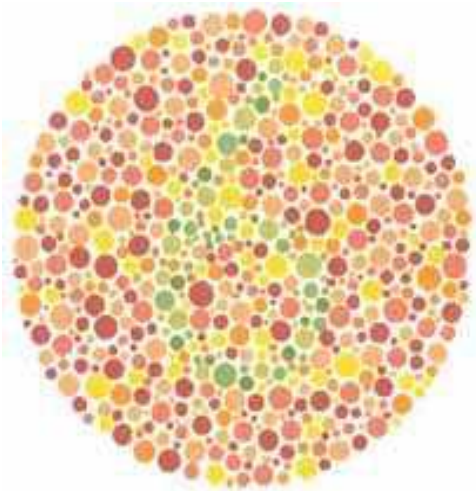
The squares marked "A" and "B" are the same shade of gray.

Close one eye and stare at the "plus" while moving your head farther away from the paper and notice the dot "disappears."

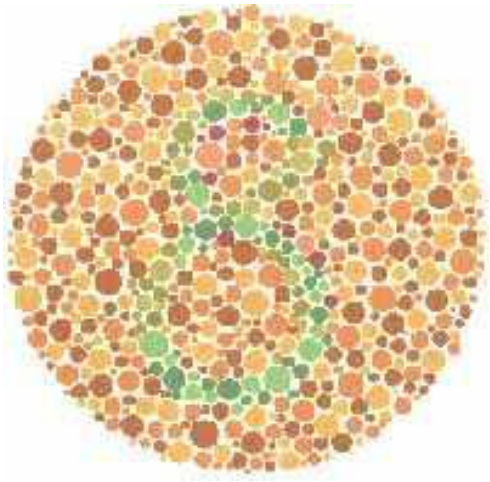
Same thing with the red "X".

OPTICAL ILLUSIONS....CONT.

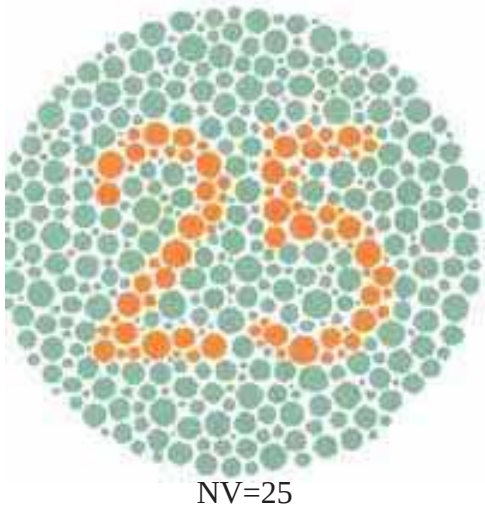
Okay, so these aren't really optical illusions, but they will look different to different people. These are the standard dot diagrams for the IshiharaTest for Color Blindness. Under each dot pattern I have included the number "normal" vision (NV) will reveal in each dot pattern and the number a red-green "color blind" vision will reveal (CB).



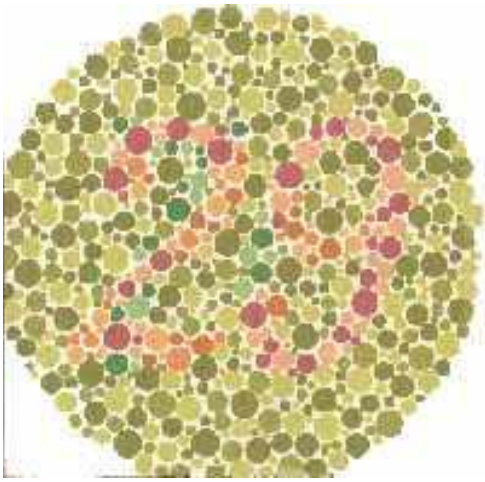
NV=6
CB=Spots



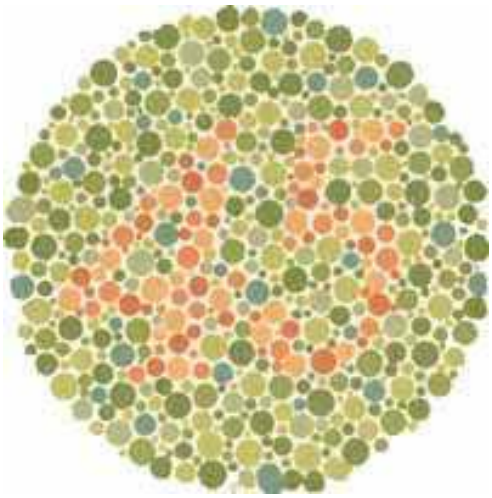
NV=8
CB=Spots



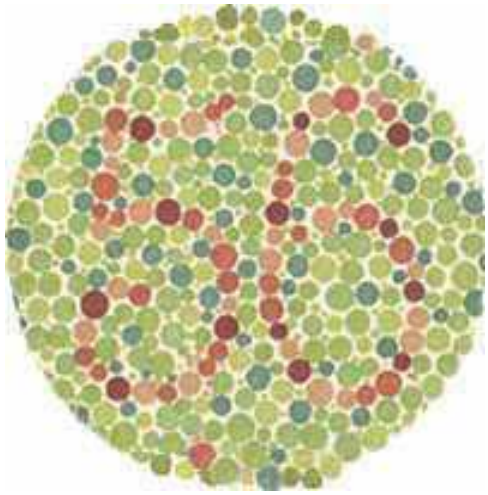
NV=25
CB=25



NV=29
CB=Spots



NV=45
CB=Spots



NV=56
CB=56

Have a Merry Christmas and a Happy New Year. It's been great working with all of you through 2006, and we look forward with eager anticipation to the challenges and rewards in store for all of us in 2007.

Drive safely, and enjoy the time with your families. See you next year!

DABEC
D.A. Brown Engineering Consultants

5419 Co. Road 427, Suite C ***ph: 260.925.2020***
Auburn, IN 46706 ***fx: 260.925.1212***

510 Lincolnway East, Suite A ***ph: 574.288.5599***
Mishawaka, IN 46544 ***fx: 574.288.9484***

email: dabec@dabrownengineering.com
website: www.dabrownengineering.com