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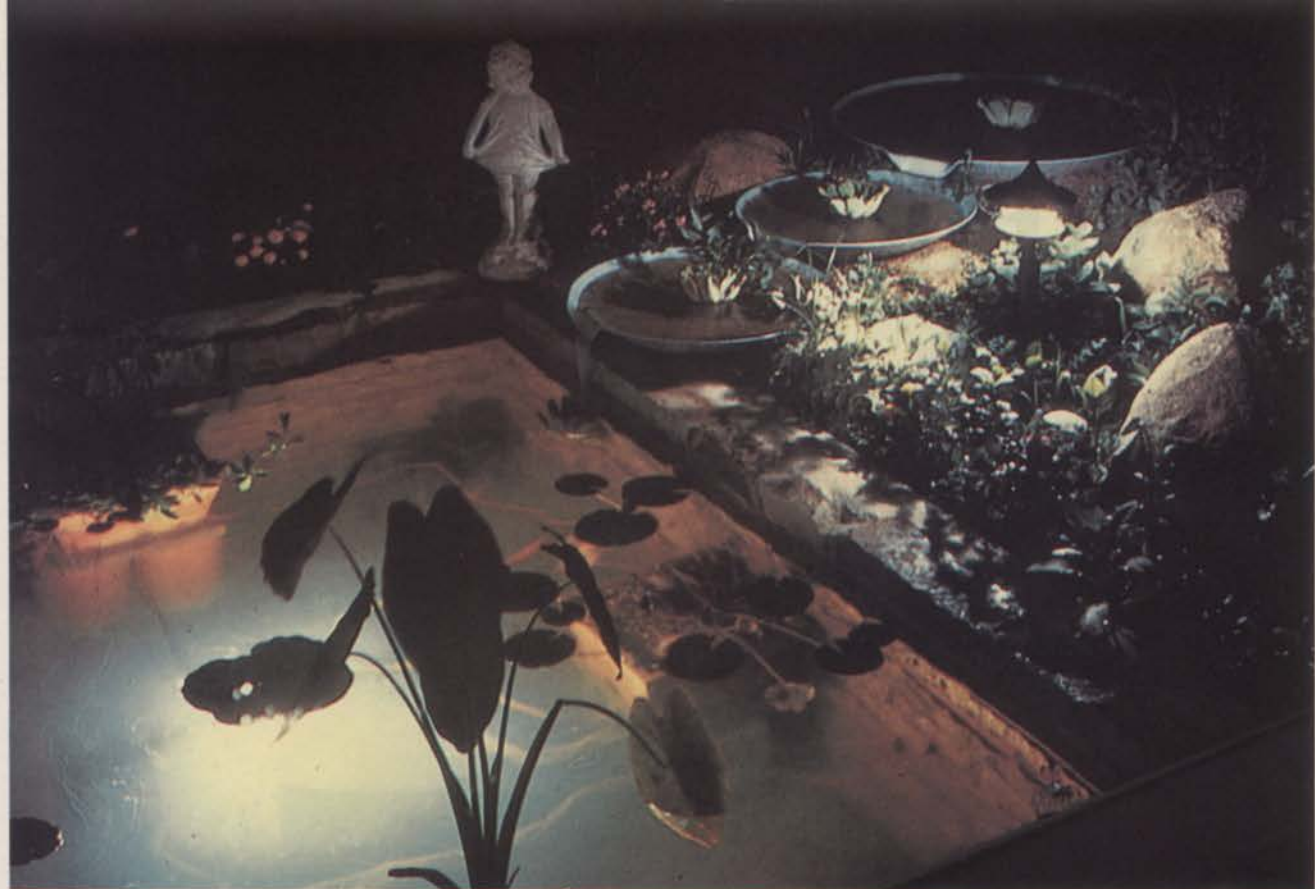
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Low-voltage lights like this one on the ground from Hinckley Lighting can be matched to outdoor line-voltage lights installed on residential properties.

mentals. Knowing the basics will help the job go easier, minimize callbacks and more fully satisfy the customer.

"The average landscape contractor won't know about the aesthetics of landscape lighting unless he or she goes to some seminars or places where somebody teaches good lighting techniques," Powers says. "The American Lighting Association puts on a series of lighting seminars throughout the United States on techniques of landscape lighting."

Neil Mitchell of Major Electric Supply, Pawtucket, R.I., organized a seminar in September for landscape architects and contractors and electricians. Despite terrible weather, a standing-room-only crowd showed up.

"Selling landscape lighting is as easy as taking candy from a baby," Mitchell believes. "All the contractor has to do is open up his yap. If it's installed at the time the landscape is being installed, it's very easy and economical."

Mitchell says that contractors can charge homeowners \$100 to \$200 per fixture and make a good profit.

"We've found that the average residential lighting sale is \$3,000 to \$5,000," notes Wiedemer. "On big residential jobs, we think that it's probably best to follow up a year later with lighting. If the owner is tapped out after the landscape construction,



'Selling landscape lighting is as easy as taking candy from a baby.'

Neil Mitchell
Major Elec. Supply
Pawtucket, R.I.

the lighting might come into play even two to three years down the road."

Lighting by design

When selling lighting, the design begins by determining the client's

needs. Since there are so many fixtures on the market, the first step is to gather information and formulate a plan based on specific requirements. Make sure to ask:

- What lighting effect does the client expect?
- Does the client entertain often?
- Where are the guests usually located?
- Where should the lighting system be controlled?
- Is security a primary concern?
- Which key landscape features should be used as focal points?
- What tone or feeling do you want to achieve?

Next you should define the budget and identify the lighting manufacturers that fit your needs. Finally, select and place specific lighting fixtures.

"There are a lot of different grades of landscape lighting," notes Powers. "Most people aren't very happy with the very low-end products once they put them in. If I were a contractor installing a job, I'd want to make sure I had a quality product with some warranties. Dogs wet on them, sprinkler systems sprinkle on them and they take every kind of outdoor abuse that there is."

The right light

Fixture selection is a critical decision. Selection is made by considering economics, positioning, shielding and



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A CRIME-STOPPER

Adequate nightlighting can deter crime, according to the National Lighting Bureau (NLB). A dramatic example was provided in a case history submitted to the organization's National Lighting Awards Program.

After two female employees of the Bellevue (Wash.) *Journal-American* were accosted in the daily newspaper's parking lot in 1982 and again in 1983, new lighting was installed. No further incidents have occurred.

Somewhat ironically, the new lighting—which provides 21 percent more light—costs 24 percent less per year to operate and maintain.

Journal-American facilities manager Robert F. Phillips sought Maurice W. Dick, service manager for Holmes Electrical Contractors of Renton, Wash. Dick recommended high-pressure sodium lighting to replace incandescent lights.

Annual energy consumption of the new system was \$840. The cost of replacement lamps, lamp replacement labor and ballast replacement amounted to \$505 per year, bringing the system's total operation and maintenance costs to \$1,345 per year. Because the new system's 2,042 kilowatt-hour connected load is 54 percent less than the original system's, utility costs were cut \$454 per year.

In addition to the safety factor, Phillips says that several employees commented that the new lighting, with its distinctive "golden-white" color, made the buildings and landscape more attractive, linking them into a unified whole at night.

According to NLB executive director Richard H. Geissler, the *Journal-American* case "demonstrates the important difference between lighting management and lighting energy conservation."

More information about the benefits of lighting and specific techniques that can be applied to obtain them is available from the NLB. A free directory of the bureau's publications is available by writing the NLB, 2101 L St. NW, Suite 300, Washington, D.C. 20037; or calling (202) 457-8437. □

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LOW-VOLTAGE, NOT LOW-PROFILE

More and more, experts are agreeing that low-voltage landscape lighting is the thing to sell to residential customers, rather than what they call "line-voltage" lighting systems.

Low-voltage systems are light, movable and safe. They employ a transformer to reduce voltage from line-level (110- to 120-volt house power) to low-voltage (12-volt, equivalent to an automobile battery) and direct-bury cable. Line-level equipment, on the other hand, requires junction boxes and underground conduit. It is extremely permanent, compared to its low-voltage cousin.

"Low-voltage systems are also very safe," notes Art Crisfield of Hinckley Lighting in Cleveland, Ohio. "If you run over the power lines with a mower or snip them with pruners, you won't blow your teeth out."

"They also have freedom of

movement," notes Ken Nicholas, Crisfield's co-worker at Hinckley Lighting. "We make 6-, 12-, 18- and 24-inch stems on spikes. You just stick them into the ground where you want them. If you want to move them, it's extremely easy. You just pull them out."

Neil Mitchell of Major Electric Supply in Pawtucket, R.I. notes four advantages of low-voltage lighting:

- Generally speaking, the fixtures themselves cost less. Though cheap plastic models can be bought at discount department stores, lighting manufacturers and electric supply houses have top-of-the-line metal products priced beginning at \$25 each, which is still relatively inexpensive compared to line-level equipment.

- Installation is considerably less costly. In many cases, digging is not really necessary. For instance, wiring for lights in ornamental beds can



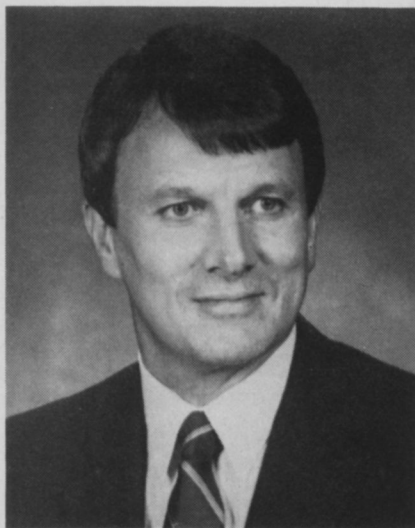
Ken Nicholas (l) and Art Crisfield of Hinckley Lighting say low voltage systems are economical and safe.

be easily buried under mulch. Licensed electricians are required to install the line-voltage systems; no license is needed for low-voltage installation.

- Systems are safer for children and pets. No "blown teeth," as Crisfield says.

- Though the bulbs are low-voltage and low-wattage, they produce two to three times the amount of lumens as their line-voltage equivalents.

—Jerry Roche □



'There's tremendous excitement for nightlighting now.'

—Larry Powers
Genlyte, Inc.



'You can't see the expensive landscape unless you light it.'

—Rick Wiedemer
Hinckley Lighting

"dayform" (what the fixture looks like in daylight).

Power sources include line-level (120-volt) and low-voltage (12-volt). Each has its advantages. Types of lamp sources are incandescent (including quartz/tungsten and

halogen), metal halide, mercury vapor and high-pressure sodium. Colored lenses, no matter what type of source, should be used sparingly.

Placement, of course, is the key to a beautiful nightscape. Positioning fixtures in relation to the object to be

lighted can radically affect the finished job's mood and tone. The best way to determine the most desirable fixture placement, most experts agree, is trial and error at the job site.

Locating a spot very close to the object creates tremendous contrast, character and shadows. The further the light source from the object, the softer the gradations between high-spots of light and deep shadows.

As a sales tool

A final note to bear in mind. Observes Wiedemer: "When people go down the road at night and see these well-lit landscapes, they're going to ask who did the landscaping, not who did the lighting."

"The progressive, aggressive landscapers will recognize that this is an excellent add-on sale."

An instructional video tape produced by Genlyte can help landscape contractors acquaint themselves with the lighting design and installation market. It is available by writing P.O. Box 128, Littlestown, PA 17340 or calling (717) 359-7131.

To find out more about outdoor lighting, write or call the American Lighting Association, 435 N. Michigan Avenue, Chicago, IL 60611; (312) 644-0828. The ALA offers a 16-page, four-color brochure for \$2. Landscape managers can also order bulk copies at 35 cents each with a minimum order of 250. **LM**

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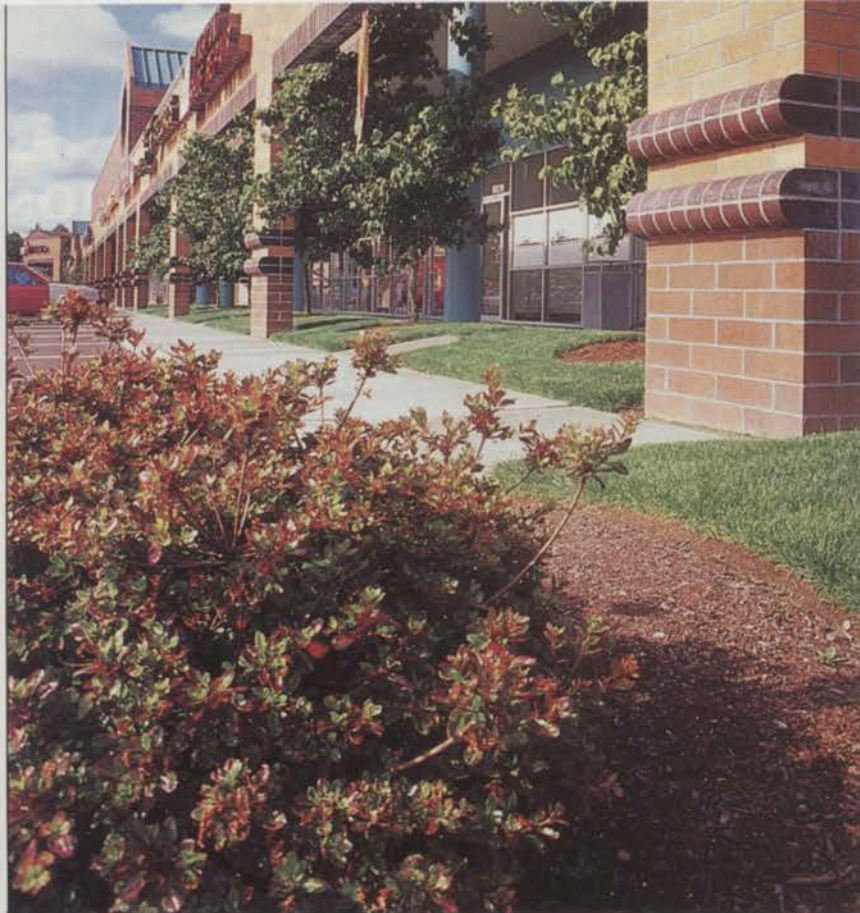
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Small plots in strip malls usually require a production rate based on hours of labor by task and a standard hourly rate for the piece of machinery used.

MATCHING BIDS WITH JOB COSTS

Northwest Landscape Industries has found that the best route to the land of profits is through efficient estimating and job-costing.

by Dick Landis

Landscape contractors know that accurate and profitable bid proposals are one of the keys to staying in business. Jim Wathey, vice president of Northwest Landscape Industries, Portland, Ore., believes the best way to make sure those numbers are valid is to integrate bidding and job costing.

Northwest feels its bidding process is what gives the company its competitive edge. Wathey's goal is a system that generates numbers at least 80 to 90 percent compatible between the

bidding and job costing.

"From the beginning, we wanted to be able to compare bid estimates with actual costs as the job progresses and learn from our experience," he notes. "Our problem was matching the actual job costs to the level of detail we used when we put the bid together. One answer was to simplify the bid proposals."

Composite vs. standard

For years, Northwest compiled its production rates and tried to break

them down by individual tasks for 700 to 800 maintenance accounts. "When we attempted to establish a production rate for a 21-inch mower, we had 70 route foremen sitting down at the end of a long, hot day figuring out how much time two or three guys spent mowing," Wathey explains. "The information just wasn't accurate, so we went to composite bids and used packaged production rates because they made more sense."

The composite rate is based on hours of labor by task and a standard hourly rate for the piece of machinery used. It is still difficult, however, to

'We bid the annuals like an interiorscaper would, with production schedules and man-hours based on how many people it will take to cover each season.'

—Jim Wathey
Northwest Industries

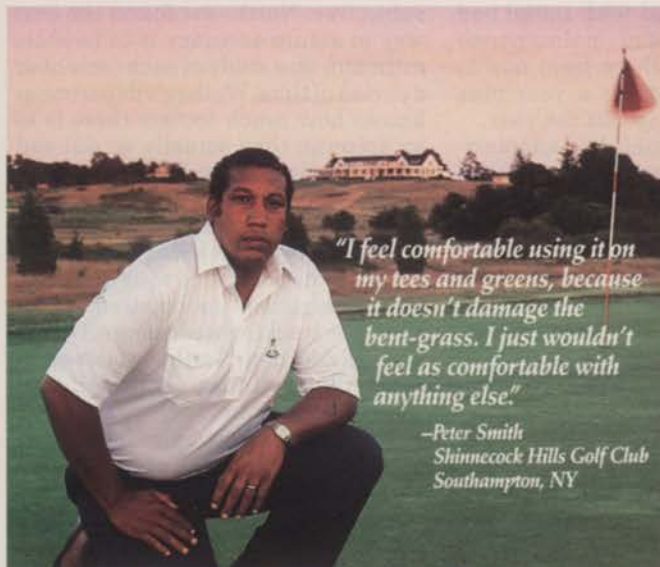
match bids to actuals for the 400 Portland and 300 Seattle lawn maintenance jobs which are 45 percent of Northwest's workload. That's because the company offers a full service package and charges a monthly rate.

Northwest has to estimate the costs of all the maintenance activities, match them with the size of area to be maintained, determine the type of equipment to be used and consolidate the figures to come up with a lump sum for that job.

Business parks like the Nimbus Technology and Koll Business Centers in Beaverton, Ore., have very similar edging, string trimming and mowing requirements and are physically alike enough so that Northwest doesn't have to measure every square foot of turf. They cluster these accounts by number of areas, total square footage and the type of machine to be used.

Standard production rates don't fit the wide open mowing areas at the Fujitsu America and Centerpointe properties. Here, Northwest uses more cost-efficient reel mowers so a different production rate is required. "If you've got wide open turf areas—25,000 to 30,000 square feet—you'll have a 30,000-square-foot production

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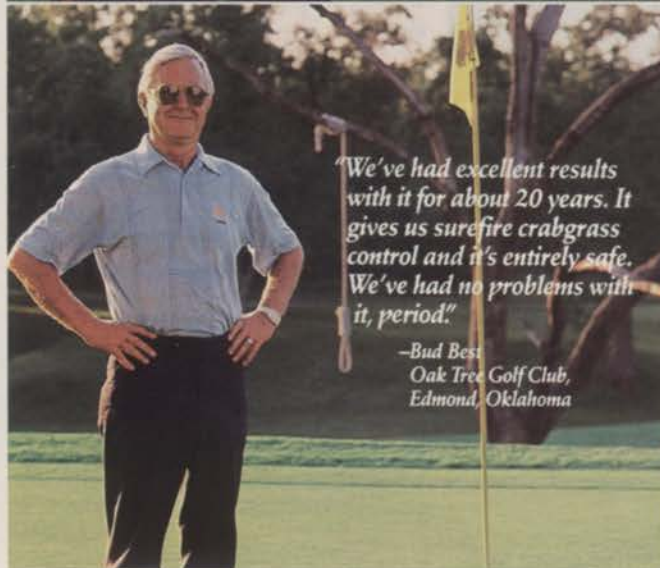
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—Peter Wilson
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rate," Wathey says.

The mall factor

"Strip malls like those at Martinazzi Square in Tualatin, Ore., have a little patch of turf in front of each door. A standard production rate doesn't cover that situation either, so we do a composite on those. Also, when you're bidding a new account, the risk is always higher because you don't

grams for annuals and irrigation that require separate bids. The annuals program is packaged with initial bed prep installation and maintenance that includes anywhere from one to three or four plantings a year plus changing pots throughout the year.

"We bid the annuals like an interioscaper would, with production schedules and man-hours based on how many people it will take to cover

year."

Maintenance job costing is more subjective. Northwest found the best way to assure accuracy is to have its estimator do a study of each crew over a period of time. Wathey's department knows how much footage there is in an account; they actually go out and track the people working at that account. That way, they get an estimate based on experience.

Basically, Northwest uses turf square footage and bed square footage for measurement as opposed to, for example, tracking weed control in the beds. In addition, Northwest has a category that includes all the oddball things people want.

"If a customer wants ornamental pruning, we keep track of those hours extra," Wathey says. "You can spend a lot of time pruning roses. Then there's bark dusting and, once in a while, people want us to paint bike stands."

Fully computerized

The main office in Tigard, Ore., handles all the financial accounting, job costing and purchasing functions on a DEC mainframe computer. The Seattle branch handles its own bidding and estimating using an IBM-compatible computer and Lotus spreadsheets. Even though the estimating process is not automated in Portland, Wathey maintains compatibility by using the same system manually.

According to Wathey, the computer makes bid preparation and job costing much quicker, particularly when he is reconciling bids with the actual expenses. The spreadsheet is



Business parks have very similar edging, weed eating and mower requirements, so it isn't necessary to measure every lineal foot of the turf-edged.

know the routine. However, it almost always evens out."

Other landscapers actually cost each of the activities to reach an estimate; some even take it farther and cost the job by size of area and type of soil. Each step incorporates labor, material, supply costs and equipment as well as the costs to transport it to the job site, but Wathey says it isn't cost-effective to develop a bid at that level of detail.

On the other hand, a "packaged" production rate is a little simpler. For example, if a project had 45,000 square feet of turf broken down into 40,000 square feet of wide open lawns and 5,000 square feet of small lawns, Northwest would bid it at 6.5 hours per "mowing visit." The "mowing visit" would be broken down into 3.0 hours on large mowers for the wide open space; 1.5 hours using 21-inch mowers on the 5,000 square feet; 1.0 hour for edging, blowing and clean-up; 0.5 hour to police the site for litter and weeds; 0.5 hour in travel time.

Month by month

Since Northwest's maintenance contracts are set up as 12 equal monthly payments, the computer bid format is designed to do the man/hour splits by month automatically as part of the estimate.

Northwest also has service pro-

each season," says Wathey. "Our first crunch is at the end of April. We have to be done by the end of June, which takes a lot of manpower in a short period of time. Afterwards we review the information to see how we came out. Generally, we're not off too much."

Reliable numbers

After getting the job, Northwest budgets man-hours by month, based on the type of work during that season. Wathey also developed a data collection system that yields better figures at the job cost end.

"The difficulty was in making sure employees kept track of meaningful numbers. We tried timecards and the accounts payable module of their mainframe software system, but the laborers just couldn't handle it. Now, I have the foremen fill out worksheets by the job, and the numbers are a lot more reliable."

Supervisors use the time sheet for each account to track travel time and time spent on the job. At the end of every month, they get a rundown of how many hours they used on that account, versus what they bid. "It always has to be adjusted and then averaged over the year to see if they are on target," acknowledges Wathey. "We then give them a year-to-date total so they can see how they did for the

The best way to assure accurate maintenance job costing is the study each crew over time.

also more accurate. With a maintenance contract, there are a lot of exceptions based on the type of grounds and the type of work the customer wants done. Because of the way the spreadsheet is put together, it's hard to leave anything out of the bid.

"When we match the bid with actual costs, the information from the field is broken down by hours on the job," Wathey notes. "We also incorporate overhead into an hourly rate. We keep a record of how many chargeable production hours we have every year