Trends, Suggestions and Tips

South Florida Golf Course Renovation and Redesign

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KIPP SCHULTIES **GRAHAM MOECKER**
Golf Course Architect / Principle *Design Associate*

EXPERIENCE

Kipp Schulties is an independent golf course designer located in Jupiter, Florida. Kipp has more than twenty years of experience in the field of golf course design, development and project management and has been associated with almost fifty different golf course projects throughout the United States and the Caribbean. Kipp's past experience as a competing player with nearly a scratch handicap has provided him with invaluable experience in design by having a thorough understanding of the necessary skills of shot making and playability. With a background in engineering, finance, and real estate, Kipp is a key component to the success of course developments, through project management, because of his ability to successfully manage and coordinate the activities of engineering, land planning, permitting, contract negotiation and contract administration.

PARTIAL LIST of REGIONAL PROJECTS

High Ridge Country Club, Boynton Beach, FL (2010)
Mahogany Run Golf Course: St. Thomas, USVI (2012-2015)
Addison Reserve Golf Club: Delray Beach, FL (2011-2012)
Hunters Run Country Club, Boynton Beach, Florida (2008 East Course)
Lost Tree Club, North Palm Beach, FL (2002 with Jack Nicklaus)
Mayacoo Lakes Country Club, West Palm Beach, FL (2007)
Boca Woods Country Club: Boca Raton, FL: (2010 – 2011)
Hollywood Beach Hotel & Country Club, Hollywood, FL (TBD)
Quail Ridge Country Club, Boynton Beach, FL (2005 – 2014)
Lago Mar Country Club, Plantation, FL (2009)
The Boca Raton Resort & Club, Boca Raton, FL (1997 with Gene Bates)
Admirals Cove Yacht and Country Club: Jupiter, FL (2009 Village Course)
Carolina National Golf Club, Southport, NC (1998 with Fred Couples & Bates)
Indian Spring Country Club : Boynton Beach, FL (2004, 2005)
Adios Golf Club, Coconut Creek, FL (2012 and future)
Gulf Harbour Country Club: Fort Myers, FL (2014)
Gleneagles Country Club: Delray Beach, FL (2011)
The Falls Country Club: Lake Worth, FL (2007)
The Cat Island Club: Cat Island Bahamas: (TBD)
Golf Club of St. Croix (TBD): USVI (TBD with Ian Baker-Finch)
The Legends Golf and Country Club: Fort Myers, FL (2010)
The Renaissance Vinoy Resort and Golf Club: St. Pete. FL: (est. 2015)
The Landings Yacht and Golf Club: Fort Myers, FL (est. 2013)
Imperial Golf Club: Naples, FL (2013)
Cedar Hammock Golf Club, Naples, FL (2014)
Don Shula's Hotel & Golf Club – Miami, FL (1999 and 2013)

PRIOR EXPERIENCE

May 1992 to August 1998 – *Golf Course Designer: Couples/Bates Golf Design.*

Responsibilities included course routing, strategy plans, working drawings, site development, project coordination, and marketing for various projects, while working closely with clients, land planners, engineers, agronomists on design and field operations. Kipp was also responsible for the production of bid documents, organization of bid meetings, contract negotiation and contract administration while working from both the main Couples/Bates office in Palm Beach Gardens, Florida as well as a satellite office in San Jose, California

EDUCATION

Bachelor of Science in Civil Engineering
Purdue University - West Lafayette, Indiana (1992)
Specialization: Construction Engineering

Masters of Business Administration
University of Miami - Coral Gables, Florida (1997)
Specialization: Finance and Real Estate

AFFILIATIONS

Honda Classic Platinum Ambassador
Member - Palm Beach Golf Course Superintendents Association (PBGCSA)
Carolina National Golf Club - Audubon Society Resource Committee
Good Shepherd Episcopal School – Golf Fundraising & Tournament Chairman
ESPN Radio Co-Host of the "Golf Exchange" presented by the Honda Classic

REPRESENTATION

IGP Sports & Entertainment Group
The Honda Classic / PGA Tour and Golf Representation / Consulting
Kenneth Kennerly – Executive Director
631 US Highway # 1 Suite # 410
North Palm Beach, FL 33408
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Section 2: ADA Compliance

March 15, 2012 (Compliance Enforced using 2010 Guidelines)

All newly constructed and altered golf courses must comply with 2010 ADA Standards. This includes construction standards where it is "technically" feasible.

Existing courses must develop a plan to comply with the "readily available barrier removal" standard. In essence, a clear accessible route to all playable areas of a golf course (time frame for plan – TBD)

Redesign of a tee box, fairway or green is considered to be a **CODE-TRIGGER"**. How it is enforced / inspected (TBD)

We predict that advocacy groups and the Department of Justice will be very aggressive in enforcing the new ADA Standards and looking to make a few examples for all to notice. Global Hospitality Group (lawyers)

2010 ADA Guidelines

Cart paths minimum 48" width
Shelter Area: 60" x 96" minimum (anything covered)
Must have accessible routes to fairways, practice areas and greens
Teeing grounds – 2 clubs length long
- At least one tee that a golf cart can exit or enter
  - Forward tee
  - If 2 tees (forward tee)
  - If 3 or more tees (at least two tees)

Putting Greens –
- Must be designed and constructed to allow carts to enter and exit (think about # 17 at TPC Sawgrass…)

Future guidance on "accessible golf carts" (1 per "x" number of carts)
Bunkers and rough areas not included (other than practice bunkers) as they are not typically in the "intended" path of play.

ASGCA – to monitor this
- Welcome "our" feedback from South Florida Clubs

Section 3: Planning and Preparation

Renovation or Redesign?

Schedule is dictated by the following:

Scope of Work
Permitting Requirements
Membership approval (is it necessary, when can that happen?)

No permits required: start planning and approval in fall/winter before work commences

Permits required: start planning work at least one year out from construction commencement (minimum) – dictated by the approval process during the "season"

Items that are needed for planning a full course renovation:

Topographic Map (1 foot contours): allow 6 weeks ($ 10,000)
Aerial Photograph at 100 scale ($ 250 – $ 2,000)
Storm Water Drainage Plans (pipe sizes and locations)
Underground Utilities Plan (water, power, sewer)
Phone and Cable locations (if inside course – most on Prop. Lines)
Easements (drainage, roads, other) – plat maps
HOA irrigation intakes and drains to and from golf course lakes
Property Boundary Surveys (recommended) – ($ 4,000 – $ 8,000)
Grass Eradication schedule

Ideal Schedule for full course renovation:

- Engage your golf course architect and irrigation designer during the season that is 12 - 15 months prior to construction commencement
- Use the balance of that "season" to gather information from the Club, conduct focus group meetings, develop a Business Renovation Plan (or master plan)
- Have the Architect develop the budget for the plan ***and then hold him/her accountable***!
- Obtain membership approval of the plan and budget before the end of the "season" (if feasible).

- Begin design work in the summer (fall at the latest)
- Complete "key" plans by October (grading and drainage)
- Engineer - sign and seal plans in November (needs 4 weeks)
- Submit for permit in December for April receipt (or sooner)

Options if vote is held in December (4 months before start – not uncommon)

- Bidding work
    - December to Feb. prior to spring start
    - Fuel variances restrict price locking
    - Fuel variance waiver
- Eradicate the Golf Course (if applicable)
- Commence Construction (April 1-15 or after key holidays)
- End Construction (August 15 – Aug 31)
- Thanksgiving Grand Opening

Impacts of Renovating nine (9) holes at a time

- Finances sometimes dictate this
- Inconvenience non-snowbird members twice
- Higher unit prices (economies of scale) (10-15% total)
- Inconsistent playing conditions for up to 4 years
    - Greens
    - Turf (assumed different turf)
    - Drainage / Firmness (hard vs. soft fairways)
    - Bunker Sand
    - Contamination Concerns
- Multi-year impacts on clubhouse operation (loss)

Trend: Doing golf course work while there is a clubhouse renovation

Trends in Pricing

Peaked in 2007
Bottom was 2010 (25 - 30% less than 2007)
Slow Rise in 2011 and 2012 (but still close to bottom)

Trends in Golf Course Contractors

Quantity of Qualified Contractors (and architects)
Quality of Crew Available (A and D crews): where are the B & C's?

Section 4: Permitting

Great time to build / tough to permit (agencies looking for funds).
Engineering firm and knowledge of golf course permitting is key!
Minimalize submittal details (give them ONLY the basics).

Agency Check List

South Florida Water Management District (Carlos de Rojas)

Permit time (typical 3-4 months)
Submittal requirements (drainage & grading plans, water acreage
Fees ranges $ 250 (mod), $ 1,500, $ 5,000
Renew up to 5 years (key in strategic planning)
Water Use Permits (renew every ten years)
First must check with the County Utilities Dept. (effluent)
SFWMD Permit closure –

- Lake cross sections – surveyor (slopes 4:1 minimal)
- Dimensions and quantity of hard shoreline
- GPS surface acreage of lakes (depth is not relevant)
- Invert elevations and length of lake equalizer pipes
- Engineer sign off

Counties: Broward, Dade, Martin and Palm Beach

Environmental Resources Management (ERM)

10% lake bank impact threshold (8 SF for 1 LF of littoral mitigation) – need County excavate and fill permit if greater
Total LF of hard shoreline (bulkhead) must be < 40% / lake (8 SF for 1 LF of hard shoreline mitigation measure)
Exemptions: Permitted before June 1992 OR less than 10% shoreline impacts
Have Engineer meet and negotiate first – may avoid this.

SFWMD = Broward County Dade (general comments)

Drainage Districts (100 within 16 county SFWMD area)

Lake Worth Drainage District (Pat Martin)
Restrict building / planting in their easements
Easements for Access: Permit fee $ 700 plus $ 50/ LF Bond

Army Corps of Engineers

Navigable Waters of the United States,
Jurisdictional Wetlands (Silt fence / barriers)

Florida Department of Environmental Protection

Must file NOI (Notice of Intent) if impacts > 1 acre
Submit a Storm Water Prevention Pollution Plan (SWPPP)
Turbidity barrier (Yes)
Silt Fence (make them tell you)
Daily log of weather through the project (supt or GC)

Municipalities (wildcard) - Most are easy or not involved….however
Plantation example at Lago Mar

ADA (TBD)

Structures (restrooms beware)

Trees: (County or City) - PBC (George Galle, Rodney Swonger)
Removal of Exotics: Requirement moved to 2014
(Australian Pines, Brazilian Pepper. Melaleucca)
Building permit: Exotic removal required
Tree removal permit (course): "Encouraged"
i.e. Mayacoo, Banyan and Boca Rio
Martin County – no restrictions unless site plan approved (last 20 years)
Tree requirements (general): 1 tree / 1,500 SF (29 trees per acre)
Applicable "if" your course meets threshold (Boca Dunes)
Removal of Exotics does not count against you (but still need a permit – homeowner phone calls)
Ficus Trees (general): 2 to 1 ratio (case by case basis)
Tip: Keep track of all installations each year for credit later (no identifiable statute of limitations).
S. Broward Muni's tough (Plantation, Miramar, Sunrise, Weston)
Boca Raton, Palm Beach Gardens – can be challenging

Tip: Do not mark trees to be removed until the day you start work
(homeowners and members love their trees)

Section 5: Lake Banks, Erosion and Bulkheads

Lake Bank Sloping (Counties & SFWMD)

Required: 4:1 – top of bank to a point 2 vertical feet (8 horizontal feet) below water then 2:1 slope to bottom

Recommended: 5:1 top of bank to bottom of lake

Pump down lake vs. wet excavation

Corrective Actions for Lake Banks

- Re-Grading and Sod (varies)
- GeoTube ($25 - $30 / LF)
- Aquatic Plantings ($ 3-6 /LF) – same as littoral material
    - Spike Rush
    - Canna Lilies
    - Pickerel Weed
    - Good option when water elevations vary
- Rip Rap ($ varies)
- Wood Bulkheading ($ 100.00 / LF – 5 feet high)
- Dry Stacked Cap Rock ($ 120.00 / LF – 5 feet high)

These are not a Cure, but will help

Surface Water Collection

Control Sheet flow of water over lake bank (drainage basins)

Stabilization of water levels

Beware

Sailfin Catfish

Central and South Palm Beach County and Northern Broward

No Predator / No Eradication Method

Serious Damage to Lake and Canal Banks

Section 6: Irrigation

(Presentation and Discussion by Tony Altum)

Irrigation Trends

(Additional Comments)

HDPE or PVC

General Contractor or Club purchase of Materials (10% savings)

Inboard/Outboard on greens and fairways (if no effluent)

Irrigation Hard lining (native versus turf – part circle heads)

Misleading Thought: Turf reduction saves water (yes) and maintenance (not really)

Transition (turf to native) can be $ 6,000 – $ 25,000 / acre

Section 7: Grassing Trends

Greens

Mini-Verde: natural mutation from Tif-Dwarf in Georgia

- Issues with contamination from Georgia and Texas farms
- Deepest root structure, best to handle wear and tough cultural practices
- Requires least attention to management

Tif Eagle: Forced mutation in lab from Tif Dwarf

- Most stable grass – 15 years, no known mutations or contamination problems
- Average management attention

Champion: Natural mutation from Tif Dwarf in Texas

- Longest to recover from wear and tear
- Requires most attention to management
- Commonly associated with no-till (short term solutions)

Paspalum: Platinum or TBD (UGA 31)

* Most work to compete with other Bermudas in green speed and surface quality. Typically used when irrigation water is poor.

Purchase price (low to high): Eagle, Pasp., Mini Verde, Champion
Planting rates: 30 to 40 BU / 1,000 SF

Trend: Contractors now asking Clubs to sign contamination waiver

Fairways and Roughs

419 Bermuda (proven for almost 30 years)
Celebration Bermuda
Most dominant Bermuda – right now, the likely 419 successor
"Masking agent for other Bermuda's
No-Till Option
Thick stem / larger leaf

Tif Grand (new – TBD see Floridian (Palm City)
Finer leaf and stem than Celebration
Similar, but improved version of Tif Sport (in theory)
Not a good no-till option

No-Till method of planting
If course is properly contoured for drainage and not an abundance of organic matter (organic good in "small" quantities)
419 to Celebration (OK)
Common Bermuda to Celebration (OK)
Paspalum to Celebration (TBD)
419 to Paspalum (no)
Preparing the Soil (eradication, grooming)
Adv: cheaper, maintains some organic matter (less fertilization and water in following years)
DisAdv: More frequent mowing (roughs), only increases issues if other problems are present

Discussion of Paspalum (been around for decades in other areas)
Varieties (Platinum, SeaIsle 1, Supreme, SeaDwarf, UGA 31)
Cons: Higher maintenance costs
More susceptible to disease (requires more fungicide – some 5 to 6 apps per year)
Dull mowers (silicon in the leaves)
No less water
Does not recover well from drought (like Bermuda)
Constant battle with Bermuda intrusion
Pros: Wins the Beauty Contest (best color)
Best to handle poor water quality
If salt PPM is >2,000 then good candidate
If salt PPM is > 6,000 must use (islands)
Soil condition can dictate choice
Contact: Dr. Ron Duncan, Tim Hiers (Old Collier), Pike Creek Turf, Jennings Turf

Fumigation: Fairways & Roughs ($ 5,000/AC)
No Guarantees to keep out contaminants

Typical Grassing rates (Bermuda or Pasplaum)

800 BU / acre (cut two ways)

1,200 BU/ acre (late finishes, buy grow in time)

Exceeding these rates is throwing money away

Hand Planting sprigs vs. Machine Planting

MP cheaper (half the cost)

HP (better distribution)

- Can buy 2 weeks of grow-in time
- Good choice if project finishes late

Grassing Prices

419 Bermuda = Celebration

Sod (installed): $0.30–$0.35 / SF

Sprigs (800 BU/AC): $ 1,500 / AC

Paspalum (add about 30-40%)

Sod (installed): $0.45–$0.54 / SF

Sprigs (800 BU/AC): $ 2,100 / AC

Tif Grand

Sod (installed): $0.39 – 0.44 / SF

Sprigs (800 BU/AC): $ 1,800 / AC

KSGD survey of 15 local Supt's (Jan 2011):

Celebration (10)

419 Bermuda (2)

Paspalum (2)*

Tif Grand (1)

Section 8: Greens, Tees, Bunkers, Cart Paths & Drainage

Greens

Construction Options:

- USGA Specification
- California Method ($0.50/SF less than USGA)
- Push-Up

Fumigation (typically with renovated greens only: 6" core out)

Drainage Pipe options (within green)

- 4" round
- flat pipe (no trench – cheaper construction)

Surface Contouring

- minimum 1% everywhere on green
- pinable area maximums (2.3% and getting less)

Tees

Play it Forward!

5 or 6 sets of tees depending on the length of the course

- 4,600 – 4,700 yards
- 5,100 – 5,200 yards
- 5,400 – 5,600 yards
- 5,800 – 6,100 yards
- 6,300 – 6,500 yards
- 6,800 – 7,100 yards

Tip: Tee minimum length and width > 30 LF

Bunkers

Style Options:

- Flashed Sand (design is key to limiting washouts)
- Grass Down (fly mowing)

Bunker Liner – when should you use it?

- Flashed faces that wash out
- To keep contaminants and rocks out from underneath
- To keep sand cleaner

Bunkers Sand - Angular Sand is better than Round Sand

- G-Angle (Golf Agronomics) - $ 33 / ton
- Florida Superior Option – same as G-Angle
- Pro-Angle (Best Sands from Ohio) – $ 135 / ton

Penetrometer Rating – above 2.4 to good (measures the sands ability to resist a fried egg lie)

……..Still looking for the best options to create firm sand (although half the membership likes soft sand)

Cart Paths

Cart Paths Options (based on 8 feet wide)

Concrete Broom Finish ($ 15 - $ 20 / LF)
Concrete Exposed Aggregate ($ 18 - $ 25 / LF)
Asphalt Paths / Overlay ($ 8 - $12 / LF)
Concrete Screenings ($ 7- $10 / LF)
Coquina ($ 10-$ 15 / LF)
Brick Pavers ($ 24 - $ 32 / LF)

Tip: Do not use concrete screenings and coquina on slopes (greens, tees) – subject to washouts

Drainage

The single most important component of a successful golf course

- Use N-12 type pipe (smooth interior wall)
- No ribbed pipe (debris gets trapped)
- Be careful of "Over-Engineering" – the golf course does not have to be designed to the same specs as a road or lot (big money to do this)
- In Florida, surface water should travel no more than 150-200 LF before being relieved (catch basin, lake, native area, swale, far rough, etc.) – Nicklaus standard that I agree with.
- Set lowest catch basin elevations no less than 2.5 to 3.0 feet above "controlled" water elevation (capillary rise of water in the soil profile allows the soil within two feet of the water elevation to remain saturated).
- Minimum surface pitch on all maintained areas (between 2.5 and 3.0 percent) – any less and you will get standing water (bird baths)

Section 9: Potential Budget Pitfalls

Your budget will cover all things relative to the project, but don't forget to discuss or account for these items:

- Revenue Loss while course is closed
- Reciprocal Play fees (typically for 18 hole facilities)
- Unexpected Permit Fees (mainly muni's)
- Fuel surcharges
- Grow-in Expenses (over and above operations)
    - Fertilizers
    - Chemicals
    - Water
    - Power
- Maintenance staff expense while course is closed (options)
    - Lay off and re-hire
    - Lay off and not re-hire
    - Leave of Absence
    - Assume in-house projects
    - Work for the General Contractor (common w/18 holes)
- Contingency (2 – 10%)
- Fertilizer, Water and Nutrient (Organic) expense – future years

Section 10: Future Thoughts

Golf business is not going away, but it is certainly changing

- Merging Clubs
- Strategic Alliances (variety for members)
- Contracting golf to allow for other amenities
  Fitness, parks, open spaces, pool, tennis, clubhouse, parking, golf practice amenities, shorter courses
- Contracting golf for real estate
- Contracting golf to meet demand (MP communities – challenge)
  - Dirt has value and water is easy to maintain
  - FDOT / Developers
  - County Commissioners
- Architects & Contractors – Changing of the Guard
- Technology (course design, golf ball size, etc.)

Questions / Break