Below is a chart listing information from architects who responded to our survey. A list of others is on page 22. Abbreviations here include: Ag (agronomy); GCM (golf course management); Eng (engineering) LA (landscape architecture); LP (land planning); MS (master's degree); OH (ornamental horticulture); Park A (parks administration); Pro (professional golfer); T (turf management); Aust (Australia); Car (Caribbean); East (Eastern U.S.); Eur (Europe); MA (Mid-Atlantic); NA (North America); NE (Northeast U.S.); Pac (Pacific); SE (Southeast U.S.). Course numbers are 1) total number de

# Changing worries, laws

# Red tape hampers architects but new development plans

interest rates "reasonable" and golfers continue to flock to courses in record numbers, officers of the American Society of Golf Course Architects expect new course development to accelerate rather than plateau.

ASGCA President Robert Trent Jones Jr. has projected that 5,000 new courses will be needed by the year 2000, but he now believes that demand could even be greater in the 1990s.

"All segments of the golf business juniors, young adults, middle-age

remain build the facilities to satisfy these eager golfers," Jones said.

> "Obviously, we need more public courses and we are gradually seeing more being built," he said. "These courses, however, will be much more challenging than those public-fee courses of a generation ago. In fact, some of the new public courses are among the best designs coming on line.'

> The California-based architect also noted that today's golf course architect has learned to work with various governmental agencies to

endangered species. He said many courses are being built successfully in environmentally sensitive areas with excellent results.

#### Focus on 'playability'

ASGCA Vice President Dan Maples, who works out of Pinehurst, N.C., and designs many courses for resorts and developers in tourist destinations, believes architects designing for this ever-growing market will be concentrating on "enjoyable, but not boring courses."

"We work on making courses

|   |  |                 |                            | rs —              | are        | satisfy all the environmental concerns playable so that the golfers enjoy associated with wetlands and their round," he said. "Aesthetics |                                     |                       |                   |          |              |
|---|--|-----------------|----------------------------|-------------------|------------|---|-------------------------------------|-----------------------|-------------------|----------|--------------|
| Company   | Architect  | Education       | Region                     | Cours             | ses<br>'80 | Company   | Architect                           | Education             | Region            | Cour     |              |
| Arthur Davis, Inc.<br>455 Church St.<br>Gainesville, GA 30501<br>404-287-1906                     | Arthur Davis                                     | LA              | US, Asia, Eur              |                   |            | Gary Roger Baird, Inc.<br>2505 Hillsboro Rd., Ste 301<br>Nashville, TN 37212<br>615-298-3537  | Gary R. Baird                       | LA                    | Global            | 100+     | <b>'89</b> 8 |
| Arthur Hills & Assoc.<br>7351 W. Bancroft St.<br>Toleda, OH 43615<br>419-841-8553                 | Arthur Hills<br>Mike Dasher                      | LA, Agric<br>CE | US<br>SE                   | 70+               |            | Gene Bates & Assoc.<br>1150 U.S. Highway One, Ste<br>Jupiter, Fla. 33477<br>407-744-0350  | Gene Bates<br>304                   | Exp.                  | Global            | 11       | 5            |
| Ault, Clark & Assoc.<br>2311 University Blvd. W.<br>Wheaton, MD 20902<br>301-942-0716             | Brian Ault<br>Thomas E. Clark<br>William E. Love | CE<br>LA<br>LA  | Global<br>Global<br>Global | 5 0<br>5 0<br>3 0 | 4 4 3      | Golfplan-Fream Design Grp.<br>P.O. Box 1823<br>Santa Rosa, CA 95402<br>707-526-7190   | Ronald Fream<br>Fred Bliss          | OH<br>LA              | Global            | 100+     | 6            |
| Casper, Nash & Assoc.<br>8611 N. Black Canyon #116<br>Phoenix, AZ 85021<br>602-864-0444           | Greg Nash  | LA              | SE                         | 38                | 1          | Golfscapes<br>2225 E. Randolf Mill Rd., Ste<br>Arlington, TX 76011<br>817-640-7275  | Jeffrey Brauer<br>218               | LA                    | US                | 20       | 3            |
| Charles Ankrom P.O. Box 170 Stuart, FL 34995 407-283-1440   | Charles Ankrom                                   | T, Art          | East                       | 60+               | 4          | Gordon G. Lewis<br>2022 Constitution Circle<br>Fort Myers, FL 33908<br>813-267-3322   | Gordon G. Lewis                     | LA                    | SE                | 20+      | 3            |
| Clyde B. Johnston<br>P.O. Box 6242<br>Hilton Head Island, SC 2993<br>803-842-3367                 | Clyde B. Johnsto                                 | n LA            | SE                         | 36                | 4.5        | Graham/Panks International<br>7819 E. Greenway Rd., Ste 1<br>Scottsdale, AZ 85260<br>602-483-9500   |                                     | Exp                   | N.Am, As          | ia 2 0 + | .1           |
| Cornish & Silva, Inc.<br>Fiddler's Green<br>Amherst, MA 01002<br>413-253-3913                     | Geoffrey Cornish<br>Brian Silva                  | h MS, Exp<br>LA | US, Eur, Car               | 230 22            | 10         | Hassenplug Assoc., Inc.<br>1300 Freeport Road<br>Pittsburgh, PA 15238<br>412-781-6994   | X.G. Hassenplug<br>Edward Beidel Jr | CE, TM, LP<br>LA, CE  | East<br>NE,M-A    | 60       | 1 3          |
| Denis Griffiths & Assoc.<br>P.O. Box 327<br>Braselton, GA 30517<br>404-867-4480                   | Denis Griffiths                                  | LA              | SE                         | 50+               | 4          | Hurdzan Design Group<br>2280 W. Henderson Rd.<br>Columbus, OH 43220<br>614-457-9955   | Michael Hurdzan<br>Craid Schreiner  | GCM, LA, TM<br>LA, TM | Global<br>Midwest | 150      | 8 1          |
| Earl Stone & Assoc.<br>P.O. Box 61225<br>Mobile, AL 36616<br>205-344-1921                         | Earl Stone                                       | Eng             | SE                         | 38                | 1          | Jack Nicklaus Golf Services<br>11760 U.S. Highway One<br>North Palm Beach, FL 33408<br>407-626-3900                                       |                                     | Exp, Pro              | Global            | 63       | 9            |
| Fairway Architects, Inc.<br>RR3, Box 209<br>Miltona, MN 56354<br>218-943-1391                     | Joel Goldstrand                                  | Exp, Pro        | N'Central                  | 63                | 3          | John Watson Golf Design Ltd.<br>P.O. Box 481<br>Lachute, Quebec J8H 3Y1<br>514-562-3414   | John Watson                         | Exp                   | Canada            | 50+      | 5            |
| Fairway Design Int'l<br>8519 Woodall Ct<br>Tampa, FA 33615<br>813-425-2849                        | Steven Smyers                                    | BA, Exp         | US, Austr.                 | 60                | 4          | Johnny Miller Design Ltd.<br>2049 Century Park East<br>Suite 1200<br>Los Angeles, CA 90067<br>213-553-0330                                | Johnny Miller                       | Exp, Pro              | Global            | 4        | 2            |
| Fazio Golf Course Designers<br>17755 S.E. Federal Highway<br>Jupiter, FL 33458<br>407-746-4539    |  | Exp             | US                         | 110               | 3          | Linday Ervin & Assoc.<br>16 Village Green, Ste 202<br>Crofton, MD 21114<br>301-793-0310   | Lindsay Erwin                       | LA                    | Global            | 30       | 5            |
| Ferdinand Garbin<br>R.D. 2, Box 186<br>Export, PA 15632<br>412-327-4704                           | Ferdinand Garbin                                 | LA, Ag          | NE                         | 100+              | 2          | Lohmann Golf Designs, Inc.<br>800 McHenry Ave., Ste H<br>Crystal Lake, IL 60014<br>815-455-0445   | Robert Lohmann                      | LA                    | Cent. US          | 12       | 2            |
| Finger Dye Spann, Inc.<br>1001 S. Dairy Ashford<br>Suite 213<br>Houston, TX 77077<br>713-496-4300 | Kenneth Dye Jr.                                  | LA              | Americas                   | 25                | 3          | McCumber Golf<br>P.O. Box 490<br>Middleburg, FL 32068<br>904-282-5511   | Michael Beebe                       | LA                    | US, Far E         | Cast 10  | 1            |
| Flatt Golf Services<br>P.O. Box 7497<br>Overland Park, KS 66207<br>913-381-9537                   | Larry W. Flatt                                   | Park Ad         | US                         | 3                 | 0          | Nelson and Wright<br>680 Ala Moana Blvd. #200<br>Honolulu, HI 96813<br>808-521-5361   | Robin Nelson                        | LA                    | Pac, Eur          | N/A      | 4            |

# plague architects and builders

# of all types abounding worldwide...

are important to develoeprs around holes initially, with different degrees the world." holes initially, with different degrees

Maples pointed out that society members are now working throughout the world and most clients want a "U.S. championship course, which in their mind means challenging, not intimidating, and fun to play."

More ASGCA members are working internationally, especially in Europe, as the U.S. golf boom continues to roll out in other areas of the world.

#### More variety in nines

Tom Clark of Wheaton, Md., ASGCA secretary, explains that many developers are asking for 27 or 36

holes initially, with different degrees of difficulty on each nine. With this layout, beginners can build up their confidence on the easiest nine and progress to the others.

Clark said this also helps speed up play on the tougher nines.

Clark thinks many courses will soon be seriously considering a policy that requires new players to complete certain proficiency tests, including on golf etiquette. If multiple courses are available, only those with lower handicaps, for instance, would be allowed to play the more difficult courses.

| developers are asking   |                                       |                            | Continued or                                | n page 22                        |
|---|---------------------------------------|----------------------------|---|----------------------------------|
| Company   | Architect E                           | ducation                   |   | Courses<br>otal '89              |
| Palmer Course Design Co.<br>P.O. Box 1639<br>Ponte Vedra Beach, FL4<br>904-285-3960           | Ed Seay                               | Exp, Pro<br>LA<br>LA<br>LA | Global<br>Global<br>Global<br>US, Asia, Eur | 150 14<br>200 14<br>35 6<br>20 8 |
| Pete Dye Inc.<br>3247 Polo Dr.<br>Delray Beach, FL 33483<br>407-276-9728                      | Pete Dye<br>Alice Dye                 | Exp<br>Exp                 |   | 55-70 1<br>/Pete                 |
| Philip Wogan<br>17 Walker Road<br>Topsfield, MA 01983<br>508-887-3672                         | Philip Wogan                          | Bio, For                   | NE  | 43 3                             |
| ProGolf Designs<br>1157 N. Beverly<br>Arlington Heights, IL 600<br>708-506-0444               | Bruce Borland                         | LA                         | Midwest                                     | 10 3                             |
| R.T. Jones II Internationa<br>705 Forest Ave.<br>Palo Alto, Calif. 94301<br>415-326-3833      | l R. T. Jones Jr.<br>Kyle D. Phillips | N/A<br>LA                  | Global<br>West, NE, Eur                     | N/A N/A<br>26 4                  |
| Richard Bigler Assoc.<br>P.O. Box 308<br>Del Rey, Calif. 93616<br>209-888-2882                | Richard A. Bigler                     | LA                         | West, Pac.                                  | N/AN/A                           |
| Richard M. Phelps Ltd.<br>P.O. Box 3295<br>Evergreen, CO 80439<br>303-670-0478                | Richard Phelps                        | LA                         | Americas, Eur                               | 60 3                             |
| Robert C. Walker, Inc.<br>P.O. Box 1066<br>Atlantic Beach, FL 32233<br>904-241-3500           | Robert Walker                         | Eng, LP                    | US, Asia                                    | 95 2                             |
| Robert Muir Graves<br>P.O. Box 2156<br>Walnut Creek, CA 94595<br>415-939-6300                 | Robert Graves                         | LA                         | West, Eur, Asia                             | 370 5                            |
| Scott Miller Design Inc.<br>7505 E. Main St., Ste 400<br>Scottsdale, AZ 85254<br>602-946-2586 | Scott Miller                          | LA                         | Global                                      | 35 3                             |
| Stephen Kay<br>P.O. Box 81<br>Purchase, NY 10577<br>914-699-4437                              | Stephen Kay                           | LA, TM                     | Global                                      | 74 2                             |
| William Amick<br>P.O. Box 1984<br>Daytona Beach, FL 32015<br>904-767-1449                     | William Amick                         | T                          | East, Eur.                                  | 60+N/A                           |
| William J. Spear & Associate N. First Ave. St. Charles, IL 60174 312-584-8200                 | . William J. Spear                    | LA                         | Midwest                                     | 75 4                             |
| Williams, Gill & Assoc.<br>421 N. Main St.<br>River Falls, WI 54022<br>715-425-9511           | Garrett Gill                          | LA (MS)                    | US  | 45 4                             |
| Wyss Assoc., Inc.<br>522 7th St., Ste 214<br>Rapid City, SD 57701                             | Patrick H. Wyss                       | LA                         | US  | 25 3                             |

# ... while builders decry tougher financing and environmental laws

BYGARYBURCHFIELD

While golf course construction is indeed a boom cycle, golf course builders warn that financing, environmental requirements and design restrictions are much tougher than in the past.

"A lot of golf courses are being built today, but probably 80 to 90 percent of them are being built in connection with some kind of realestate development. It's sometimes hard to tell if they're being built to meet the needs of golfers or the needs of the developers," said Don Rossi, executive director of the Golf Course Builders of America, headquartered in Palm Beach Gardens, Fla. "But, there are a lot of cities that have new courses on the drawing boards, so it looks like the trend will continue."

Bill Kubley, president and founder of Landscapes Unlimited of Lincoln, Neb., said, "We have more work today than I've ever seen. I think the outlook for the next 10 years is excellent. In fact, there are a lot of new companies coming into the course construction business because of the boom. I look for some of them to get into financial trouble because they're trying to grow too fast."

"The statistics certainly indicate a boom period," said Perry Dye of Dye Designs, Inc., of Denver., Colo., and president of the Golf Course Builders group.

"As our population ages, more people are playing more golf, especially in the Sunbelt areas. We find this true not only in the United States but internationally as well," added Dye, who has been building a lot of courses in Japan.

Paul Eldredge, president of the Midwest Division of Wadsworth Golf Construction Co. in Plainfield, Ill., agreed a boom is on. "I see it continuing for the next couple years anyway," he said, "but I'm not sure it's going to last 10 to 12 years" as many are predicting it will.

"After being somewhat stagnant for several years, the Midwest has become very active now. Where most of the work was in the southern areas a few years ago, the boom now seems to have moved back north," Eldredge said.

Dave Canavan, a former president of the builders association and president of Moore Golf, Inc., of Culpeper, Va., said, "The construction of new courses has been 'hyped' as a boom market, but a lot of it is being done in conjunction with real-estate development. A golf course can satisfy the requirement for 'green space' to get permits for cluster zoning to build townhouses, etc.

"In some areas, like New Jersey, development is so expensive that a golf course is added to help generate income to pay development costs like wastewater management.

Today's problems

Environmental concerns create most of the problems today, according to Eldredge.

"But, financing is tougher now, too. With the savings and loan disaster, banks have gotten more restrictive on their loans. The last couple of jobs we've done, the owners had to jump through hoops to get their loans. And we have to provide back-up for our billing, too.

"We can usually handle the field problems OK, but it's the problems we don't have control over that drive us crazy."

Course construction costs have gone up "300 to 400 percent in the last 10 years," according to Canavan. The environmental restrictions are tougher, he said, plus things like insurance have risen as much as 400 percent.

"Now, you also have to be concerned about hazardous waste," Canavan said. "If you're building a course on an old landfill and uncover something like asbestos, the responsibility for taking care of it falls on the contractor.

"Planning today takes three to five years, to get wetlands clearances, etc. Twenty years ago, construction would usually be underway 30 days after the final plans were approved. The last course we built in Florida required 37 permits from various agencies."

"One big problem today," said Dye, "is that good, premium land for courses just isn't available. Golf course developers had a good choice of quality land 10 to 20 years ago. Today, we end up building golf courses on 'unusable land' around marshes, flood plains, etc. and that means we've had to increase our understanding of environmental issues tenfold. And, it's not only true in this country, but many areas overseas, especially in Europe."

Kubley said a new course Landscapes Unlimited is building near Baltimore, Md., is "going to cost us \$400,000 just for environemntal protection. We have installed more than 8 miles of silt fences for a new course we're building for the city of Reno, Nev., too. Plus, we have to keep three water trucks going all the time during construction just for dust control.

"In the past, you could usually openburn cleared brush. Now, it's either pit burning, or you have to chip it and haul it away. Clearing costs alone can range from \$400 to \$8,000 per acre today, depending on state requirements."

More complicated

Dye contended that construction hasn't changed much in the last 10 years, "but there is a much longer-term involvement for both the builder and architect, from planning clear through after-construction maintenance practices.

"Today, there is more planning required and the whole process is much more 'structured.' The builder and designer have to demonstrate what the end result will be, and that the environmental restructions have been adhered to."

Rossi said the actual construction is no more complicated "because technology has increased so much.

Continued on page 23

# **Architects**

Continued from page 21

The majority of new courses in recent years have been built in conjunction with real-estate developments, and Clark said that trend will continue. In most cases the courses are open to the public until the development is filled, at which time it becomes a private club.

"We see this same pattern becoming more popular with municipalities in the next decade," Clark added. "The typical scenario is for the developer to give the necessary land for the golf course to the municipality in return for the right to build housing units around the course."

#### **Television has impact**

ASGCA Treasurer Arthur Hills, who is based in Toledo, Ohio, but works throughout the country, said, "People want the championship-type courses they see on television, but they want fair and realistic courses without gimmicks.

"The bottom line is that there is a gradual return to a more traditional approach to design, with realistic placement of bunkers and greens that allow the player a fair putt without worrying about severe breaks or multiple levels."

Hills believes golfers appreciate that courses serve as "green belts" in communities that need open space and oxygen. He added that architects have worked successfully in environemntally sensitive areas, often providing additional wetland areas when wetlands are needed for the strategic playability of the golf course.

#### Design for site

Jones summed it up by stating that the golf courses of the future will "fit with the lay of the land. Designers are conscious of their responsibility to the community and players to build a course that 'fits.' There's no doubt that owners and the golfers who play their courses want better courses than ever before," he said.

"We know that golfers will pay a fair price to play a well-designed course. Courses built by 'amateur architects' and that are poorly maintained will not be successful."

With the world's concern about water conservation, many new courses will have a more natural look, Jones agreed, but he suggested that this also fits in with designing with the lay of the land.

"U.S. design has been accepted internationally," Jones said, "but that does not mean that there is a certain

Continued on page 23

# A list of golf course architects not found in the chart on pages 20 and 21

Belt, Collins & Associates 606 Coral St. Honolulu, HI 96813 808-521-5361

Warner Bowen & Sons 115 W. Washington St. Sheridan, MI 48884 517-291-3322

Russell Roberts Co. Inc. 14431 Turkey Foot Road Gaithersburg, MD 20878 301-762-3270

William Newcomb Associates 116 East Liberty Ann Arbor, MI 48108 313-663-3064

Michael Andrijiszyn Andrijiszyn & Assoc., Inc. 7647 W. Gulf to Lakes, Suite 3 Crystal River, FL 32629 904-795-7405

Bob Baldock Bob Baldock & Son 3001 Red Hill Ave., Building #2, Suite 217 Costa Mesa, CA 92626 213-793-6944

Bradford Benz 14651 Big Basin Way Saratoga, CA 95070 408-867-6060

Frederick C. Bliss P.O. Box 1823 Santa Rosa, CA 95403 707-526-7190

Ronald P. Bloom Fairway Architects, Inc. RR-3 Miltona, MN 56354 218-943-1391

Glenn Boorman 6628 Dorr St. #228 Toledo, OH 43615 419-865-3533

Russell Breeden Rt. 4, Fork Shoals Road Greenville, SC 29605 803-277-8970

Willard Byrd Lenox Twrs., Suite 1637, 3400 Peachtree Rd., NE Atlanta, GA 30326 404-261-1018

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P.B. Dye 3046 S. Congress Ave., Suite B Lake Worth, FL 33461 305-439-1911

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Ross Forbes Golfplan P.O. Box 1823 Santa Rosa, CA 95402 707-526-7190

Steven Forrest 7351 W. Bancroft St. Toledo, OH 43617 419-841-8553

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Jack Kidwell 369 Maple Drive Columbus, OH 43228 614-878-5943

Kenneth Killian 639 First Bank Dr. Palatine, IL 60067 312-358-8884

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Gary Linn 705 Forest Ave. Palo Alto, CA 94301 415-326-3833

Karl Litten Karl Litten Inc. 4800 N. Federal Highway Suite 301A Boca Raton, FL 33431 305-368-4755

Raymond Loving, Jr. P.O. Box 138 Ivy, VA 22945 804-293-4249

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Charles Mahannah, Jr 9201 E. Calusa Club Dr. Miami, FL 33186 305-386-2767

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W. Bruce Matthews 17120 Timber Dune Dr. Grand Haven, MI 94917 616-846-1502

Gerald Matthews 2724 E. Michigan, Suite 200 Lansing, MI 48912 517-485-0480 Robert Moote 38 Roberts Crescent Brampton, Ontario L6W 1G8 416-451-3952

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William Howard Neff 6466 South 1650 East Salt Lake City, UT 84121 801-272-4934

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Ted Robinson 352 Third St., Suite 301 Laguna Beach, CA 92651 714-497-5501

William Robinson #237-1450 Johnston Road White Rock, British Columbia Canada V4B 5E9 604-536-2020

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Roger Rulewich 31 Park Street Montclair,NJ 07042 201-744-3033

Edward C. Ryder 4401 N.W. 102 Terrace Coral Springs, FL 33065 305-726-0998

William A. Sander 4441 N.E. Mason Portland, OR 97218 206-282-9406

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Arthur Jack Snyder 3421 N. 45th Place Phoenix, AZ 85018 602-840-2621

William Teutel 13520 - 100 Ave. N.E., Suite 20 Kirkland, WA 98034 206-823-2552

Kevin Tucker Kevin Tucker & Assoc. 312 19th Ave. N. Nashville, TN 37203 615-269-5608

Robert von Hagge 14450 T.C. Jester Blvd. Suite 300 Houston, TX 77014 713-444-6140

Howard Watson 385 Watson Drive Lachute, Quebec J8H 4H1 514-562-7723

Rodney Wright 680 Ala Moana Blvd. Suite 200 Honolulu, HI 96813 808-521-5361

Albert Zikorus P.O. Box 187 Canaan, ME 04924 207-474-8868

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### **Golf course builders working in the United States**

American Golf Course Const. 1615 Dorchester Dr. Suite 106 Plano, TX 75075 214-423-6988

Larry R. Brown Atlantic Golf Construction P.O. Box 762 Bangor, ME 04401

R. Kent Curley Aquaturf 11363 San Jose Blvd. Jacksonville, FL 32257 904-268-6707

Koichi Tadokoro Azabu Realty 410 Atkinson Dr., Ste. 200 Honoldu, HI 96814

B. Kevin Seale B. K. Seale, Inc. P.O. Box 825 Madison, VA 22727 703-948-3139

Louis A. Berner, Jr. Berner Construction Co. 303 E. Jackson St. Bloomington, IL 61701 309-829-8848

Milan Bilberry & Assoc., Inc. 6700 S. Florida Ave., Ste. 1 Lakeland, FL 33813 813-646-1032

Bob Buky Bob Buky Excavating & Golf Course Constr. 204 Carla Dr., PO Box 618 Mt. Washington, KY 40047 502-538-4494

Fernando Cote Canadian Golf Landscaping P.O. Box 11 Lachute, Quebec Canada J8H 3X2 514-465-7948

Charles Carter Carter Golf, Inc. Old Coal City Rd., PO Box 507 Pell City, AL 35125 205-884-2794

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JamesC. DeAngelis DeAngelis Landscape 22425 Van Horn Rd. Woodhaven, MI 48183 313-676-8688

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Perry Dye Dye Designs, Inc. 5500 E. Yale Ave. Denver, CO 80222

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**Hubert Woodruff** Eighteen Construction 8599 Florence Cove Rd. St. Augustine, FL32092 904-260-0107

Robert L. Scofield Environmental Industries 24121 Ventura Blvd. Calabasas, CA 91302 818-992-5900

Vincent Bartlett Fall Brook Landscaping 901-19 W. Indiantown Rd. Jupiter, FL 33458-4888 407-947-4313

Fazio Golf Course Designers 17755 SE Federal Hwy. Jupiter, FL 33458 407-746-4539

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Daryl Gorenflo Golf Courses of Iberia 12907 N. Normandy Way Palm Beach Gardens, FL 407-845-1122

Archie Craig Golf Links Assoc., Inc. 2300 E. Graves, Box 301 Orange City, FL 32763

Harold Goodson Goodson Construction Hwy. 501, P.O. Box 32 Arnor, SC 29511 803-358-3566

Tommy Guettler Guettler & Sons, Inc. P.O. Box 1987 Stuart, FL 34954 407-461-8345

Wilfred S. Hall Hall & Lindsay, Inc. P.O. Box 121 Old Forge, NY 13420 315-369-3117

James D. Holmes Holmes & Company P.O. Box 880 952 Greensboro Rd. NE Eatonton, GA 31024 404-485-5823

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John C. Geupel International Golf Group 1201 US Hwy. 1, Suite 410 N. Palm Beach, FL 33408 407-694-6943

Don Ruhter Kemper Sports Management 500 Skokie Blvd., Ste. 444 Northbrook, IL 60062

Kenova Construction Corp. 7010 Barbour Rd. West Palm Beach, FL 33407 407-848-0194

Koji Hayashi Koji Hayashi 510 W. 6th St., Ste. 200 Los Angeles, CA 90014 213-623-0854

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Lowell M. English Moran Golf 2121 Orange St. P.O. Box 591 Alhambra, CA 91802 818-576-3371

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Pat Bresnahan Southern Concrete Pavers 3210 W. Woodthrush St. Lecanto, FL 32661 904-746-1797

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Jerome Hutchinson Turf Specialists Corp. 444 St. James St. P.O. Box 357 Holbrook, NY 11741 516-981-1118

Frank Underwood Underwood Golf Course Const. P.O. Box 571 Bowie, TX 76230 817-872-2241

RobertT. Vincent III Vincent Construction, Inc. P.O. Box 330 Benton, PA 17814 717-925-2180

Paul Eldredge Wadsworth Golf Const. 1901 Van Dyke Rd. Plainfield 112 60544 815-436-8400

Warner Bowen Warner Bowen, Inc. 115 W. Washington St. Sheridan, MI 48884 517-291-3322

Richard Watson Watson Golf Course Const. 111 N. 56th St., #204 Lincoln, NE 68504 402-464-9486

John Jones World Golf Design Build 5544 W. Chestnut Expy. Springfield, MO 65802 417-865-8888

Jack M. Freeman Zurn Constructors 1800 E. Atkinson P.O. Box 431 Pittsburg, KS 66762 316-231-8290

# **Builders**

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There is better machinery, the people are more skilled and, with computer-aided design, a lot of the work is done before the builder moves his machinery onto the site.

"But, all that costs a lot of money, too."

"Course design has changed a lot in the lst 15 years," said Kubley. "There is more emphasis on fancy contouring, so it takes more of a specialist to build it the way the architect envisioned it. You can't just send in a bulldozer operator any more.

"It's harder to find good on-site labor nowadays, too. And, bonding requirements are tougher. Because of the high cost, some the complicated financing like bond issues, owners today don't require bonds. But, we etc., builders go through hell today," Rossi prefer to work with a bond. It means better control on the financing.'

Eldredge said today's construction standards are more complex because of the more dynamic design of many courses.

### '... builders go through hell today.' - Don Rossi

"Probably 70 percent of the courses we build today require very detailed shaping," he said. 'Plus, owners want more today, too, like continuous cart paths, more sodding, and double-row or triple-row irrigation systems."

"With the environemntal concerns and lamented.

But Dye said put it in what the industry hopes will be the perspective for the 1990s: "It's rewarding being in a business that is recognized as a growth industry."

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style. Architects will continue to evaluate each site and produce a design that accentuates its best features and

provides a layout that will be environmentally sensitive challenging to the golfers who will be playing it for generations to come.'

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