

Guyan Golf and Country Club
Standard Operating Procedures
For
The Green & Grounds Department

Effective January 15, 2014

GREEN & GROUNDS DEPARTMENT
STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

Preamble and Mission Statement.....3

Overview.....3

Communications.....3

Golf Course Opening/Closing Procedures.....4

Course Set-up.....5

Greens.....5

Tees.....6

Fairways.....7

Approaches and Collars.....8

Roughs.....8

Bunkers.....9

Practice Facility & Nursery.....10

Leaf Removal.....11

Tree Management.....12

Landscape Areas.....14

Integrated Pest Management.....14

Chemical & Hazardous Materials Policies and Procedures.....15

Chemical Usage Procedures.....17

Aerification Procedures.....18

Aerification Schedule.....19

PREAMBLE AND MISSION STATEMENT

The preservation and improvement of the land upon which Guyan Golf & Country Club is built is entrusted to the Green and Grounds Department. In turn, it is committed to preserving and maintaining the golf course and Club premises in pristine condition for the use and enjoyment by the members and guests while being responsible stewards of the financial and environmental resources.

OVERVIEW

This set of Standard Operating Procedures (“SOP”) is intended to provide a detailed description of Guyan Golf and Country Club’s golf course preparation and maintenance standards, policies and procedures. The expectation is that the golf course shall be maintained on a daily basis and in the best possible playing conditions exist for both the championship and the average golfers. The Green and Grounds Superintendent (“Superintendent”) is responsible for implementing these standards, policies and procedures on a consistent and timely basis. Weather and other environmental conditions shall be considered by the Superintendent when determining how to set up the golf course and when to restrict play.

COMMUNICATIONS

Access to the course is dependent upon timely electronic communications from the Superintendent. It is the policy to provide early morning E-mail Blast communications to the membership that adequately describe the existing course conditions, use restrictions and foreseeable changes that might occur during the day. Subsequent supplemental E-mail Blast communications shall be initiated whenever course access changes, course conditions change or other pertinent information should be disclosed regarding foreseeable weather events.

GOLF COURSE OPENING AND CLOSING PROCEDURES

1. The course will be opened as soon as the Superintendent determines that course conditions can accommodate foot and/ or cart traffic. Frost, snow, excessive rain, and/or storm damage constitute cause for closure of the course, a delay in the course opening or cart utilization restrictions.
2. The Superintendent shall determine when carts may cross the fairways at 90°, be restricted to the pavement or be unavailable for use. The prime objective of preserving the health of the course shall guide and inform the Superintendent when he evaluates the moisture content of the soil and decides whether cart traffic under these conditions can cause damage to the turf.
3. The cleanup of the course will be the highest priority followed by the preparation of the course for play.
4. The Superintendent shall determine when and how the golf course shall be marked for competition or designated as out of play.
5. The Golf Pro shall determine when and how the golf course shall be marked for competition or designated as out of play.
6. The course shall be open for play throughout the winter months whenever possible.
7. The course shall be winterized sometime before Christmas. Winter preparations shall include:
 - a. Shut down, blow out, and preventative pump maintenance of the Irrigation System;
 - b. Application of a heavy sand topdressing on all putting surfaces to provide adequate protection for the turf at the crown of the plant;
 - c. Fertility applications as required;
 - d. Chemical protection application to all fine turf (Tees, Green, Collars, Aprons) to limit the incidence of winter diseases;
 - e. Covering of certain greens with tarps as needed to combat cold icy conditions. (e.g. #3Green);
 - f. Installation of winter fencing around greens, the pond and roadways;
 - g. Fan Maintenance including preventative maintenance and installation of covers; and
 - h. Project work.

COURSE SET-UP

1. Tee markers are moved as directed by the Superintendent. Playing conditions, hole locations, the levelness of the teeing ground and alignment to the landing area are all considered when deciding where the markers should be placed. Tee markers will be placed a minimum of two (2) yards from the back of the teeing ground in conformity with the rules of golf.
2. Hole location shall be changed approximately every 150 golfers. Ordinarily, in the Summer, hole locations are changed daily while in the other seasons, hole locations are changed based on play.
3. A three flag system to alert golfers as to where the hole is located on the green. Flagsticks placed in the front third of the green will have a red flag. Flagsticks located in the middle third of the green will have a yellow flag, and those placed on the back third of the green will be indicated by a green flag.
4. On course yardage markers shall be provided as follows:
 - a. Sprinkler heads in fairways;
 - b. Green poles implanted adjacent to each fairway at 100 yards, 150 yards, and 200 yards from the green;
 - c. Plates implanted in the middle of fairways at 100 yards, 150 yards, and 200 yards from the green; and
 - d. Flagsticks are equipped with smarty distance caps, for the use of laser yardage finders.
5. The designated practice range tee area shall be designated and marked daily with the twin objectives of golfer safety and minimizing the wear and tear of the surface. The practice range will be closed every Monday morning for maintenance to ensure the best possible practice surface. A separate bluegrass practice range tee will be maintained for the Marshall Golf teams adjacent to the practice range and in front of the practice chipping green.

GREENS

The Superintendent is responsible for preparing and maintaining the twenty-one (21) greens on the golf course. Collectively, the greens occupy approximately 2.5 acres. The following standards shall apply.

1. The normal height of cut is 0.120” with Stimpmeter readings faster than ten (10) feet with the acknowledgement that green speeds vary because of changing environmental conditions.
2. The greens are mowed as needed using walk mowers. The direction of cut changes daily. Prior to mowing, the greens will be cleared of all debris to avoid

- damage to the mowing unit or damage to the turf. To minimize wear, a clean-up pass will be done every other day. After mowing, the surface of each green shall be cleared of excess grass clippings. To protect and preserve the surface of each green from wear or damage, boards shall be used to turn mowers on the collar instead of turning the mower directly on the grass.
3. Grass clippings shall be collected at each green following the mowing.
 4. At the discretion of the Superintendent, double mowing is authorized periodically when the turf is growing more quickly than usual.
 5. At the discretion of the Superintendent, rolling each green is authorized to smooth out the greens surface, effectuate dew removal and/or in place of mowing. With or without mowing, it is the expectation that rolling of each green shall occur several times during the week.
 6. At the discretion of the Superintendent, grooming or vertical mowing procedures shall be utilized when necessary to promote upright growth of the turf.
 7. Consistent with the environmental conditions in this transition zone and the need to maintain the health of the turf, verticutting of each green will be performed as needed after Father's Day.
 8. To avoid scalped and uneven playing surfaces, low and high plugs will be monitored on a daily basis.
 9. At the discretion of the Superintendent, irrigation, fertilizer and pesticides will be applied when necessary to continue increasing the population of creeping bent grass and to provide a healthy, uniform and consistent putting surface.
 10. At the discretion of the Superintendent, topdressing the greens will be done as necessary if growth permits. A light amount of topdressing sand is spread on greens to smooth the playing surface. This method has minimal effect on play and thus can be done almost anytime. Greens are often top dressed 3-4 times a month during the growing season.
 11. The proposed aeration schedule for the greens is outlined on page 19.

TEES

Guyan Golf and Country Club has a four-tee system. The intent is to provide a reasonable challenge to all levels of player. The 18 tees on the course occupy approximately 3 acres.

1. The tees will be mowed as needed at a height of 0.475". Triplex and walk behind

- mowers are used for this procedure. Tees are commonly mowed three times a week. (Mon., Wed., and Fri.)
2. Grass clippings shall be collected immediately after mowing.
 3. The permanent markers shall be edged as-needed.
 4. The ball washers shall be checked daily and topped up as needed with soap and water. They shall be emptied and flushed periodically.
 5. The ball washer post towels shall be changed as needed.
 6. The garbage containers shall be emptied at least once during the day. The garbage and then sorted for recycling purposes.
 7. Tee divots shall be repaired on a bi-weekly basis.
 8. The application of pesticides, fertilizer, irrigation and other cultural practices shall be carried out as required.
 9. The proposed aeration schedule for approaches and collars is outlined on page 19.

FAIRWAYS

All cultural practices are geared towards continually improving the playing conditions by increasing the Bermuda grass population. The fairways comprise approximately 23 acres in size, maintained/mowed at a height of 0.475". Water management of fairways shall be based on the principle as "dry as possible" based on the principle that maintaining the fairways in a drier condition reduces the incidence of disease, reduces the reliance on pesticides, and also increases ball roll extending driving distances. It is understood that in maintaining turf health some wilt may be apparent.

1. The fairways shall normally be mowed by using a lightweight mowing machine.
2. The mowing shall usually be done in the morning ahead of play but sometimes will occur in the afternoon when the turf is dry.
3. Mower operators shall be trained to work on vacant fairways whenever possible and shall be instructed to be courteous at all times to golfers. Fairways are commonly mowed three times a week. (Mon., Wed., Fri.)
4. Grass clippings are recycled back to the fairways by mowing without baskets.
5. In order to reduce the incidence of disease, occasionally dew removal shall be

accomplished prior to mowing to promote the drying of the fairways.

6. The 100, 150, and 200 yard marker plates shall be edged as needed.
7. Fertilizer, seed and pesticides shall be applied when necessary to increase the population of Bermuda grass and to provide a healthy, uniform and consistent playing surface.
8. The proposed aeration schedule for the fairways is outlined on page 20.

APPROACHES AND COLLARS

Approaches and collars include all short mowed grass in the immediate area surrounding the putting surface.

1. Approaches and collars shall be mowed as needed at a height of 0.475”.
2. Under normal circumstances, approaches and collars shall commonly be mowed three (3) times a week. (Mon., Wed., Fri.)
3. Grass clippings shall be collected.
4. To increase the population of creeping bent grass and to provide a uniform, consistent playing surface, fertilizer, seed and pesticides will be applied as necessary.
5. Aeration and over-seeding schedule for approaches and collars shall occur as approved.
6. The proposed aeration schedule for approaches and collars is outlined on page 19.

ROUGHS

Roughs include intermediate, primary and secondary rough. “Out of play” areas, while not technically “rough,” are addressed in this section.

1. The intermediate cut of rough outlines most fairways and is mowed as needed at a height of .750”. The intermediate cut of rough is intended to provide the golfer with some definition between the fairway and where the primary rough begins. It also provides for a slower gradation from fairway height of cut to the full rough height.
2. Dependent on the weather, the primary rough is maintained at 2.5“and is mowed

- twice a week. Three to four mowers are used daily to provide the most consistent playing surfaces possible.
3. Hand maintenance of steep slopes and trimming around trees shall be done as needed.
 4. Stressed and worn areas will be aerated and over-seeded as required.
 5. Stressed and worn areas that do not respond to aeration shall be sodded either in the Spring or Fall.
 6. Out of play areas are those areas that do not affect play. They are mowed two (2) to three (3) times a year depending on growth and weather.
 7. The operators are instructed to be courteous to golfers at all times.
 8. The proposed aeration schedule for the rough is outlined on page 20.

BUNKERS

Bunkers are managed as hazards that are to be maintained as playable surfaces. Trimming, edging and weeding shall be carried out as required to produce an aesthetically pleasing look.

1. Depending on previous play and weather, there are multiple raking protocols employed:
2. The bunkers are raked by hand daily either as a full or touch-up raking.
3. Daily full-raking of the bunker shall occur whenever the bunker has been disturbed by previous play.
4. Daily touch-up raking of the bunker shall occur when the bunker has not been disturbed from previous play.
5. Fine Tune raking, when necessary, shall be accomplished by using the reverse side of the rake to smooth the surface and move sand in the bunker.
6. Bunker sand will be maintained at a depth of 1-2 inches on slopes to prevent plugging, and 4-5 inches on flat areas where the majority of shots are taken from. Depths will be checked regularly and additional sand will be added as required.
7. Depending on the conditions presented, the steep grass slopes adjacent to each of the bunkers shall be mowed as needed with a fly-mower or weed-eater.

8. The bunker edges shall be sodded, trimmed or edged as required.
9. After raking is complete, rakes shall be placed outside of the bunkers to avoid any violation of the Rules of Golf occasioned by a ball coming to rest next to a rake inside the bunker and causing a player having to take a drop within the bunker.
10. Operators shall place rakes in their pre-determined locations with the tines facing down and lying perpendicular to the direction of the hole.
11. Operators shall report any damaged rake to the Superintendent who shall cause it to be replaced as soon thereafter as possible.
12. When a bunker becomes contaminated with stones, the stones shall be removed.
13. At the discretion of the Superintendent, the bunker sand shall be replaced if there is too much silt or rock contamination to be successfully removed from the bunker.
14. Weeding shall be done by hand as needed in accordance with the Guyan IPM program.
15. The internal drainage systems in each bunker shall be maintained and be sufficient to eliminate the pooling of water.
16. In the event of a heavy rainstorm, each bunker shall be examined and pumped free of water to speed the drying process.

PRACTICE FACILITY AND NURSERY

The objective in maintaining the practice range facilities is to mirror the aesthetics and the turf conditions that are found on the course. The practice range occupies approximately 10 acres that includes: 33,000 square feet of teeing surface at primary practice area (Driving Range), and 10,000 square feet of short game practice area (Driving Range). The bent grass nursery (Rt. Of #5 Tees) occupies 5,000 square feet and is often used as additional chipping green for the Marshall Golf Teams.

1. Mowing heights for the range tee, fairway and rough are the same as the golf course.
2. Old divots shall be removed and balls must be picked-up prior to mowing.
3. The designated teeing area for the day shall be rotated to control wear and tear of the facility and marked to promote the safety of each golfer.

4. A minimum distance of two paces shall constitute the teeing ground at the practice facility and shall be marked using two lengths of rope.
5. The practice facility shall be closed on Monday mornings for maintenance.
6. The worn areas shall be seeded, fertilized and top dressing as determined by the Superintendent.
7. At the discretion of the Superintendent, aeration, and vertical mowing of the practice facility and nursery shall occur as required.
8. Mats shall be used at the practice facility when the practice facility is too wet for use and in the early Spring, late Fall, Winter, and for non-Club outside tournaments.
9. The nursery turf shall be maintained to match the turf on the course in the event that a circumstance arises that requires repair or replacement of weak or damaged areas.
10. At the discretion of the Superintendent, fertilizer, seed and pesticides can be applied to the nursery area to replicate the on course turf.
11. At the discretion of the Superintendent, aeration of the nursery may occur as needed.

LEAF REMOVAL

It is the expectation and objective that the course be maintained as a debris free playable surface. To accomplish this objective the following strategies shall be employed.

1. During the fall, greens are blown free of leaves and debris daily prior to mowing.
2. The surface of each green and surrounding areas are shall be cleaned using a blower.
3. The accumulated debris shall be subsequently moved with a tractor-mounted blower to areas where it will be mulched.
4. Fairways and tees shall be blown off using tractor-mounted blowers.
5. Where possible the leaves shall be blown into naturalized or wooded areas. In areas where it is not feasible to blow the leaves into naturalized or wooded area, they shall be blown into a centralized rough area and mulched.

6. Rotary mowers shall be used to mulch leaves.
7. Because complete removal of leaves may not be possible on windy days, there are occasions when greens may quickly become covered with leaves and/or debris shortly after blowing has occurred.
8. Leaves shall be removed from the parking lots and paths as required.

TREE MANAGEMENT

The tree management program consists of four categories.

CATEGORY 1. Potential hazard to golfers:

Trees, like all living things, have a “life expectancy”. As trees approach the end of their life span, they begin to weaken or rot away in sections. This weakens the tree and poses a threat to golfers. Also, older trees can begin to accumulate a great deal of deadwood in the canopy. This deadwood is the greatest potential hazard to golfers. As the deadwood accumulates the canopy becomes heavier and with strong or consistent winds can cause the trees to topple over. Even healthy trees can restrict sight lines. At the discretion of the Superintendent, trees that cause blind corners or funnel cart traffic into potentially hazardous areas shall be pruned or removed.

CATEGORY 2. Negative impact on the health of surrounding trees:

Old, unsightly and/or unhealthy trees could potentially fall on a specimen tree, destroying a valuable, beautiful resource. Overcrowding is a more common problem concerning the health of trees. As trees naturally grow larger, they require more air, water, food, and sun to continue growing. Competition becomes fierce as trees have limited resources of food, air, and water, and thus they become twisted and stunted as they try to position themselves in the sunshine. Such overcrowding creates a situation in which neither type of tree will develop its proper shape. By selectively removing those trees that are crowding others, the overall health of the entire stand of trees will improve.

CATEGORY 3. Architectural considerations:

The tree plan developed for Guyan Golf and Country Club was intended to restore the original shot values and design concepts of Herbert Strong that included:

1. Playability: We examine trees for their effect on how the golf course is played;
2. Traffic flow: Trees can limit entrance or exit points near playing surfaces thus creating concentrated traffic and turf wear;

3. Tree species: Species are evaluated according to its form, expected lifespan, proneness to litter, and appropriateness for the golf course; and
4. Impact on golf course aesthetics.

CATEGORY 4. Agronomic considerations:

The agronomic issues caused by the overcrowding of trees are numerous. Trees and turf are mutually exclusive; in fact, they are mortal enemies. They both rely on the same food, air, water, sunshine and space to live. Trees planted too close to greens, tees, and fairways will enjoy the growing environment that we are trying to create for healthy turf. This will lead to problems with inconsistent moisture levels and drought, thin and etiolated turf, as well as disease due to shade and restricted air movement on important playing surfaces. Therefore, trees that affect moisture levels in the root zone, restrict airflow and/or eliminate sunlight on greens, tees, and fairways need to be managed through pruning and/or removal to reduce their negative agronomic impact. The Superintendent is responsible for the tree management program that shall identify those trees that create reduced aesthetics and increased labor costs. Tree removal is authorized when it will reduce the negative impact on the golf course. This strategic approach provides a basis for a tree management program that can be expanded or contracted depending on each specific situation. The program causes each tree to be evaluated under a clear and universal set of parameters. Because trees grow exponentially larger each year, without management, the negative impact to the golf course will increase, the Superintendent shall devote sufficient time and resources to implementation of the tree management program. The implementation shall include:

1. Possessing a sufficient number of chain saws that are adequate to perform the foreseeable cutting.
2. Design and implementation of a task training program that includes classroom instruction and a field testing exercise that confirms the requisite skill level to perform most tree removal and cleanup work.
3. Retention and utilization of a certified arborist or tree removal specialist who possesses the skill, experience and equipment to perform all tree work requiring climbing or complicated felling of trees. Before certified arborist or tree removal specialist renders any cutting services, proof of liability and workers compensation insurance and a license to do business in West Virginia shall be provided to the General Manager. insurance
4. If the necessary equipment is available, within fifteen (15) days following tree removal, stumps from removed trees shall be ground out or removed by backhoe, backfilled with soil, and restored with seed or sod.

LANDSCAPED AREAS

The Green and Grounds Department shall be responsible for the design and maintenance of the landscaped areas on the Club's premises including but not limited to the golf course.

1. Flowerbeds shall be planted each season consistent with the aesthetics expected of a country club.
2. Flowerbeds shall be weeded as required.
3. At all appropriate times, the gardener or other designee of the Superintendent shall cause the flowerbeds to be supplied with adequate water and nutrients consistent with the species and appropriate to the local climate, light availability and soil conditions.
4. Shrubs will be mulched to reduce weeding and will be pruned to acceptable horticultural standards.

INTEGRATED PEST MANAGEMENT

Integrated Pest Management ("IPM") is a broad-based approach that integrates a range of practices for economic control of pests. IPM aims to suppress pest populations below the economic injury level by scouting and monitoring the turf daily. The Green and Grounds' maintenance program creates a diversified, balanced ecosystem that generates health and fertility as much as possible from within the course itself. Because air is the most important nutrient to grow healthy turf and reduce the probability of disease and pest infestation, the air management program shall begin each season in March with venting and topdressing of putting surfaces.

1. The application of pesticides shall be implemented only after careful assessment and monitoring by the Superintendent that defines and documents the identity of the pest(s) and the strategy to eradicate the pest(s).
2. The Superintendent has the responsibility to select and apply the fungicides that are appropriate for application to the greens, tees and fairways.
3. The Superintendent shall monitor the greens daily for any incidence of disease.
4. If a problem is detected on the greens, tees and fairways the Superintendent shall identify the disease and apply the correct fungicide or insecticide to eradicate it.
5. Whenever possible, these applications shall be done early in the morning ahead of

- play.
6. The Superintendent shall possess and permanently maintain a current copy of the Material Safety Data Sheet (MSDS).
 7. The Superintendent shall comply with all product use instructions that accompany any chemical pesticide and insecticide products stored and/or used on any Club premises subject to the Superintendent's control.
 8. Disclosure of the chemical pesticide and insecticide products shall be made to the membership consistent with the warnings provided as product use instructions and the MSDS through daily morning Course Condition E-mail Blast and such other interim e-mail blasts as become necessary to insure the safety and well being of members and guests who might be present on the Club premises.

CHEMICAL & HAZARDOUS MATERIALS POLICIES AND PROCEDURES

1. The Superintendent is the designated Chemical & Hazardous Materials Safety Officer for the Green and Grounds department.
2. The Superintendent shall read and maintain current competency in the handling of every chemical and hazardous material present on any premises subject to his control.
3. The Superintendent shall comply with the product use instructions published on the label and other writing by the manufacturer.
4. The Superintendent shall comply with the label and MSDS instructions and warnings published by the manufacturer.
5. The Superintendent shall provide full and complete copies of all product use instructions published on the label and other writing by the manufacturer, MSDS instructions and warnings published by the manufacturer as well as all federal and state statutes and regulations applicable to the possession, storage and use of each chemical and/or hazardous material to the General Manager and Chairperson of the Green & Grounds Committee.
6. The Superintendent shall maintain a notebook at the Green & Grounds Office that includes a full and complete copy of all product use instructions published on the label and other writings provided by the manufacturer, MSDS instructions and warnings published by the manufacturer as well as all federal and state statutes and regulations applicable to the possession, storage and use of each chemical and/or hazardous material. The Superintendent shall inform each employee of the existence, location and content of this notebook.

7. The Superintendent shall be knowledgeable about and comply with all federal and state statutes and regulations regarding the use, storage and disposal of chemicals and other hazardous materials that are necessary for maintenance of the course and Club premises subject to the Superintendent's control.
8. All chemicals shall be stored in the designated chemical storage structure, separate from the general maintenance facility. The facility shall be locked and secure with access limited to qualified personnel who have been trained and are knowledgeable about the material stored therein. Appropriate signage shall be affixed to the exterior and interior of the storage facility.
9. The storage facility shall be climate controlled consistent with the MSDS and product use instructions.
10. The storage facility shall be well ventilated with powered venting capable of three air exchanges per hour.
11. The storage facility shall be power vented with an external manual off/on switch for the fan.
12. The Superintendent shall publish a fire safety protocol and be responsible to insure that all fire safety devices are operative and all personnel participate periodically in fire drills to insure knowledge of and compliance with the fire safety protocol at the Grounds maintenance facilities.
13. The General Manager and Superintendent shall enforce all federal, state and local electrical codes and make sure that all electrical devices are located on the outside of facility.
14. The General Manager and Superintendent shall take all necessary steps to insure that the storage facility has a self contained impervious floor.
15. The Superintendent shall publish and enforce a cleaning protocol regarding how to clean up liquid spills, chemical leaks or other potential hazards should they occur.
16. The General Manager and Superintendent shall take all necessary steps to insure that the storage facility has emergency wash facilities, including eye wash facility in close proximity, water or other materials necessary to respond to an exposure to every chemical and hazardous substance stored on the premises.
17. The General Manager and Superintendent shall take all necessary steps to insure that the storage facility has a spill containment kit that is readily accessible and easy to open for all employees and visitors who may be exposed.

18. The Superintendent shall take all necessary steps to insure that all pesticides are stored so that they shall remain dry and shall not be accessible to inadvertent spills or discharge because of incorrect placement.
19. The Superintendent shall take all necessary steps to insure that all liquid products are stored below dry products and/or have secondary containment on the shelf to prevent inadvertent spills or discharges.
20. The Superintendent shall take all necessary steps to insure that only a minimum inventory of pesticides is stored during the non-growing seasons including but not limited to winter.

CHEMICAL USAGE PROCEDURES

1. The Superintendent shall take all necessary steps to insure that an impermeable surface, sealed concrete, is used for mixing and loading chemicals.
2. The Superintendent shall take all necessary steps to insure that the mixing and loading pad for all chemicals and pesticides includes containment walling.
3. The Superintendent shall take all necessary steps to insure that while mixing any chemicals and/or pesticides that an air gap is maintained between the hose and the top of the sprayer tank.
4. The General Manager and Superintendent shall take all necessary steps to insure that mixing and storage area for chemicals and pesticides has emergency shower/eye wash.
5. The General Manager and Superintendent shall take all necessary steps to insure that a roof covers all chemical and pesticide storage facilities to prevent rainwater contamination.
6. The Superintendent shall take all necessary steps to insure that all chemical and pesticide sprayers are filled by a trained and licensed applicator.
7. The Superintendent shall take all necessary steps to insure that all current product labels are legible and related produce use instructions, including MSDSs are readily available and followed precisely by all employees.
8. The Superintendent shall take all necessary steps to insure that the water hose is always kept well above the water line and never put in the sprayer tank.
9. The Superintendent shall take all necessary steps to insure that mixing and filling are always done at chest level or below.

10. The Superintendent shall take all necessary steps to insure that an emergency response plan for the entirety of the Green & Grounds site exists.
11. The Superintendent shall take all necessary steps to insure that the employees of Green & Grounds are oriented to the emergency response plan not less than once every six (6) months.
12. The Superintendent shall take all necessary steps to insure that chemical and pesticide spills are cleaned, removed and reported to authorities in a timely manner in accordance with federal, state and local law and consistent with the product use instructions, including those published in the MSDS.
13. The Superintendent shall take all necessary steps to insure that spilled chemical and/or pesticide materials and/or contaminated soil must be totally removed regardless what the quantity and disposed of in accordance with federal, state and local law and consistent with the product use instructions, including those published in the MSDS.
14. The Superintendent shall take all necessary steps to insure that rinse water is used for mixing subsequent loads of the same pesticide. The last rinse load is applied to a labeled application site, away from water sources.
15. Triple rinsing empty pesticide containers is mandatory.
16. The Superintendent shall take all necessary steps to insure that all plastic, metal, and glass containers are triple-rinsed immediately after use and the rinse water is poured into the spray tank.
17. The Superintendent shall take all necessary steps to insure that used metal and plastic containers are punctured and stored in a covered barrel until taken to a recycling facility or an approved public landfill.

AERIFICATION PROCEDURES

Aeration reduces compaction, removes and controls thatch, modifies the soil, penetrates any layering and creates a seedbed. Not all of these aeration modalities are used simultaneously. Most agronomy problems on a golf course are site specific. The Superintendent shall identify each specific problem and select the correct aeration procedure at the right time. Guyan has several different aerators in its equipment inventory:

1. **Toro Procore 648** – It can be equipped with various types and sizes of tines and will aerate/vent down to a depth of 6 inches. This unit can also be equipped with

very small quad-tines that produce small holes at one-inch spacing. It is used primarily on the greens and tees.

2. **Aerway** – This tractor mount unit is used primarily in the fairways, rough or the practice range.
3. **Toro Hydroject** – This is a walker unit, which can be used on greens, tees, approaches, collars, and wear areas in the rough. This machine injects water into the soil profile instead of air.
4. **Verti-Drain- Deep Tine Tractor Mounted Aerifier**—This unit can be used on greens, tees, and/or fairways. Rarely, a situation may arise that requires emergency aeration in order to keep a green alive. If and when such an emergency occurs, every effort will be made to minimize this disruption to members.

AERIFICATION SCHEDULE

In consultation with the Director of Golf, Golf Professional and Committee, the Superintendent shall publish an annual Aerification Schedule not later than January 31 of each year.

Putting Surfaces

April~ Greens/Collars/Aprons/Tees

1. In 2014, the greens will be aerated on April 7, 8, and 9.
2. Any areas damaged thru winter will need to be aerated and over-seeded as soon as possible to encourage recovery.
3. Seeding, top dressing and fertility may also occur at this time if it is necessary to repair any winter damage.
4. All of the greens will be aerated with the verti-drain using ½” tines at a depth of 10 inches. The pro-core 648 will follow the verti-drain using 1/2” tines at a depth of 5 inches.
5. Sand is used to fill the holes after cores are picked up. Blowers and brooms are used to blow the sand into the holes. The golf course will be closed during this process.

May-August~ Greens/Collars/Aprons

1. The greens will be vented every three weeks to assist in maintaining a healthy root system and to modify the soil with sand and increase the amount of oxygen

and water that are in the soil.

2. Venting is a procedure of using 1/8' round tines at a depth of 5 inches. This process does not disrupt play.
3. After the venting is complete, top dress sand is applied to the putting surface.

September~ Greens/Collars/Aprons/Tees

1. Greens will be aerated the Monday following the Marshall Invitational.
2. All of the greens will be aerated with the verti-drain using 1/2" tines at a depth of 10 inches.
3. The pro-core 648 aerifier will follow the verti-drain using 1/2" tines at a depth of 5 inches.
4. Sand is used to fill the holes after the cores are picked up. Blowers and push brooms are used to blow/push the sand into the holes.
5. The golf course will be closed during this process.

FAIRWAYS

Early May

Subject to suitable weather and soil conditions, fairways will be verticut, top dressed, and or aerified to combat the disease spring dead spot.

August

Subject to suitable weather and soil conditions, fairways may be verticut, top dressed, and/or aerified.

ROUGHS

March

1. Rough will be aerified, seeded, and fertilized each spring.
2. Specific timing depends on weather conditions/soil temperatures.

September

Rough will be aerified, seeded and fertilized each spring depending on weather conditions

Michael J. Farrell
Green & Grounds Committee Chair

Jason Hart
Green & Grounds Superintendent