

DESIGN

with

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MIND

J MARK SMITH



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INTRODUCTION

Life is change, they say, and that certainly includes technology. The tools we use for our jobs, the ways we do research, and our ways of communicating, all are changing at a fast pace.

The field of landscaping is no different. Doing things the same old way simply because it's how they've always been done doesn't make sense anymore, especially when there's a better way. That new and better way is what I hope to bring to you with this book. It's called Environmental Design, or as I refer to it here, E-Design™.

The new century finds us at a precipice of thought, in this country and the rest of the world. We have an opportunity to build a community of thought leaders – that creative class of people who have the insight and confidence to innovate and promote positive, practical



ideas — who can move the rest of the world to help protect our environment. Imagine a type of landscaping where maintenance costs were around thirty-five percent of what they are now. Imagine landscaping that maintains the great look of the original design while the plants live longer, require less watering and pruning, and lead to lower restoration costs — and with less collateral damage than you'd think is possible for traditional landscaping in the Southeast. Imagine landscaping that has an immediate impact on both the environment's health and your company's bottom line. E-Design™ *is* that new landscaping. E-Design™ provides all of those “imaginings” and more.

Now, scale that down a bit. Make it personal. Imagine a landscape design strategy that lets you and your family live in a more comfortable environment, and by “environment” I mean all the life situations that make up your daily experience. I mean saving your family money, time, and energy. Taking the time you spend with your spouse, your children, doing yardwork, tossing a football, washing laundry, whatever, and making it a pleasant, un-stressful

experience. How? You'll have more time, and as we all know, time can have a huge impact on your emotions — especially when there's not enough of it.

The E-Design™ model isn't just a landscaping strategy. It's a philosophy intended to conserve our most valuable resources: time, money, energy, and nature itself. I believe that, by designing with an end result in mind — as opposed to traditional design, which only deals with the immediate effect — we can control distractions, interruptions, and other unnecessary waste. If we're able to think along these lines, we can improve our quality of life, our immediate environment, our bottom line, and our planet.

Landscaping today is a drain on money, the environment, and material and human resources. This book is a call to action to become involved in a movement. We are all here to grow a sustainable model for future generations. Simply put, we'll choose to live in the past and destroy ourselves, or move forward and save ourselves. Buying and planting the wrong trees, shrubs, and grasses costs a lot, in both the short and long term. Landscaping in a way that's environ-



mentally unfriendly saps your time every step of the way, be it planting, maintenance, pruning, or replacing. Misplanted trees and poorly chosen plants can be destructive, lead to more spending on man-hours and cause more wear and tear on equipment. Plus, the extra time it takes to manage traditional landscape designs gives us less control over our lives, not to mention the quality of the landscaping.

E-Design™ is a solution to all that. E-Design™ reduces waste, increases productivity, prolongs the useful life of landscape plants, and cuts costs, both monetary and human, for homeowners and businesses everywhere. In short, E-Design™ is a landscaping concept that is *sustainable* — from an ecological, engineering and conservation standpoint.

At its core, E-Design™ is a way for all of us in the landscaping industry to make the world a better place. Those of us in professions that work directly with the Earth — developers, architects, skilled providers, and so forth — have a tremendous opportunity to have a positive impact on our environment, and on the future. In fact, I believe it's our



responsibility to do our part to protect the Earth. We can't afford to keep doing things the way they've always been done, and I don't believe the consumer will *pay* us to continue doing it. Traditional design wastes their resources, and ours. Owners wind up paying more than they need to for our services, and our margins are smaller because we're paying more than necessary for supplies. In this new world, we need to build efficient, easy-to-maintain designs that cost less and use fewer resources. It's the only way.

Developers and owners who make the changes I call for in this book will see easier maintenance, decreased production costs, fewer related expenses, and longer lives for their plants and tools. Landscapers, designers, maintenance technicians and homeowners will all benefit from E-Design™. Everyone — every single person — who uses this method will end up finding time during the day, during the weekend, during the summer that wasn't there before. E-Design™ provides a holistic design service that protects their time, their money, and their planet, and looks as fantastic as our imaginations will allow.



But I'm not going to convince you without evidence. In this book, I'll introduce you to two new friends: Paul and Lisa. Paul and Lisa own P&L Designs, a firm that offers both landscape design and maintenance, but is firmly entrenched in doing things the old way. Take a journey with them through the fundamentals of new, environmentally conscious landscape design. Together, the three of you will discover:

What E-Design™ is

Why I created E-Design™

How to use E-Design™

When and where to use E-Design™

The five pillars of successful landscape design

At the end of this book, Paul and Lisa should be fully ready for the future of landscaping. They'll be better able to save time, money, energy and materials, and they'll be doing their part to help preserve our planet and our environment. It is my hope that you will read this book carefully and with an open mind. And if you pay close attention, you'll be in the same positive position as Paul and Lisa. Let's go!

CHAPTER WHAT IT IS



*We can easily learn to stop
wasting resources, so let's do it!*





Waste isn't just not using what you have. It's also doing more than you need to do. Let's say your car has an engine designed for 87 octane fuel; would you pay the extra money for 89 octane fuel, even if it didn't benefit the car or your mileage? Of course not. So, shouldn't the same strategy also apply to businesses? What I mean is that the market should only pay for what it needs. Desires are powerful, but they can't be fulfilled at the expense of creating waste.

Lisa learned about gardening from her grandmother, so she came by her passion for nature and horticulture honestly. She watched her grandmother plant seeds, and afterward got to watch them grow while she gained a fine sense of the difference care can make in the quality of both plant and fruit. Lisa inherited an artistic eye from her father, who, she



always told me, could take a blank canvas and make it come to life. She is pretty with strawberry blonde, shoulder-length hair and an ever-present smile. Smart and driven, she is also nurturing; she knows what she wants and does what it takes to get it, but cares for and cultivates her clients as if they were her own garden.

Paul is more of a salt-of-the-earth type. A broad-shouldered ex-football player, he used his experience reading the opposing team's formations in his work; "It's all about the details" was his personal motto. He was the type of person you'd like to have leading your team, watching over your assets. After graduating college in three years with a degree in Finance, Paul wanted to work with his hands and see the effects of his work. When he met Lisa and learned of her aspirations as a landscape designer, he saw a chance to join his knack for numbers with his love of the outdoors. He jumped at it. Together, Paul and Lisa made a great team, one that was able to put together a successful small business.

Paul and Lisa own P&L Designs, or PLD. They



have a pretty good business and have been turning a steady profit during the six years since incorporating. But, like most other small businesses, they began to search for ways to cut back during the recent economic downturn.

While looking at PLD's expenses for the previous two fiscal years, Paul realized the company was spending an awful lot on its own maintenance. Paul and Lisa had done all their own landscaping for PLD headquarters. They wanted potential customers to see a great design when they came to PLD — and they wanted to be able to tell the new prospects that, yes, as a matter of fact, we created that “wonderful landscape” you're admiring. Still, the costs of upkeep on their landscape design were troubling. *If only I could reduce these maintenance costs*, thought Paul. *Maybe my crews don't need to be mowing, trimming and pruning every week.*

As friendly competitors in the landscaping field, Paul and Lisa have occasionally run into me at networking functions and industry events. One of these events began on a cold, rainy evening in November,



just at the start of the horticultural calendar. By this time, landscapers have seeded their clients' cool-season grasses, and are busy nurturing trees and shrubs through the winter rainfall, as their root structures prepare for the hot summer days to come. At this particular landscapers' get-together, our encounter was anything but by chance. Paul walked right up to me and said, "You and I need to talk."

Paul and I sat down at a table. "Mark, you and I talk all the time about this industry," Paul said, "about common problems and ways to improve things. And for sure, we've swapped our fair share of gripes and groans about the pitfalls of landscaping. But, you know, I've never once heard you complain about high maintenance costs. Why is that? What's your secret?"

I admit I thought about my answer very carefully. Should I share industry secrets with a direct competitor? Then I realized that if I didn't, I'd be doing Paul, Lisa, and the entire industry a disservice. "Paul, I've developed a new approach to landscaping that I call E-Design™. Basically, it's about designing with the



end in mind, rather than just the immediate aesthetic result.”

In other words, E-Designers aren’t just thinking about the immediate look. The overall life of the design — including its usefulness, its aesthetic life, and the length of time it can be reasonably sustained and maintained — are just as important as what the design looks like on the day the trucks and mowers pull away from the property.

When Paul asked why E-Design™ works, I answered with my own simple question: “Paul, what would you say is your chief concern right now, in terms of PLD’s cash flow?”

“I’m going to tell you something you’re not going to like,” I warned him. “You’re thinking about this all wrong. You’re coming at the problem backwards.”

By the look on his face, I was right. Paul wasn’t happy. Smiling, I went on.

“Right now, you’re looking at your costs as payment for necessary maintenance, am I right?” He nodded, and I continued. “This is the part you really



Simply put, useful life ends when a plant ceases to be an asset to your design and becomes a liability. When a plant loses its aesthetic value — grows too large or too quickly, or grows an obtrusive root structure — it becomes a liability to your building and surrounding land. When the cost of maintaining a plant becomes unreasonable, it becomes a liability to your pocketbook. When a plant's placement and growth begin to cause damage to surrounding land, structures or plants, it becomes a liability. Its useful life is at an end.



won't like. I'm here to tell you that that maintenance is, for the most part, unnecessary. That what you're doing is wasting time, effort, and money on maintenance you wouldn't need to do, if you put more thought into the life cycles of your plants and where they're placed."

Paul still wasn't smiling. I didn't blame him. I continued.

"The waste of money didn't begin with the maintenance, though. You started wasting money when you chose and placed the plants for your design. I hate to say it, but the landscape you designed was wasting money the minute the plants were picked.

"I know, because I did *the very same thing*. For years. Finally, I took a look at the plants I was choosing and considered some alternatives. After years of research and experimentation, I began to develop E-Design™."

By the look on Paul's face, it he seemed relieved that he wasn't the only person who hadn't figured it out yet. He asked me how my plant placement saved so much money and effort. Paul was still focused



on cost, but as he'd soon see, there's much more to E-Design™ than that. I was all too happy to walk him through the early stages, right there at the table.

The first thing I told Paul to consider when choosing grasses, ground covers, flowers, ornamental shrubs, perennials or trees for a design, is the *useful life* of the plants. By useful life, I mean a favorable ratio of a plant's assets to its liabilities. Often, the assets that trees, shrubs or flowers contribute to landscaping aren't tangible — and sometimes aren't anything you can monetize. But there *are* some good, simple guidelines. I suggested to Paul that when he considers a plant's useful life, he should look at what his crew would need to put into it, versus what it would give to his design. In other words, would the plant's aesthetic value and maintenance costs justify using it in the design? As long as Paul could answer *yes*, his chosen plant had a useful life.

Useful life ends when a plant stops being an asset to your design and becomes a liability. When a plant loses its aesthetic value — grows too large, or too quickly, or grows an obtrusive root structure — it



also grows into a liability to your building and its surrounding land. When a plant becomes too costly to maintain, it turns into a liability to your pocket-book. When a plant's placement and growth start to damage surrounding land, structures or plants, it's then a full-fledged liability. Its useful life is at an end.

E-Design™ is about predicting the useful life of the plants to be used in your landscape project, and then designing the project accordingly. To save valuable resources like water, fuel, soil, time, money and effort — as well as prolong the lives of the plants you choose — it's best if you design with knowledge of how those plants will thrive within your plan. In other words, design with the end result in mind.

“I started looking at the time my firm spent on client landscaping,” I explained to Paul, “especially on pruning shrubs and trees. I found that many plants had either been installed in the wrong location, or the wrong plant had been installed altogether. Some of the plants affected the structure, some of them affected foot traffic — and all of them were costing



me time and energy.

“Then I had an idea. I got my surveyors to measure out 1,000 square feet of land for each type of plant that we used on a particular client’s property. We tracked those parcels of land to find out how much time we were spending on each segment every twelve months. How much fuel did that 1,000-square-foot piece of land require per year? How many pieces of machinery had to be replaced or repaired? When I got the results, I was frankly amazed. Our practices weren’t just wasteful — they were also completely avoidable.

“When I realized how much time, fossil fuel and debris cleanup these plants required, I started calling them *High Maintenance* plants. Their useful lives were far shorter than their natural life cycles. Something needed to be done.”

I could see the gears turning in Paul’s mind, figuring out his best point of attack. He would need to know at what point in its life cycle the plant’s useful life begins. He’d need to know how soon the plant would reach maturity, and how big it would become.



That point in a plant's life is when it should either be transplanted — offering an immediate aesthetic effect — or left to its eventual fruition as part of the design aesthetic — a gradual effect. He'd also need to be able to predict where the useful life ends, so he can plan for increased maintenance and, eventually, replacement. Pruning properly throughout a plant's life — especially in its adolescence — will encourage it to consume bed space, reducing the amount of mulch needed, and protecting nearby structures like windows, walkways and the like.

I encouraged Paul to think of life cycles in plants the same way we think of them in human beings. “Think of a baby, born with very basic needs and expressions,” I said. “That baby begins to toddle around and discover things as infancy turns into childhood, and eventually adolescence. Until mid-adolescence, a human being is fiercely dependent upon his or her parents. Eventually, the baby's body begins to decline. This is the human life cycle. The reason for the retirement age of 65 is that, overall, it's when human beings become less productive



workers. Now they're free to stop using their bodies for other people's labor and start enjoying the golden years."

Paul nodded, understanding, so I continued. "Well, the same thing is true of plants. Not many landscape designers would use a sapling in a design that calls for a mighty oak, and even fewer would plant an acorn for the same design. But it would also be unreasonable — not to mention show a remarkable lack of foresight — to transplant a 100-year-old, full-grown oak into a brand new design. A little research will let you predict and understand the right time for planting, as well as the type of oak you need. As strange as it seems, landscape designers often aren't expected to know a lot about plant identification, or the growth patterns of the plants they use. In the new model of E-Design™, those skills have to become commonplace.

"And keep in mind that science and technology now let us accelerate growth early in the tree's life cycle. You can take a sapling into its useful 'middle adolescence' quicker than is natural, so it can be-



come a viable part of a landscape design in less time. Likewise, we can slow the life cycle toward the end of the oak's normal useful life so the tree stays functional in our design longer. As a designer, it makes sense to do this, and as residents of Planet Earth, it's only right that we care for these plants and their environment in a way that lets these life cycle changes happen safely."

OK, when I talk about manipulating life cycles, it may seem as if I'm talking about playing God. But the truth is that we humans manipulate our own life cycles every day. Think of it this way. One of Paul's best friends, Howie, is a thirty-year-old man. Every male on both sides of Howie's family has had trouble with heart disease and high blood pressure. The oldest man his family has ever produced was 55 when he passed away. I asked Paul, "Given the medicine, dietary techniques, research and technology that we can access these days, should Howie simply allow his family history to take hold of him and accept that his life is more than half over?"

"No," said Paul. "That would be ridiculous."



“Why would that be ridiculous?” I quizzed him.

“Well, obviously, medicine has come a long way since Howie’s family tree started,” Paul reasoned. “Exercise, diet, regular doctor visits, blood pressure medication — he could use those to extend his life expectancy way past even the most recent men in his family. And whether he extends it by a year or by ten, his sons, nephews, grandsons and grandnephews will all reap the benefits. The life expectancy of men in Howie’s family would escalate as they continued to live healthier lifestyles, and as their genes adapted and evolved.”

I had him. I had Paul in a place where he understood what I was talking about. “Well, the same can be said of the plants used in a landscape design,” I told him. “If you alter location, soil type, water usage and exposure to sunlight, you can decrease a plant’s dependence upon them, and make it more adaptable and durable, lengthening its life. Give the plant proper care and maintenance, and you can prevent infection, infestation, pests, pathogens, overgrowth and aging — and that benefits both you



and the plant. And another thing: if you use shoots, cuttings and seeds from these plants, you'll ensure that the next generation will feature the traits you've helped them acquire. To cut to the chase, you've increased the useful life expectancy of your landscape design by keeping your plants healthy and safe."

I looked at Paul's face and realized that my earlier instinct was correct. I had him, hook, line and sinker. He looked ready for E-Design™, but I needed more. Maintenance of Paul's plants would also increase their useful life. I asked him if there were any "maintenance pits" in his own home. His eyes lit up. "Yes, there's this door ..." he started.

Paul has twin ten-year-old boys who share a room. When they first moved into the home, Paul hung a brand-new door for that room. The paint was fresh, the hinges were shiny and squeak-free, the door-knob turned easily and the door stayed closed when you pulled it to. But Paul's boys slam the door open and closed. They slap the top of the doorjamb every time they enter or leave the room. They hang on the door, pretending they're Kobe and LeBron dunking



a basket, so the hinges are stressed and bent. The door gets kicked closed in frustration or anger and the latch suffers for it. The lock is hastily turned and something inside gives. All of a sudden, a door built to survive the life of the house needs to be replaced within five years.

Not surprisingly, the same is true of plants in a landscape design. Misplaced or incorrectly chosen plants need more and more maintenance. I asked Paul if he could think of any plants on PLD's property that needed pruning more than once every six weeks. He rolled his eyes. "Almost all of them."

"Well, there's a huge problem," I told him. "You're not just spending a ton of money on their care, but you're also harming the plants. I'll bet that every year, you've got at least one shrub that comes up brown or a tree with major root rot."

"Well, you'd be right there," Paul said.

"You're over-pruning," I explained. "You've 'maintained' your plants into oblivion, inflicting much the same type of damage on them that your ten-year-olds have dished out on their bedroom door."



A lot of Paul's problems could have been prevented through one of two methods: proper design or proper plant choice. For example, Paul had placed holly bushes a foot from the northern foundation of his house, at the bottom of a slope. If you must have holly bushes, you need to understand their growth patterns, useful life and maintenance requirements before you decide where to plant them. If you must have shrubberies a foot from the eastern foundation of your house, you'll want to find a plant whose roots grow vertically and not laterally, whose leaves and branches do the same, and whose sunlight requirements are fairly low. You'll also need to alter your watering habits, perhaps hand-watering that side of the house or watering for a shorter period of time.



You've drastically shortened their useful life."

I have a motto when I'm thinking about landscape design: *If it grows, you can measure it; if you can measure it, you can predict.* Take the previous example. You can measure root growth, you can measure branch growth, and you can predict its entire life cycle, including the bushes' useful life. And if you can predict potential threats — overgrowth, root rot, lack of sunlight, etc. — you can make changes before any of these detrimental things happen. In other words — and this is key — you can take steps to influence and extend the life of your design before a single shrub is planted.

In the business world, we are largely dependent upon predictable behavior from people, appliances, clients and employees. From those predictions, we modify our "next steps" to develop the best practices. The same strategy should apply to plant selection.

Once we've measured growth and predicted useful life, we can begin to conserve. Really, we're already conserving because we're using "less of."



We extend the shrub's useful life when we're not hacking at its roots or branches every week. We use less of our water supply when we alter our watering habits to prevent pooling, rot and waste. We use less of our manual labor and precious time when maintenance isn't needed as often. There is no need to trim a plant simply because it was poorly chosen or planted in the wrong location.

I told Paul to think about a pencil. "When we're in school," I told him, "we inevitably do things that will shorten the life of that pencil. Some of these are things the pencil was designed for: drawing, erasing, shading, writing.

"But there are other activities that shorten the pencil's useful life. We bear down too hard, and the point breaks, or we let the pencil roll off our desk, causing the graphite inside to shatter. We chew on our erasers, or challenge each other to pencil fights. These are all things that destroy a pencil's usefulness — and they're all predictable and preventable.

"Of course we can change our behavior, by writing more gently or getting a grip on our chewing



habits. But we can also change the pencil itself to prevent damage; installing ridges or flat surfaces on pencils, rather than making them round, keeps them from rolling off the desk and snapping their lead.”

The same principles apply to landscaping and maintenance. Human and mechanical energy are used in walking to where the tool is stored, getting the tool, and walking back. Gasoline and oil are used to transport soil, plants and equipment from storage to the site. Any tool — whether it’s a pencil or a jackhammer — sees its life shortened with use, and its life wasted with overuse. When you can predict what maintenance your design will require, you can identify the activities that could shorten its useful life. You can then work to eliminate or minimize them, increasing the life of your design and the quality of your landscaping services.

Now that Paul had learned about E-Design™, he was ready to put it into play. He stood up from the table and headed straight back to PLD headquarters to tell Lisa all about designing with the end in mind. He couldn’t wait, so he called on the way, talking



non-stop for twenty minutes. Lisa listened, attentive but cautious. Paul was an idea guy; he loved to talk about new ideas and used brainstorming to innovate, but he didn't necessarily always follow through. On the other end of the line, Lisa wondered if this was just another idea that hadn't been very well thought through.



CALL TO ACTION

I want you to try to rethink something — defining your assets.

We know that real estate is the most obvious asset, but it's certainly not the only one. Plants, for example, are absolute necessities in this business, right? OK, then, rather than thinking of plants as mere “material,” start thinking of them as one of your important assets.

Rather than only thinking of assets as physical possessions, realize that other things are just as important to your success. The aesthetics of your designs, the curb appeal of your installed project, shade, oxygen, the buildings near or next to your installed design — these are all assets. Think of them as assets, and you'll have a surer grasp of their real value.
