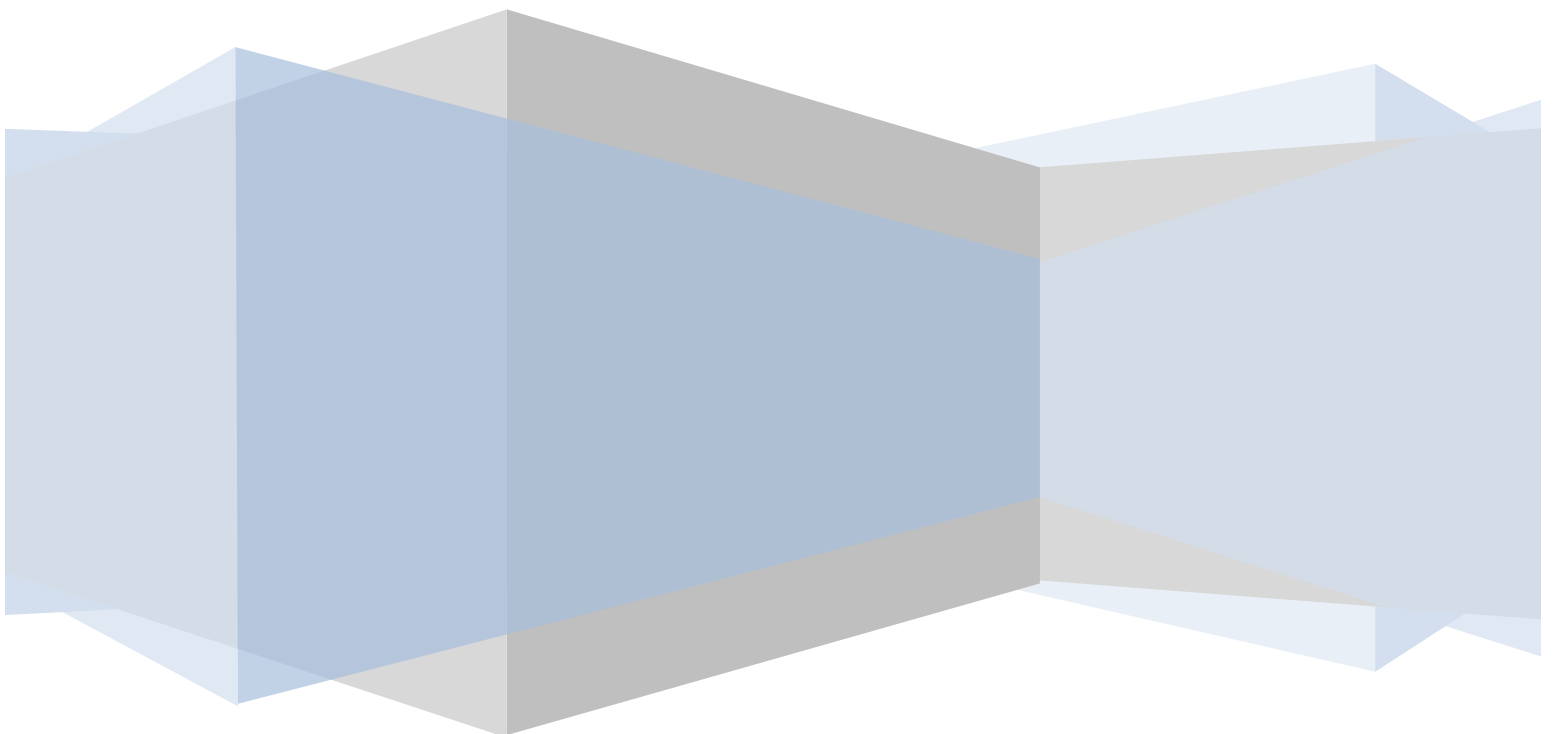


# Eden Landscaping – A Case Study in System Design

Alan Paradise



# Systems Analysis and Design Case Study

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# Systems Analysis and Design Case Study

## Case Study Overview and Project Instructions

### ***Goal of this Case Study***

Provide students with practical, “hands on” experience in system design in order to further supplement the “theoretical” knowledge gained through classroom lectures, textbook and lab exercises.

### ***Case Study Simulation/Scenario***

For this assignment, you are to simulate playing the role of a consultant. Your primary task is to thoroughly review Eden Landscaping’s business, and then design a database for Eden Landscaping.

To set the stage for the simulation:

You are the principal consultant and owner of a small IT (Information Technology) consulting company. You have a staff of 4 consultants that can assist you with this contract.

You and your team did a project this past Summer where you set up a small, PC-based system for Joe Bauer who owns several gas stations, each with a quick shop. Each store has a PC and a printer. The system you set up for Joe tracks each store’s retail inventory on this PC. The system allows users (store clerks) to enter item-by-item physical inventory data. The system allows users to enter new stock levels when incoming items are received from suppliers. The system gets summary daily sales data from two cash registers. Each store is “stand alone” and stores are NOT connected to each other over a network.

Joe is very happy with the system. You and Joe have talked about having your team come back next year and enhance the system by connecting all the stores over a network to a central server that can track retail inventory across all stores.

Joe Bauer works out at the local fitness club. He goes there three mornings a week – Monday-Wednesday-Friday – which happens to be the same time that Frank Paradise goes to there to work out. Last month, after a workout, Joe and Frank were talking in the locker room about computers and technology. Joe just recently got

Frank mentioned his frustration around the lack of technology at his nursery/landscaping company, and how he needs to automate his inventory processing – among other things.

Joe then tells Frank about YOU and your company and what a great job you did for his stores and their retail inventory. Joe pulls out one of his business cards from his wallet, tells Frank to send him an email, and then Joe agrees to forward your consulting company’s contact information to Frank.

Two days later, you get a call from Frank, who tells you about his company, Eden Landscaping, and talks a little about his operation and the trouble he has keeping up with his store’s inventory data. This initial conversation resulted in a contract for you.

Since that first conversation, you and your associates have visited Eden several times, collected a lot of information about their business – including copies of various business documents, lists of things, etc. Your consultants have interviewed the key Eden players.

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## Overview

Eden Landscaping, Inc. is a small, privately owned business that provides a variety of commercial and residential lawn and landscaping services. Services include turf maintenance, retaining wall installation, tree trimming and removal, irrigation systems, and various landscaping specialties: tree and shrub planting, mulching, landscape design and installation, paver walkways and patios, decks and fences.

We at Eden pride ourselves on top quality service and materials. We are completely dedicated to 100% customer satisfaction. We accomplish this goal by providing personal attention to all our customers, from large commercial clients down to the individual homeowner. We always strive to listen carefully to understand precisely what our customers need.

Eden is a certified member of both the Professional Lawn Care Association of Mid-America and the American Society of Landscape Architects.

## History

Eden Landscaping began as a one-man operation thirty-six years ago. Frank Paradise began free lance yard work after finishing college on the G.I. bill at the state university with a Bachelor's Degree in Forestry. A one-time hippie on the younger side of the original "Woodstock" generation, Frank once held deep, romantic ideals about the meaning of life and the innate goodness of mankind. But such thoughts quickly eroded during his all-expenses paid two-year tour of Southeast Asia in the early seventies. During college after the war, he entertained fantasies of becoming a ranger for the National Park Service in some remote, mountainous location. But those dreams gave way to the reality of needing to make a living. So he bought an old step-side Chevy pick-up truck, a lawn mower and some tools, and learned his trade in the yards of his parents' neighbors and friends.

Due to the excellent quality of his work, and the power of good references and word-of-mouth advertising, the demand for his services grew and grew. He hired some of his friends to help him during the busy times. First, there was Sid Sondag – a.k.a. "Sun Dog"; sometimes just "Dog". Sid and Frank went through boot camp and a tour of duty in Vietnam together. They roomed together in college after the war. So it was natural when Frank needed help, he turned to Sid. Frank also relied on the services of Rachel Marshall for all his bookkeeping and tax work. Rachel is a very warm yet practical "no-nonsense" person. She believes in integrity and hard work, as does Frank. Rachel is the daughter of a dear friend of Frank's aunt with whom she volunteers at the local soup kitchen.

To keep up with the rising demand for his landscaping services, Frank took out a small business loan and bought a new GMC stake truck and more landscaping machinery. He added temporary staff each Spring as the workload grew beyond what he and Sid could handle.

When Frank's father died, his mother offered him his share of the estate, which was enough to make a down payment on the perfect piece of property for his "corporate headquarters." It was a vacant lumber yard on almost three acres with an unused rail siding and a weathered but solid steel building. By this time, Frank had married Anne Marie and started a family. During the slow winter months, Frank

## Systems Analysis and Design Case Study

remodeled the old lumber warehouse and built his wife a greenhouse. They opened the retail nursery store twelve years ago, with Anne Marie in charge of the operation.

Since then, growth in the retail store has been slow. It's hard to make a profit in the small retail business. Competition is fierce. So Anne Marie plays the "specialty store" theme. She grows a lot of exotic plants in her greenhouse – she's especially fond of breeding orchids, and has a magical way with them. She moves them from the greenhouse into the store when in bloom. The orchids sell well to collectors. Anne Marie is a member of the local Orchid Society. Members frequent the store seeking her orchid-growing advice as well as specialty supplies.

The store is decorated along the lines of an old-time country general store including creaky, worn hardwood floors and weathered barn wood shelving. They sell heirloom seeds and all sorts of gardening equipment and supplies. As they walk into the store, customers are struck by the earthy, floral zen-like fragrances. The decor includes an antique Maytag ringers washer sprouting silk glads and delphiniums. You'll also see an old oak butter churn, a rusty old wheelbarrow and several authentic milk cans. Near the door is a vintage 1950's Coke machine (that doesn't work) with a rack on the side for empties.

As Anne Marie was running the retail store, Frank continued to do more and more landscaping. In the past 5 years, growth in this line of business has been overwhelming. Frank has acquired several large commercial clients. And the neighborhood has been changing from farms and woods to subdivisions as the urban sprawl surrounds them.

# Systems Analysis and Design Case Study

## Current Situation

Frank is struggling to keep up with all the demand. He is frustrated by his schedule. He likes to work on the landscaping crews because he likes to be face-to-face with his customers before, during and after the job. He is very strong believer in 100% customer satisfaction. He still does all the bids himself.

If you asked Frank to describe his biggest concerns at this time, you would hear:

- Frustration at the unavailability of reliable workers
- He struggles to keep track of his inventory of live stock and materials
- He has trouble scheduling work crews and equipment
- Bad weather frequently wreaks havoc on his carefully planned work schedules
- He loses time and money due to rework and replacing plantings

## Staffing

### ***Frank Paradise***

Owner, president. Part “gentleman farmer”, part aging hippie, part soldier. Likes to stay involved in every aspect of the landscaping business. Doesn’t get involved much in the retail store. Estimates bids. Loves to spend time with his customers. Likes to operate the Bobcat and he wields a mean chainsaw (but not at the same time of course.)

### ***Anne Marie Paradise***

Manages the retail store. Loves plants. A plant whisperer with two green thumbs. Spends all the time she can tinkering in the greenhouse. She depends a lot on Tom to keep the store running smoothly. During week days when he’s at school things in the store can get a little disorganized.

### ***Sid “Sun Dog” Sondag***

Landscaping Crew Chief. Looks like an old surfer – sun-bleached ponytail, tanned, leathery skin, occasional whiskers. Lots of wrinkles when he smiles. A weekend biker (Harley.) Strong as an ox and a very hard worker. One of the gentlest, kindest men you’ll ever meet. Demands respect, courtesy and hard work from his crew. His crew (and Cheryl’s) is assembled by each job from a pool of seasonal help

## Systems Analysis and Design Case Study

(including Sam Paradise, Frank & Anne Marie's son) and several full-time professionals – Sarge, Deke, old Fred and Roxanne.

### ***Cheryl Winterman***

Landscaping Crew Chief. Anne Marie's brother's wife. Rugged and independent. She loves plants too. She is great with the customers. Petite. Wears jeans, work boots and an old baseball cap. Lives in an old farmhouse on 5 acres with enough room for her two horses. Drives a pickup.

### ***Vince Bono***

Stock Manager. Been with the company for two years, having been the Lawn & Garden manager at a local "big box" store. Didn't like the "big store" mentality. He got out because he wanted more freedom to call his own shots. He orders all replenishments for live nursery stock and all landscaping materials. Vince has 4 part-time "stock hands" in the yard. They are seasonal – only one is around over the winter, and then only part-time. They help customers with purchases of plants and materials. They water the nursery stock, unload shipments, and help the crews load trucks for jobs.

### ***Rachel Marshall***

Full time office manager. Has been with Frank for over ten years. Rumors have been flying about her imminent retirement, but she says she loves her job and isn't ready just yet. She takes care of payroll (outsourced), accounts payable, customer invoicing, filing, cash and credit. She has a nice PC in her office, that she uses for her business and accounting operations which are all handled by the YellowPear accounting suite. Rachel also uses the computer to submit weekly orders to the regional distributor for the Best Value Hardware franchise chain. Rachel's uses this computer to print out an order confirmation that Tom uses to check against the bill of lading when a shipment from Best Value arrives.

### ***Tom Flynn***

Assistant store manager. He is a full-time high school math teacher. He works full-time in the store whenever school is out. He's really good with the high-school and college kids who work part-time in the store. Even when school is in session, Tom comes in evenings and Saturdays. Stays until closing (9:00 p.m.) The store is closed on Sundays. He manages 9 other employees: 1 full time clerk, and 4 part-time clerks. They help customers, stock shelves, answer questions, unload incoming shipments, apply price-tags, etc. Tom also manages the cashiers – one full-time (Sarah), and 3 part-time (including Beth Paradise, Frank & Anne Marie's daughter who is also going to school at a local community college.)

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## Employee Skills List

Frank - Landscaping Crew Chief, Bob Cat, Customer Bids, Driver

Sid - Landscaping Crew Chief, Back Hoe, Bob Cat, Driver

Cheryl - Landscaping Crew Chief, Stone Work, Customer Bids, Driver

Deke - Mowing Crew Chief, Deck & Timber Carpentry, Driver

Sarge - Stone Work, Back Hoe, Bob Cat, Driver

Fred - Mowing Crew Chief, Back Hoe, Bob Cat, Driver

Enrico - String Trimmer

Josh - Tree Trimming, Stone Work, Driver

Roxanne - Mowing Crew Chief, Driver

Sam P. - Stone Work, Driver

Eduardo - Heavy Lifting



# Systems Analysis and Design Case Study

## Equipment Inventory

Rachel's books show purchase price and annual depreciation amounts.

### *Landscaping Equipment Inventory*

- 1 Case back hoe with scoop**
- 2 Hyster fork lifts (propane)**
- 1 Bobcat with scoop**
- 3 flatbed equipment trailers (1 large, 2 medium)**
- 1 200 gallon spray system (w/ compressor, hose)**
- 2 Ford F250 pickup trucks 4WD**
- 2 GMC 2-ton flatbed stake trucks w/dump bed**
- 4 Pulan chain saws**
- 1 30' aluminum extension ladder**
- 2 24' aluminum extension ladders**
- 1 10' step ladder**
- 2 8' step ladders**
- 2 Snapper dual blade 10 hp riding mowers**
- 2 Snapper walk-behind 5 hp mowers w/bag**
- 2 Homelite gas string trimmers**
- 2 Honda gas blowers**
- 1 Armstrong Chipper**
- 1 Chevy ¾ ton pickup with box shell for chipper**
- various hand tools (shovels, axes, picks, hoes, hammers)**
- 2 Scotts rotary fertilizer spreaders**
- 3 Hudson pressure sprayers**
- 1 Toro Power Rake**
- 1 Toro Power Aerator**

### *Retail Equipment Inventory*

- 1 Dell optiplex 3050 desktop PC w Intel® Core™ i3-7100T Dual Core 3.4GHz with 17" LCD monitor with 2GB RAM and 1TB internal solid state drive**
- 1 TI 855 dot matrix impact printer w/ continuous feed green-bar paper**
- 1 HP LaserJet printer**
- 2 NEC Cash Registers w/ CC scan and dial-up validation unit**

# Systems Analysis and Design Case Study

## Supplier List

### Live Stock

McGinnis Farms Inc.  
Alpharetta, GA 32342  
Telephone: (770)-410-3833  
Fax: (770)-410-3832

### Stone

Oly-Ola Sales Inc.  
Villa Park, IL 62213  
Telephone: (800)-334-4647  
Fax: (630)-833-0816

### Stone

Pine Hall Brick Co., Inc.  
  
Winston-Salem, NC 21654  
Telephone: (800)-334-8689  
Fax: (910)-725-3940

### Insecticides & Herbicides

Reemay, Inc.  
Old Hickory, TN 54321  
Telephone: (800)-382-8467  
Fax: (615)-847-7068

### Sod

Shemin Nurseries, Inc.  
Addison, IL 60078  
Telephone: (630)-773-8090  
Fax: (630)-773-6559

### Insecticides & Herbicides

Valley View Industries  
Crestwood, IL 64298  
  
Telephone: (800)-323-9369  
Fax: (800)-323-3262

### Stone

Whitacre-Greer  
Alliance, OH 54386  
Telephone: (330)-823-1610  
Fax: (330)-823-5502

### Mulch

J.A. Rutter Company  
Murrysville, PA 32187  
Telephone: (724)-327-1101  
Fax: (724)-327-8831

### Live Stock

Cimarron Valley Tree Farm  
Oklahoma City, OK 73118-1044  
(405) 843-7144

### Live Stock

4 M  
Greenhouses  
Rr 1 Box Apt M  
Bunker Hill, IL 62014-0000  
Phone: (618) 278-4398

### Live Stock

Acorn Ridge Nursey  
30540 N Darrell Rd  
Mchenry, IL 60050-7233  
Phone: (815) 385-8846

### Railroad Ties

Cooper Materials  
1451 Bella Vista Way  
Bella Vista, AR 72714-4622  
Phone: (501) 855-3096

### Live Stock

Crossroads Farms  
8215  
Crossroads  
Benton, AR 72015-7175  
Phone: (501) 315-6493

### Railroad Ties

Davidson & Company  
Highway 64 E  
Conway, AR 72032-0000

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Phone: (501) 327-2362

## **Mulch**

A.A. "Buck" Jones & Assoc, Inc  
Grayson, GA 34217  
Telephone: (770)-963-8227  
Fax: (770)-339-0899

## **Gravel**

Dirt Cheap Landscape Supply  
2900 N Highway 7  
Hot Springs Village, AR 71909-9543  
Phone: (501) 623-5099  
Fax: (501)-412-3562

## **Sod (zoysia)**

Earth & Turf Company  
New Holland, PA 36548  
Telephone: (717)-355-2446  
Fax: (717)-355-2879

## **Live Stock**

Basler Tree Farm & Nursery Inc  
2953 Yaeger Rd  
Saint Louis, MO 63129-2436  
Phone: (314) 487-4698

## **Topsoil**

Garick Corporation  
Cleveland, OH 44595  
Telephone: (216)-581-0100  
Fax: (216)-581-4712

## **Live Stock**

Baxter Farms & Nurseries  
3411 Creve Coeur Mill Rd  
Saint Louis, MO 63146-2121  
Phone: (314) 542-9400

## **Mulch & Topsoil**

Mulchscapes LTD.  
  
Roseville, MN 74312  
Telephone: (888)-326-2033  
Fax: (651)-633-2666

## **Live Stock**

Deutschmann Florists & Greenhouses  
Inc  
12217 Manchester Rd  
Saint Louis, MO 63131-4314  
Phone: (314) 966-3592

## **Live Stock**

Penn State Seed Company  
Dallas, PA 32197  
Telephone: (717)-675-8585  
Fax: (717)-675-6562

## **Topsoil**

Fendler Nursery & Garden Center Inc  
1803 Lemay Ferry Rd  
Saint Louis, MO 63125-2412  
Phone: (314) 892-1150

## **Trees**

Pike Family Nurseries, Inc.  
  
Norcross, GA 34807  
Telephone: (770)-921-1022  
Fax: (770)-638-6941

## **Annuals**

Gateway Seed  
Co  
511 Bittner St  
Saint Louis, MO 63147-2405  
Phone: (314) 381-8501

## **Stone & Brick**

Garick Corporation  
Cleveland, OH 59763  
Telephone: (216)-581-0100  
Fax: (216)-581-4712

## **Annuals**

Primescape Products Company  
Deerfield, IL 60032  
Telephone: (800)-872-4361  
Fax: (847) 634-4112

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## **Insecticides & Herbicides**

Security Products Company

Phoenix, AZ 87895

Telephone: (602)-285-1660

Fax: (602)-207-2183

# Systems Analysis and Design Case Study

## Live stock (short list)

### Trees

American Tulip, 6', 8'  
American Walnut, 6'  
Balsam Fir, 4', 6', 8'  
Black Ash, 6', 8', 10'  
Black Gum, 6', 8'  
Colorado Blue Spruce, 6', 8'  
Dogwood, Pink, 4', 6', 8'  
Dogwood, White, 4', 6', 8'  
Flowering Crab, Pink, 4', 6', 8'  
Flowering Crab, White, 4', 6', 8'  
Honey Locust, 6', 8', 10'  
Japanese Maple, 2', 4'  
Japanese Maple, Dwarf, 2', 4'  
Little Leaf Linden, 6', 8', 10'  
Mimosa, pink, 4', 6', 8'  
Normandy Spruce, 6', 8', 10'  
Red Maple, 6', 8', 10'  
Redbud, 4', 6'  
River Birch, 4', 6', 8', 10'  
Shortleaf Pine, 2 needle, 4', 6', 8', 10'  
Silver Maple, 6', 8', 10'  
Sweet Gum, 6', 8', 10'  
Weeping Cherry, 2', 4'  
White Ash, 6', 8', 10'  
White Birch, 6', 8'  
White Pine, 5 needle, 4', 6', 8', 10'

### Shrubs

American Holly, 2', 4'  
Azalea 'Clemson Variegated'  
Azalea 'Hosoba Fukurin'  
Azalea 'Iveyi'  
Azalea 'Red Bells'  
Azalea 'Maculata'  
Camellia 'Anticipation'  
Camellia 'Barbara Clark'  
Camellia sinensis 'Blushing Maiden'  
Camellia sinensis 'Tea Breeze'  
Corylopsis 'Winterthur'  
Corylopsis sinensis var. sinensis 'Spring Purple'  
Corylopsis sinensis var. willmottiae  
Corylus avellana 'Fuscorubra'  
Corylus avellana 'Contorta'  
Forsythia  
Honeysuckle 'Majorie'  
Honeysuckle 'Trumpet'  
Japanese Yew,

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Mock Orange  
Mugo Pine, 2', 4'  
Rhododendron Escallonia 'Red Dream'  
Rhododendron Escallonia 'Slieve Donard'  
Rhododendron Escallonia rosea  
Rhododendron Eucryphia glutinosa 'Nana'

## Perennials

Euonymus alatus 'Monstrosus'  
Euonymus alatus var. striatus  
Euonymus bungeanus  
Euonymus europaeus 'Aldenhamensis'  
Euonymus europaeus 'Red Ace'  
Fortunearia sinensis  
Hydrangea 'Le Cygne'  
Hydrangea 'Madame Baardse'  
Hydrangea 'Mandschurica'  
Hydrangea 'Masja'  
Hydrangea arborescens  
Hydrangea aspera [Kawakamii]  
Hydrangea aspera ssp. robusta  
Hydrangea aspera ssp. strigosa  
Jamesia americana  
Jasminum humile  
Jasminum nudiflorum  
Laurus nobilis 'Aurea'  
Laurus nobilis angustifolium  
Osmanthus decorus 'Baki Kasapligil'  
Osmanthus fragrans var. aurantiaca  
Osmanthus heterophyllus 'Kembu'  
Osmanthus heterophyllus 'Variegatus'  
Osmanthus heterophyllus 'Goshiki'  
Osmanthus heterophyllus 'Purpureus'  
Rosa 'Eddie's Jewel'  
Rosa 'Paul's Himalayan Musk'  
Rosa 'Snowcarpet'  
Rosa brunonii  
Rosa roxburghii - Judy Young  
Rosa soulieana  
Rosa villosa  
Rosa wichuraiana

# Systems Analysis and Design Case Study

## **Landscape Materials**

### ***Gravel***

Barn Red  
Quaker Blend  
Ocean Pebbles  
White Silica Pebbles  
Marble Chips  
Eastern Sunrise  
Empire Black

### ***Mulch***

Coarse Hardwood  
Fine Hardwood  
Hardwood Bark  
Pine Bark, Coarse  
Pine Bark, Med.  
Pine Bark, Fine

### ***Fabricated Stone***

Crowne hill stone  
Diamond  
Windsor  
Keystone  
Versa-Lok  
Hercules

### ***Natural Stone***

Natural Limestone  
Boulders  
Cobblestones  
Flagstones

### ***Precast Patio Pavers***

Cobble Classic  
Diamondstone  
Holland Stone

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Plaza Stone  
Symetry  
Uni-Decor  
Uni-Stone

## ***Topsoil***

## ***Sand (construction grade)***

## ***Timbers***

Used Railroad Ties (8x8x8)  
Pressure Treated Oak 4x4x8, 6x6x8  
Pressure Treated Yellow Pine, 3x4x8,  
rounded



# Systems Analysis and Design Case Study

## Interviews with Eden Staff

### *Frank Paradise on Bids*

Well, I hope that your interviews have been interesting and informative. I really appreciate what you're doing. I'm eager to hear your recommendations.

Are you getting a clear understanding of how we run our business? Have you had any problems scheduling time with anyone?

OK. You'd like to hear how I do bids. I would say it's more of an art than a science. I've been doing this for over twenty years, so it's rather difficult to summarize twenty years of experience in a few sentences.

I like to meet our customers. I want them to know me and get to know our company through me. I want them to trust me and tell their friends about the fantastic service we provide. So I like to do all our bids. I enjoy the challenge of making the sale.

I like to walk around the customer's site and try to visualize what it might look like after we're done. Or even better, what it will look like in ten years. It can take that long for some plantings to really mature and blend together. I like to get the customer involved in the vision. Then the project becomes a dream. If I can get them engaged in the dream – it's more than just making the sale, it's getting them to really care about their plants.

Anyway, as we – the customer and me – agree on the vision, I take notes. I usually just carry an old fashioned clipboard with a tablet of graph paper – white, with little  $\frac{1}{4}$ " blue squares. I sketch things out for them and describe details. I take notes for myself.

If it's a very small job, then I will do a Bid form right there with the customer. More often, I take my notes back to my office and turn them into designs. I do a bid form for each job. Here – let me show you one. **(He shows you a blank BID form.)** We mail them out to the customers and then follow up with a phone call or even a visit. I always revisit the bigger jobs to make sure they're OK with the bid. With the commercial clients, sometimes they require me to put the bid on their standard forms. I usually have to visit the big commercial clients many times to get the sale. But it's worth it !

I have to look up prices on some items. On others, I just know what we have to charge to make our margin. Some items are special order and it takes me longer to put the proposal together. Sometimes, the delivery date depends on the availability of some special order items.

Sometimes I have to check with Vince to see if we have certain items in stock, or check the quantity.

The prices? We have all these price books from our different vendors. For the materials, that is. On the live stock, if it's in stock, I usually know what we've got in it. I mean, I know how to price it to get our margin. If I need help with that, I can ask Vince. He knows, or he can find out.

I have done enough retaining walls, decks, patios over the years. I always carry a tape measure when I'm on site with the customer. I take measurements and I take notes. I take pictures with my cell phone. You learn how to calculate how many railroad ties or stones you need to make a wall this high and this long or a patio this big or whatever. It's pretty simple. I always build in 15 or 20 percent contingency – depending on the material. Natural stone can be tricky.

When the customer accepts the bid, I file the signed hard-copy here. **(He shows you a manila folder containing the BID file.)** At this point, they are contracts – a signed, binding agreement between us and the customer to agree to do the work for the specified price by the specified date. We look at these when we plan our schedules. Vince also goes through them to plan his inventory.

## Systems Analysis and Design Case Study

What problems do I see in the process? Well, I wish I could turn the bids around faster. Some of the bids take me a while to put together. I just don't have enough time to get to them. I end up working every evening on them. I was thinking about hiring a college student – an intern, you know – maybe a horticulture major – or even a business major!! I could use some part-time help just to put the bids together. They could look up prices, or do the drawings based on my sketches.

Have you ever thought about a career in landscaping? Come to work for me !!

### ***Frank Paradise, on scheduling***

I never had anyone ask me about this before. Let me see if I can step you through it.

It's not exactly a mystery. We have a method.

You see this book? It's our master schedule. **(Shows you the book)** It's basically just a calendar with a page for each day. Broken down into hours.

I have a Wednesday morning meeting with Sid and Cheryl. Starts at 7 and usually lasts about 2 hours – depends on our workload for the week. We go through our backlog. Contracts, that is. Actually, these are bids that the customers have signed, so they're contracts. They have language that says we will do the specified job by such-and-such a date for the specified price. If we don't make the date, they're not bound.

I keep the backlog in these folders. **(Shows you a another manila folder)** We try to keep them in sequence by the due date. We frequently miss these dates. Most people still want the work done, and we do it when we can. Sometimes they get irritated because we are late getting to them and they cancel. I hate it when that happens. Sometimes we juggle things to get somebody in if we think they're going to cancel. This ends up putting off our long-time customers – because they're willing to wait – in order to accommodate a newer customer who will hire somebody else if we don't get to them in time.

I set the date when I negotiate the bid with them.

Anyway, at our Wednesday meeting, we use this whiteboard, see? **(Whiteboard on the wall)** We had a blackboard until a couple years ago. These things are great, but they get dirty. But it's better than all that chalk.

So, I sketch out the following week on the board and we put the jobs up there. We figure out what we need for each job – equipment, and crew. We move the crews around as needed. First we schedule the landscaping jobs. Then we fit in the mowing crews. They are a lot easier to fit in. They're pretty regular and don't change from week to week. With very few exceptions, we hit each mowing customer once a week all season. Sometimes they call and tell us not to come if it's been dry and the grass is dormant. Once in a while, they'll call and ask us to come on a Friday instead of the regular Tuesday because they're having a party or something and they want their lawn to look real sharp.

The crews and equipment for the mowing jobs are pretty straightforward. Each crew takes a truck and a trailer. We have two mowing crews. Usually it's Sarge and Deke that take the mowing crews. That is, unless I've got a landscaping job that needs them. Sarge is my stone man. So if we're doing stone, I'll schedule Old Fred to take out the mowing crew for a day or two while Sarge does stone. It's the same thing with Deke and decks. "Deke and Decks". That's pretty clever. He should start his own company. His real name is Darren. He's a real good carpenter. I'm always afraid somebody's going to entice him away from me. I made him salaried last year and gave him a bonus. One of these days he'll realize what he's worth and go to work for a construction company. He helps me with the design layout. And he runs the show when we're building them. We do eight or ten decks a year – maybe less. We can do them in the early spring and late fall – as long as the ground's not frozen. I buy all the lumber from Tom Mattingly in Fenton. Tom's wife taught our kids in preschool.

## Systems Analysis and Design Case Study

OK – Scheduling. We schedule out two to three weeks in advance. We have Rachel or the crew chiefs call the customers and let them know the day before we're coming to make sure someone's home, or make whatever arrangements. The schedules look great on the board, then we post them to the master schedule.

It only gets difficult when we start shuffling things around once it's in the book. I do it all in pencil.

All kinds of things come up that cause schedule changes. Customers call and want to reschedule. We have equipment breakdowns. Or we can't get the stock we need. Or materials sometimes, if they're unique or special orders. Or the weather. If weather prevents us from working on one job, we try to do last minute changes so we can keep the crews busy doing something. Otherwise, we send them home. They don't get paid if they don't work.

Once we get things set on Wednesday morning, the crew chiefs make up their crew schedules for the following week. We post them on the board outside the lunchroom. I can show you if you'd like to see it. Have you been back to the office? We post the following week's schedule on Thursday evening so they can see it Friday when they come in. Everybody comes here first thing each day. In uniform. Yes, we give them uniforms. Makes a nice impression. We ride out to the jobs together, in the truck or in the chief's car – or truck – or with me in the Suburban. I don't like it when they drive to the job. It doesn't look good to the customers when some of the crew rolls up in their, uhhhhh, "rustic" vehicles. I don't let them smoke on the customer's site, and they have to keep their shirts on.

The crews can switch around if they have to take off for whatever reason. They have to let the chief for that job know. Each time they go out on a job, the chief knows who should be there. I think they watch the crews pretty closely. They know how important our image is to the keep the customers' business.

I guess that pretty much sums it up. I hope I have explained it clearly. Do you have any other questions?

### ***Cheryl Winterman, on scheduling***

So, I heard you would be talking to me about how we run our business. What's going on? Are you going to replace us all with computers???

No – I know -- just kidding. Frank told me to expect to spend some time with you and answer all your questions.

So, you want me to describe how we schedule jobs?

Wow, this is going to be difficult.

It starts with the bids. Once they've signed it, it goes into the backlog. We've got a file of projects waiting to be done. Each one has a due date and we have to try to get it done by the due date.

We have a meeting every Wednesday morning. Me and Frank and Dog – Sid, I mean. We go through the backlog and talk about what we need to do each job. Frank is usually very good about the bids. He's very precise. We have a very good idea of what's needed for each job.

We put the jobs up on the board in Frank's office. We number them. There's a number on the bid sheets. We try to prioritize them. The bigger the job, the more important. But also, we have to consider the due dates. Even small jobs become more important as the date gets closer. And we always try to give every customer our very best – big and small.

When the jobs are up on the board, we start listing what we need for each job and how long we need it. We list crews too. I guess it's most difficult when we've got multiple jobs each needing the same thing. Or the same person. Maybe like the backhoe. We've only got one. Or like Deke does decks. So if we've got two deck jobs that have to be done in the same week, we end up stretching Deke pretty thin. Actually, he's pretty thin already. **(She flashes a very impish grin...)** He eats like a horse. I don't know where he puts it.

## Systems Analysis and Design Case Study

Ok. Where was I? The board. Once we've filled the board with a schedule for our highest priority jobs, we put them down in the book. It's like this calendar that Frank uses to keep the schedule. We review it each time we meet on Wednesdays. We are always changing it. There has got to be a better way

Am I going too fast for you? Are you getting what you need?

We generally are looking out a week or two into the future. Sometimes, we'll look even further out than two weeks. Other times, we are frantically trying to figure what we're going to do today or tomorrow because we shuffled so much around for the current week already. It gets chaotic sometimes.

The important thing is that we have to make the schedule for the crews so they know when they're scheduled to work. This is what Dog and me do every Thursday night when we get back here after doing our jobs. We look at Frank's schedule and figure out who needs to go out on which job. Then we put together the mowing crews. Then we post it for everyone to see on Friday morning. No matter how carefully we plan, there's always someone who isn't happy and complains. We let them switch if they want, but they have to clear it with me or Dog – I mean Sid.

There are some guys who like certain jobs, so we try to have them doing what they like. They usually work better if they're doing something they like. Like Enrico. He could do the trimmer all day. So we send him out on mowing crews to trim. That's what he likes. Other guys hate it and fuss all the time whenever we ask them to do it. The string needs to be rewound often and most guys hate messing with it.

There are some unpleasant tasks that nobody likes. So we try to balance them out so that everybody does a turn. Like digging. Nobody likes to dig. Most of them don't like to climb up high – like to trim a tree. But Josh loves it. He's part monkey when it comes to climbing. He's like an artist when he trims a tree, constantly climbing down, stepping back and looking at it from all angles.

If anyone is going to miss a day, we require them to call in to Rachel. She lets us know. Sometimes we have to shuffle schedules because key people don't show up. Not everybody can do all jobs. Only a few of them know how to operate the back hoe – or the bobcat. It takes some training and a lot of practice.

Sometimes we get a schedule all set, equipment lined up, stock and materials loaded, and the customer calls and reschedules. Actually, we always call the customers the day before we're coming to make sure they're ready. But they often reschedule at the last minute. And there's always the weather...

### ***Sid Sondag on Stock Inventory Processing***

So you're the consultant Frank told us about. You know, I should have been a consultant. But I got into landscaping instead. Maybe I should be a **landscaping consultant**. What do you think???

So – let me make sure I got this straight – you want me to explain to you how we keep track of our inventory of live stock? And materials?

Have you talked to Vince? This is his area now.

I'll bet Frank sent you to me. You probably didn't know this, but I used to take care of all our inventory. I was the one who ordered new materials and plants when we needed them. This was a few years ago, before Vince signed on with us. Man, was it ever a chore !! I would have to come back to the office early, after being out on a job most of the day. I would end up staying late in the evening after everyone else went home, checking stuff and preparing orders for Rachel. I wasn't having much fun. It was like I had two full-time jobs. That's why we decided to hire Vince. I helped him get started and showed him how we do it. If he has changed it any since then, I don't know about it.

## Systems Analysis and Design Case Study

We keep three kinds of inventory: live plants, landscaping materials, and other stuff. The other stuff is like chemicals, fertilizer, weed killers, poisons, mortar and concrete, construction materials, tools and equipment. The live plants are all out in the yard. Well there's lots in the greenhouse too, but Anne Marie takes care of those. We sell them in the store, but don't use them for landscaping jobs.

You know, I should show you around the yard outside. You can see all this stuff first hand.

The live plants are all out there in the yard (**he points through the office wall in a South-Westerly direction**) We keep some plants in the shade – under the arbor – they can't handle the direct sunlight. Others are just sitting outside. We keep everything mulched. Well, everything that is balled. See, some of the plants are in plastic pots. We don't have to mulch them. But most of the bigger ones are balled – their roots are wrapped in burlap. We have to keep them mulched. This keeps the weeds from growing around them and keeps their roots moist. We water everything every day – unless it rains.

Some shrubs and trees are really popular – like your Red Maple or White Pine. We sell a lot of them, so we keep a lot of them in stock. We keep several sizes. We measure the size by height – like 3-4 foot, 5-6 foot. We don't keep many trees over 8 foot. If somebody needs one, we will special order it. They're expensive and heavy. And we don't sell that many. Some of the less popular items we only keep a few in stock. After a few years in this business, you learn what sells and what doesn't. Although there are trends that can surprise you – like Crepe Myrtle. It doesn't winter well here, but it got real popular after some movie where the guy – what's his name? -- Ben Affleck, I think. Well he was talking about Carolina and the Crepe Myrtle. Anyway, so then for the next few months everybody wants to buy Crepe Myrtle. That makes the price go up!!

We build live inventory in the spring and then again in the fall during our busy planting times. We let it dwindle some in the hot summer months. Not a good time to plant.

We order most of our plants from some local growers. But we can get just about anything from anywhere within a week or so if you're willing to pay for it.

I used to walk around the yard and just check and see what we've got. Maybe once a week or so. I'd take some notes on what we need, and go back inside and start phoning in orders. We've got price books from all our suppliers. So I can just look up what I want and place the order.

I used to get Rachel so mad – I would order stuff, then she'd get the invoice. She'd nag me about it – just like my Mom. So I guess the way it's supposed to work is that we tell Rachel whenever we order anything so she knows it's coming and keeps track of it. Actually, I think she'd rather phone in all the orders herself. Maybe she's been able to train Vince to do it that way. I was never too good at doing what she wants.

Well, I guess it's pretty much the same with all the landscaping materials. We keep a lot stuff in stock – different kinds of stone, gravel, topsoil, mulch, ties. When we get low, we order more. They bring it in on trucks. We have to unload it and put it where it belongs. Vince has a couple of kids working for him who do that. One thing I know that they do – they have to sign for the shipment and make sure that the BOL – that's a *bill of lading* – gets turned over to Rachel. She insists on that.

I guess that's a pretty good summary. What else can I tell you about our inventory?

Do you have any other questions for me?

### ***Vince Bono on Stock Inventory Processing***

OK. Let me get this right. You want me to explain how I keep track of my inventory? You got a couple years?

## Systems Analysis and Design Case Study

Where do I start? OK. We got basically two kinds of inventory. Live stock. That's not LIVESTOCK, OK? No sheep or cows. It's LIVE STOCK. Living plants. Then we got materials. Landscaping materials. Construction-type stuff. That covers a real broad range.

Let me explain some things to you in here (**you are in his office**), then let's take a walk around the lot. How'd you like a tour of our place? Have you been outside yet? We'll have you driving the fork truck before you leave.

Let's go over the live stock first. It's mostly trees and shrubs. We buy them most of them from a few local suppliers. We can get the local stuff pretty quickly – same day in an emergency – if they have any. The other odd stuff we get from all over. Sometimes we special order plants if it's something unique that Frank or a customer wants. All total I deal with about 15, maybe 18 different plant suppliers. But most of the plants come from the local ones.

The inventory moves in two different ways really: either we load it on a truck to send out to a job, or we sell it to retail customers. Sometimes they take it with them; sometimes we deliver it. We charge \$35 for deliveries within about a 25 or 30 mile radius. We don't get many customers from farther away than that. We only make a handful of deliveries each week. Sometimes none at all. We try to batch 'em up and do 'em all on Fridays. But sometimes people want their stuff on a certain day, so we shuffle things around to get it delivered when they want it. We unload it for them and put it where they want it. Sometimes a delivery – like for a pallet of stone – needs the fork truck. So we pull a trailer for the fork.

We keep a folder here (**shows you the “DELIVERIES” folder**) in the office with any retail deliveries that have to go out this week. See, it's a copy of the sales slip. The driver calls each customer that morning before he comes to make sure someone will be home. The company provides a couple of cell phones for the drivers that they take with them. .

No, I don't do deliveries. Usually. I will if we're in a pinch, but usually it's Dog or Sarge or Deke with some crew if they need it. We don't let the kids drive the trucks out. See, they would have to have a commercial drivers' license, and we don't require it when we hire them.

How do we know what to load for a job? Well, Frank does the bids. We get a copy of his bid sheet. It spells out what they want. Frank and Dog and Cheryl put a schedule together, then we get everything ready for the crews and load up the trucks. Every evening Frank leaves off the bids he has closed for the day. I look at the bids as soon as Frank gets the sale. He keeps them here (**shows you another folder -- marked “BIDS”**) I go through the bids, see? And I figure out if we have the right stuff in stock to fill the order and do the job. If we don't have the right stuff, I order it. I make sure when I order it that it will be here when we need it. It's really very simple.

What do you mean, “How do I know what we have in stock?”

It's my job to know. Frank pays me to know and I take care of it. And I sure don't need any hot shot consultant to tell me how to do my job. Now, if you'll excuse me, I gotta go. I got work to do.

### ***Rachel Marshall on Order Processing***

You want to talk about orders? Do you mean our customer orders?

Oh, you mean OUR orders – for the things we purchase from our suppliers.

All right. I can walk you through it. Would you like some coffee or a soda pop? Let me know if I can get you anything.

I do all the orders. Well, I guess that's not exactly true. But I do most of them. There are some specialty items for the greenhouse that Anne Marie orders. She places the orders, then lets me know. I still get the invoices. There are also some things that Vince orders. But he's very good about letting me know the details.

## Systems Analysis and Design Case Study

I order all of the store merchandise from Best Value. Tom uses the sheets they send us. He marks quantities next to the things he wants me to order. The sheets are printouts of all the items they have shipped to us in the past 12 months. They send us new ones with each shipment. We also get a quarterly price book from them that shows all their items, so we can order new things that we have never ordered before.

With each shipment, they also send us little price stickers with their SKU and a suggested retail price. When shipments come in, Tom and his clerks price everything and stock the shelves. For large volume items, we don't put them all out in the store. We have some storage space in back.

Anyway, ordering from Best Value is so easy. They're a big company. We have to follow the procedures they give us, but it works fine. To place the orders, I use the computer that they gave us. Well, I don't suppose it was free, but they sent it to us already loaded up with all the software we need to do their orders over the internet. They sent out a technician to set it up and test it for us. I just click a button and it connects to their system. It shows me a screen that looks just like Tom's order sheets. I just enter the quantities of each SKU that he marked and click a button when I'm done. It's that easy. I can order as many times a month as I need to. They'll batch up several orders into one shipment. Once a month they send us an invoice.

Now, for the other suppliers, there are a lot of different companies we order things from. Most of them provide us with a price book that specifies all their products and their list prices. Frank has negotiated various kinds of discounts with some of them. We have some "preferred" suppliers for certain items because they give us good service and better prices. But if we can't get something from a preferred supplier, then we'll use whoever we can. I keep a file of all the regular ones right here. **(She shows you a "rolodex" file of paper index cards.)** This shows their name, address and the phone number. And see, we usually have the name and phone number of someone there to talk to. And we have any special pricing terms they offer us. I go through the file once in a while and clean it up. Sometimes, we'll stick a post-it note on the card with new or changed information, or just scratch something out and write down a new number. I marked all the "preferred" ones with an "X" in the corner.

I always phone in our orders. I have their file ready and their price book. Whenever I phone in an order, I log it in the Order Log. **(She shows you an old, well-worn notebook.)** You can see what I log: the date, the supplier, a confirmation number (if they give me one), then I list each item, a quantity and price. If there's taxes or shipping costs, I log that too. Also the discount.

When the boys receive a shipment, they check it in against the bill of lading, then send the BOL to me. I check it against the order log, then file it over there. **(She points to a 4-drawer metal file cabinet.)** I'll mark it up if anything's missing from the shipment. Then I use the BOLs to confirm their invoices when they arrive. It works pretty well most of the time. Sometimes, I can get really busy trying to process a big stack of BOLs or invoices, but that doesn't happen too often.

So, I guess Frank has you thinking about ways to computerize some of this? It would be great if we could do all our orders as easily as we do Best Value.

### ***Rachel Marshall, on Payroll processing***

I can tell you step by step how we do our payroll. We have two kinds of workers here: hourly and salaried. Let's talk about the hourlies first. Every Friday, all the hourly employees turn in their timesheets. If they're not here on Friday, they have to get it to me somehow. They HAVE TO have it to me and signed by 4:00 p.m. That's my cutoff. If they're out on a job, they send them in with someone.

I can show you a sample timesheet if you like. It's really simple. They do a new one every week. They fill out their hours for each day – regular and overtime. They're supposed to also put the total for the week for each – regular and overtime. But they seldom do. And sometimes when they do it, it's wrong. It doesn't really matter because I always re-add and check their totals. It has to be signed by their supervisor (or anyone else can sign it – Anne Marie, Sid, Cheryl, Vince, .... Frank. Oh, yes, and Tom.) I don't sign them because I really can't verify how many

## Systems Analysis and Design Case Study

hours they really worked. If they turn one in and it isn't signed, I make them go get it signed. If they leave it and it isn't signed, they might not get their check on time.

They get paid for all the hours they work. They get time-and-a-half for overtime. They don't get paid if they don't work. No sick pay. No paid vacation or holidays. They kind of come and go anyway. Frank is very worried about how on earth we will be able to afford to give everyone health insurance. It's bad enough for the salaried people.

I process the hourly payroll every Friday afternoon. I check their timesheets, then post them to the input sheet on their web site. I put a copy of each timesheet into this file. They run the checks and send them back to me via Fedex. They drop them off along with the register on Wednesday afternoons. I check them against my copy of the data sheet for the week – just the hours really. I can't check the amounts. The vendor sends me a set of monthly reports showing all the deductions for benefits and FICA and everything. Even garnishments. They do it all for us. They take care of all the tax withholdings, even for the people from the East Side across the river. You don't want to see those, do you? I'm not sure Frank would want me to show you those. I didn't think you were going to change anything for Payroll were you?

You know, it's pretty much the same for the salaried people, except they get paid just once a month. I fill out their monthly amount on the vendor's salaried sheet and submit it just like the hourlies. I code in sick days and vacation days if they had any – if they told me, that is. The salaried timesheets are due by midnight on the 22nd of the month – except February which is due on the 21st. Don't ask me why.

Frank signs every check – by hand, no machine. I put them in envelopes and the workers pick them up here on Fridays – the hourlies, I mean. The salaried people too – I mean they pick them up too, but not on Fridays. Theirs are the last day of the month. The last business day. The vendors can give us direct deposit. I think we will give everyone that option starting next year.

Sometimes we fuss over errors. It's always the timesheets that are wrong. They always get paid for whatever they put on their timesheets. If they put it down wrong, they get paid wrong. I can make adjustments on their next one, but only if their supervisor puts it in writing.

Any questions?



Systems Analysis and Design  
Case Study

## Eden Landscaping Advertisement

**Eden Landscaping, Inc.**  
**8624 Harrison Rd.**  
**Longmont, MO 63030**  
**(314) 842-2561**

Eden Landscaping is a full service company that performs commercial and residential lawn and landscaping services.

Services include:

### Complete Turf Maintenance

- mowing, trimming edging
- granular fertilization
- granular & liquid weed & insect control
- core aeration
- dethatching
- seed & sod

### Retaining Wall Installation

- railroad ties
- block, keystone, versa-lock, etc.
- natural stone

### Irrigation System

- Installation
- Maintenance

### Landscaping

- Complete design & installation
- Flowers, Trees & Shrub Planting
- Mulching
- Paver Walkways & Patios
- Decks, Fences and Arbors

### Tree Care

- Pruning
- Trimming
- Spraying
- Feeding

### Leaf Removal

### Gutter Cleaning

### Snow Removal

Systems Analysis and Design  
Case Study

**Eden Landscaping, Inc.**  
**8624 Harrison Rd.**  
**Longmont, MO 63030**  
**(314) 842-2561**

Eden Landscaping is owned and operated by Frank Paradise. Frank grew up in St. Louis, and has been working in the local lawn care and landscaping business for over thirty years.

Eden Landscaping is a member of the Professional Lawn Care Association of Mid-America. We operate two lawn mowing crews and two landscaping crews. All employees are covered by Workers' Compensation Insurance. Eden also carries \$2,000,000 of Public Liability Insurance.

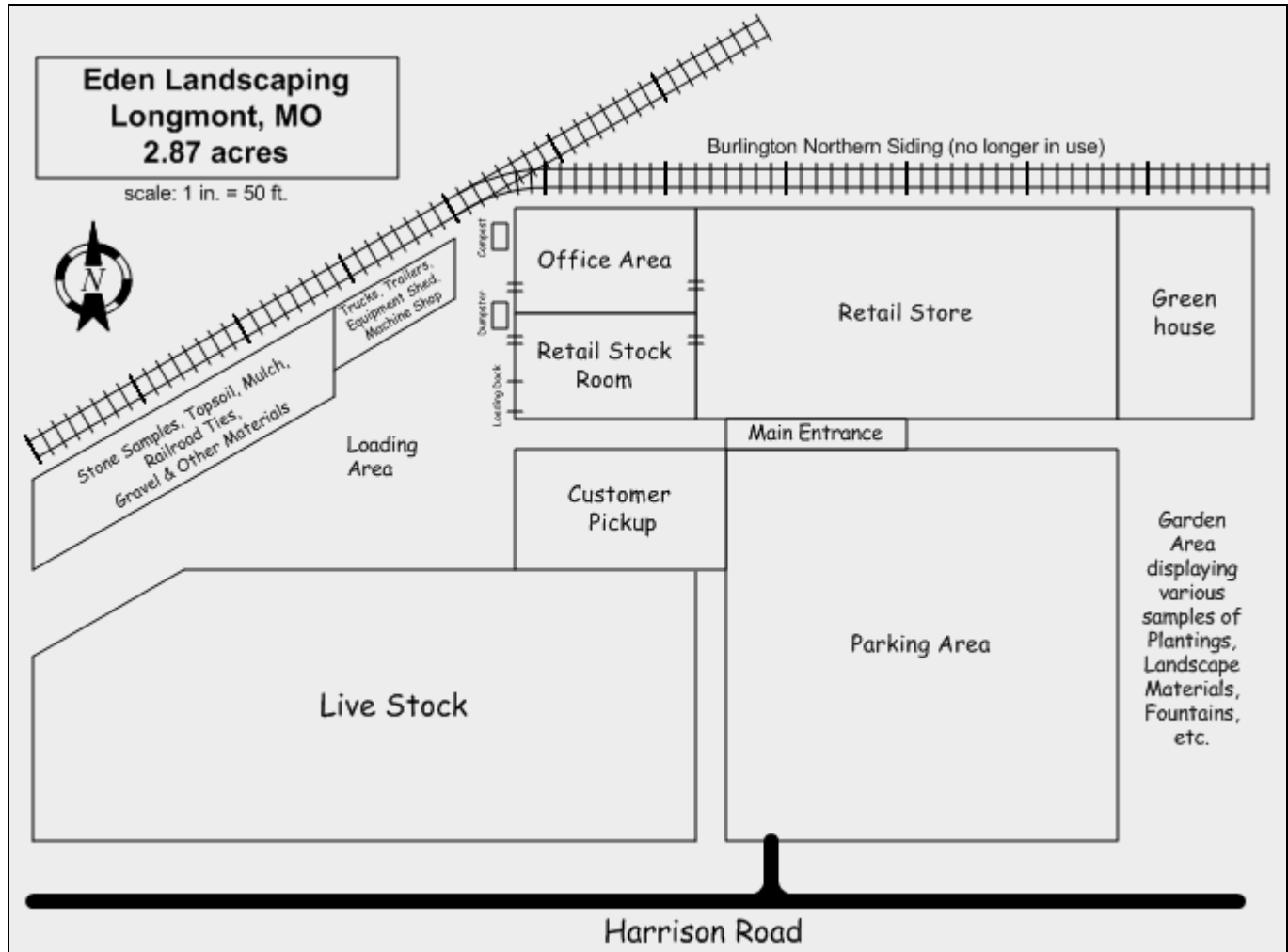
We make every attempt to provide top quality services and materials in order to meet our customers' expectations at the most reasonable prices. We accomplish this goal by providing personal attention and listening carefully to what our customers' needs are. We use state-of-the-art equipment and the finest craftsmanship to make sure that all our jobs, big and small, are completed beautifully and professionally.

We want to be sure that you, our customers, are 100% satisfied.

***If it's not right, we will do whatever it takes to make it right.***

# Systems Analysis and Design Case Study

## Map of Eden Landscaping Property



## Systems Analysis and Design Case Study

### **Business Forms**

- Bid for Landscaping Job
- Bill of Lading
- Customer Form
- Supplier Form
- Customer Invoice
- Order Log
- Retail Sales Ticket

# Systems Analysis and Design Case Study

## Bid for Landscaping Job



DATE: \_\_\_\_\_

### Eden Landscaping, Inc.

8624 Harrison Rd.  
Longmont, MO 63030  
(314) 842-2561

**Member ASLA**

Proposal Submitted To: \_\_\_\_\_

Job Description: \_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
  
CITY, ST, ZIP: \_\_\_\_\_  
  
PHONE: \_\_\_\_\_

NUMBER: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_  
  
  
CUSTOMER CONTACT: \_\_\_\_\_

#### Angled Turf Mowing, Trimming & Blowing:

Turf shall be cut at a standard height of 3" and will be performed weekly in order to remove 1/3 of grass leaf or less per mowing, barring inclement weather. Mower blades on all equipment will be kept sharp to prevent tearing of grass leaves. All areas of grass adjacent to buildings, sidewalks, driveways, trees, borders and other stationary objects will be trimmed to the same height as the surrounding turf. Grass clippings will be blown from all hard surfaces. Due to lower demand for turf mowing on Mondays and Tuesdays, discounts are available for these days.

**MONDAY or TUESDAY MOWING**

\$ \_\_\_\_\_

**WEDNESDAY through SATURDAY MOWING**

\$ \_\_\_\_\_

#### Granular Fertilization Program:

First Application (Early Spring)	Pre-emergent Crabgrass Control (early germinating)
	Balanced Fertilizer (green-up)
Second Application (Mid Spring)	Pre-emergent Crabgrass Control (late germinating)
	Balanced Fertilizer (steady growth)
	Broadleaf Weed Control (post-emergent)
Third Application (Early Summer)	Balanced Fertilizer (slow release)
	Broadleaf Weed Control (post-emergent, as needed)
	Insect Control (grubs, sod webworms, as needed)
Fourth Application (Early Fall)	Balanced Fertilizer (slow release)
	Broadleaf Weed Control (post-emergent, as needed)
	Insect Control (grubs, sod webworms as needed)
Final Application (Late Fall)	High Nitrogen Fertilizer (winterizer)

**PRICE PER APPLICATION**

\$ \_\_\_\_\_

#### Ornamental Tree & Shrub Care Program:

Dormant Spray (oil-based treatment to control over-winter scale, aphids & mites. Nov - April) \$ \_\_\_\_\_  
 Insect Control (Aphids, sawflies, bagworms, leafhoppers, caterpillars, April - May) \$ \_\_\_\_\_  
 Insect Control (Aphids, Mites, scale crawlers, Japanese Beetles, bagworms, June-July) \$ \_\_\_\_\_  
 Insect Control (Webworms, mites, lacebugs, aphids, July - Sept) \$ \_\_\_\_\_  
 Deep Root Feeding (spikes, early spring) \$ \_\_\_\_\_

**PRICE PER APPLICATION**

\$ \_\_\_\_\_

#### Additional Services:

Core Aeration \$ _____	Power Edging \$ _____	Shrub Pruning \$ _____
Tree Pruning \$ _____	Seeding \$ _____	Dethatching \$ _____
Annual Flowers \$ _____	Snow Removal \$ _____	Gutter Cleaning \$ _____
Gypsum \$ _____	Leaf Removal \$ _____	Mulching \$ _____
Edge & Cultivate Beds \$ _____	Winterize Irrig. System \$ _____	StartUp Irrig. System \$ _____
Irrig. System Install \$ _____	Curb Leaf Vac \$ _____	
Other, Description: _____		

**TOTAL FOR ADDITIONAL SERVICES**

\$ \_\_\_\_\_

**Thank You for the Opportunity to Serve You. Frank Paradise, Eden Landscaping**

Terms: Monthly Invoicing. Net Payment due by the 28<sup>th</sup> of each month. 1.0% interest charged on all outstanding balances.

Note: This proposal may be withdrawn if not accepted within 10 days. Acceptance: The above prices, specifications, and conditions are satisfactory and are hereby accepted. Work to be completed by "Due Date".

Customer: _____	Authorized: _____
Accept Date: _____	Due Date: _____

## *Bill of Lading*

Shipper Number:

Ship To Customer:

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Systems Analysis and Design  
Case Study

*Customer Record*

*Eden Landscaping, Inc.*  
8624 Harrison Rd.  
Longmont, MO 63030  
(314) 842-2561

**Customer Record**

Name  
Address 1  
Address 2  
City, State, ZIP  
Phone 1  
Referred By  
Notes

Mowing  
Landscaping  
Other

☐  
☐  
☐

Phone 2  
Customer Since

Systems Analysis and Design  
Case Study

***Supplier Record***

***Eden Landscaping, Inc.***

*8624 Harrison Rd.  
Longmont, MO 63030  
(314) 842-2561*

**Supplier Record**

Category \_\_\_\_\_

Name \_\_\_\_\_

Preferred ☐

Address 1 \_\_\_\_\_

Address 2 \_\_\_\_\_

City, State, ZIP \_\_\_\_\_

Phone (Orders) \_\_\_\_\_

Contact \_\_\_\_\_ Contact Phone \_\_\_\_\_

Shipping & Billing Terms \_\_\_\_\_

Notes \_\_\_\_\_



Systems Analysis and Design  
Case Study

Customer Invoice

DATE:

Eden Landscaping, Inc.  
8624 Harrison Rd.  
Longmont, MO 63030  
(314) 842-2561

Member ASLA

Customer Invoice

Bill To Customer:

NAME:  
ADDRESS:  
CITY, ST, ZIP:  
PHONE

Total Amount Now Due: \$   
Amount Remitted \$

Please detach and return this portion with your payment.

! -----

Date	Services Rendered, Materials Delivered	Charges	Credits
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

TOTAL CUSTOMER CHARGES / CREDITS

Prior Balance \$   
Total New Charges \$   
Taxes \$   
Total Credits \$   
Total Amount Due \$

Invoice is Due Upon Receipt

Thank You for the Opportunity to Serve You. Frank Paradise, Eden Landscaping

# Systems Analysis and Design

## Case Study

## Order Log

## Order Log

[illegible]

Systems Analysis and Design  
Case Study

**Retail Sales Ticket**

DATE:

*Eden Landscaping, Inc.*

*8624 Harrison Rd.  
Longmont, MO 63030  
(314) 842-2561*

**Member ASLA**

**Retail Sales Ticket**

Customer:

NAME:  
ADDRESS:  
  
CITY, ST, ZIP:  
PHONE

Sold By:

Quantity	Item SKU	Description	Unit Price	Total Price
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I

Delivery  
Sales Tax

TOTAL

Special Instructions:

Thank You for the Opportunity to Serve You. Frank Paradise, Eden Landscaping