

Daily Maintenance Plan

Black Mountain Golf Course 2010

Staff: Golf Course Superintendent *56 total man hours daily*
Golf Course Mechanic
3 Full-time Equipment Operators
2 Seasonal Maintenance Workers

Monday – Wednesday – Friday *42 total man hours*

- Mow greens – 1 man / 2 hours
- Mow tees – 2 men/2 hours
- Change cups, pick up trash, and clean restrooms – 2 people / 2 hours
- Mow fairways – 1 man / 8 hours
- Mow approaches – 1 man / 6 hours
- Mow rough – 1 man / 8 hours and 1 man /6 hours
- Rake bunkers on Wednesday - 2 men / 2 hours

Tuesday and Thursday *32.5 total man hours*

- Mow greens – 1 man / 2 hours
- Change putting green cups – 1 man/30 mins.
- Mow fairways – 1 man / 8 hours
- Mow rough – 1 man / 8 hours and 1 man/ 6 hours
- Move tee markers, pick up trash, and check bathrooms – 2 people / 2 hours
- Weed, trim, and clean up landscape beds – 2 people / 2 hours

Tuesdays and Thursdays are historically slow days, so we normally do our chemical applications on those days. We apply fertilizer to greens every two weeks and fungicide on the opposite week. We also have to maintain the irrigation system on a daily basis. In the winter months, we perform what weather will allow. Most of our time in the winter is spent doing yearly rebuilds to all the equipment. We also have to help with snow removal. Most of the time leaks can be fixed by two men, but sometimes we have to pull operators to help. The equipment is maintained by the mechanic and the superintendent several times a week. Weed eating and trim work is performed when all other duties are completed and sometimes have to be overlooked. This is the main reason I feel additional employees are needed to make the golf course into what we all want it to be.

Saturday and Sunday *8 man hours*

- Mow greens – 1 man / 4 hours
- Move tee markers, pick up trash, and check bathrooms – 1 man / 4 hours

Weekend coverage varies during tournaments. All staff is present at that time to set up the course.

Comprehensive Maintenance Plan and Associated Costs

Black Mountain Golf Course 2010

Winter Months (December, January, February, and first of March)

Normally we have to rebuild and perform yearly maintenance on all golf course equipment. This consists of grinding reels and bedknives on one fairway mower, one approach mower, three triplex mowers, and six spare reels. We also have to change the reel and roller bearing on each reel. This work is done by the mechanic and superintendent. The rest of the crew is responsible to daily set-up of the golf course and any special projects. This is also the time of year we assist the public services department with snow removal and some staff use their comp time accrued during the summer for extended PTO.

Costs

- *Rebuilding and grinding 26 reels - \$12,000 and 1440 man hours*
- *Sharpening and replacing 10 blades on rough mowers - \$250 and 8 man hours*
- *Winter projects by the rest of the crew may vary due to snow removal and available funds*

Second ½ of March

This is when all the planning and prep work for the growing season occurs. I develop a fertility plan for the year at this time and order fertilizer and chemicals. I also set-up spring aerification and spring pre-emerge for annual weeds at this time. We also charge the irrigation system and repair any leaks in the system.

Costs

- *Preventative maintenance on irrigation system - \$800 annual contract + \$100 service calls*

April

This is when deep tine aerification is performed on the greens. This is done to bust hard pan clay soils and to incorporate soil amendments (sand and gypsum) throughout the root zone. I firmly believe this has helped some of our greens last as long as they have. We also core aerify and top dress the tee boxes. Once the aerifying is completed and the sand is drug in, we apply our first round of fertilizer to those areas. This is normally a granular fertilizer at ½ pound of nitrogen per 1000/sq feet.

During the month of April, we also have our fairways treated with a pre-emergent herbicide for control of goose grass, crabgrass, and some broad leaf weeds. This application is temperature specific and has to be applied before the ground temperature gets above 65 degrees. This is normally about the second week of the month. By this month, the grass is really growing and we re-establish the stripes in the tees, fairways, and rough. We also edge all the bunkers and add sand to any that need it.

Costs (total \$15,490)

- *Deep tine aerification - \$3200*
- *Sand for topdressing- \$1900 / 52 tons*
- *Fertilizer - \$560 / 20 bags @ \$28 a piece*
- *Pre-emerge for fairways and green surrounds- \$7800*
- *Anderson's Goose and Crab Control for greens and tees- \$2030/ 35 bags at \$58 each*

May

By May, we are in the growing season. Our main focus is on the daily maintenance of the course. Any projects or repair issues are handled by the superintendent and mechanic. This can be time consuming due to the age of the irrigation system and the amount of hours that the mowing equipment is used.

June

The major project in June is the application of insecticides to prevent grubs in the fairways, tees, and greens. This takes roughly two weeks and is performed by the superintendent. We also have to prep the course for the Member-Guest and the Warhorse Open, two of the biggest tournaments of the year. We strive to keep the course in tournament condition at all times. In reality, we cannot do that with our current budget and manpower. The staff goes over and above for these two tournaments. By the end of the month, the heat and the stress from play start to weigh on the course. We normally have to start hand water the greens.

Costs

- *Pre-emergent insecticide for grub control to greens, tees, and fairways - \$5600*

July

Daily maintenance takes up most of our time in July. Hand watering is now a daily task and we normally have two crews responsible for nine holes a piece. The irrigation system is running every night and sometimes has to be manually operated. This means that someone has to be on-site to make sure that the system does not go down during the night.

August

We usually tackle the month of August the same as July. The grass slows down growing due to the heat. This allows us to get landscaping and trim work done that we have to neglect due to the shortage of manpower.

September

After Labor Day, we do our fall aerification to the greens, tees, and fairways. This process varies from year to year depending on the condition of the course. Obviously, this year was hotter and drier than normal and the greens were under severe stress. I elected to use solid tines on all but four greens to keep from adding unnecessary stress to them. With the severe heat and amount of water they required, the root system was very shallow. Pulling a core on those greens could have pulled all the turf up in

chunks. After the greens were aerified, we top dressed and seeded with A1/A4 bentgrass at 2.5 lbs per 1000 square feet. The tees were also aerified, top dressed, and seeded with 550 lbs of Noble Eagle ryegrass. The fairways are also aerified and 10-10-10 fertilizer is applied at ½ lb of Nitrogen per 1000 sq ft. We also fill in any bad spots and seed those areas.

Costs (total \$6317.92)

- *Tines for aerification- \$250*
- *Sand for topdressing - \$1900*
- *Bentgrass seed - \$2387.30/ 250 lbs @ \$9.55 per lb*
- *Ryegrass seed- \$1375/ 550 lbs @ \$2.50 per lb*
- *Liquid fertilizer for greens - \$405.62 for 17 gallons*

October and November

Most of this time is spent dealing with the leaves that fall on the course. All greens and tees are blown off daily. The rest of the leaves are either blown into the creeks and woods or mulched with mowers. This is also when we remove any trees that have died throughout the year.

Additional costs

The only other big expenses in our plan are the bi-weekly fertilizer and disease management program and the cost of upkeep of our aging equipment.

Fertility Program - April- Oct – bi-weekly applications of fertilizer - \$8400 annually

Disease Management Program- year round as needed- \$15000 annually (Bi-weekly applications are scheduled, but sometimes are not sufficient to keep the greens clean of disease.)

Year-end total \$50,807.92

Summer of 2010

This has probably been the most difficult year for golf course maintenance in decades. Not only did the course struggle through a long cold snow filled winter, we also had to deal with the hottest summer on record. The effects have been evident in the breakdown of pre-emergent herbicides used for weed control and the severe thinning of the turf on all areas of the course.

The greens and tees were the hardest hit by these issues. With the extreme heat and the heavy rains we received from time to time, our pre-emergent herbicide applied to control crabgrass, goose grass, and nut sedge had the perfect environment to breakdown, which allowed the weeds to germinate. Once the weeds were growing they were moved all over the course by mowers and foot traffic. Under normal weather conditions a post-emergent herbicide could have been applied to take care of any break through weeds. But once the daily temperature was above 85 degrees this was not an option because of the damage it would cause to the already stressed turf.

The thinning of the turf was also in part due to the extreme heat. Cool season grass grows best when the ground temperature is between 58 and 75 degrees. At 75 degrees, it shuts down completely and starts to die. This has been a problem for golf courses with cool season grass all over the country, but mainly the southeast.

This year's weather has brought forth studies by NC State and Clemson that show that not only did the record days over 90 degrees, but the warm night time temperatures (above 75 degrees) did not allow the grass time to recover and photosynthesize. This, in turn, did not allow the plant to build up reserve carbohydrates to help it get through the hot day time temperatures, which made the root system diminish and the top growth to decrease.

Hand watering is our way as a staff to lower the ground temperature and help the turf survive to a point, but the abundance of water we add to the poorly drained soil created a totally different problem. We increased our disease pressure and made the greens that were already stressed more susceptible to fungi.

With all that being said, this year we were in survival mode most of the summer. We had to prioritize our time. As a result, some of the finish work had to be put off until time allowed. The one positive that has come from this summer is that we have learned from the experience and we will be better prepared in the future.

Response to Recent Concerns

A list of concerns was brought to my attention by the past director of parks and recreation and the chairman of the recreation commission. At that point, we sat down as a team and developed a plan of action to respond to the concerns. Since that point, we have been able to complete everything that was on the list that was not time specific or does not pertain to us. Most of the items on the list are things we have had to put off so that we could insure the normal day to day maintenance duties could be performed. Now that we have addressed the problem and have it under control, we feel we will be able to keep the course in the shape everyone wants it to be in. These concerns did not involve a lot of money, so once the summer heat calmed down we were able devote more man hours to the solve the problems. The staff believes this will improve the appearance of the course, which will make it more marketable and make our product easier to sale.

I was asked by the town manager what I thought we needed to get the course in ideal shape. I think the first thing we need is to establish where we want to fit into the golf market. I think some of the members need to have more realistic expectations and not hold our Town's municipal course to such a high standard. As much as I would like to, we cannot make the course look like a million bucks for any less than just that. We are being compared to courses that have three and four times the budget and manpower. As municipal golf courses go, I feel we are as good if not better than any in the area. I have been told time and time again by members and non-members alike (including those in the golf industry) just how good our course looks. We should take pride in that fact.

I know that the course is not currently in ideal condition, but it is not due to a lack of dedication and hard work from all of the golf course staff. Many of those criticizing the course and the staff seem to forget the long winter and the blistering temperatures and lack of rain this summer. Certain factors are out of our control, no matter what we do. Courses all across the country have struggled and faced adversities like never before. We are no different. However with the decreasing temperatures and recent rainfall, we are nurturing the course back to health.

With that being said, we as a staff will continue working our hardest to make our course the best that it can be. I am proud of the hard work the staff performs on a daily basis.

Long Range Plans

It is our hope that the long range plan that the pro shop has suggested will generate excess revenue for the golf course. With these funds we would like to fine tune our capital improvement plan and address some of our reoccurring problem areas.

CIP Projects in Order of Importance

1. Rebuild 16 green Estimated cost(\$35,000.00 to 40,000.00)
2. Rebuild 4 green Estimated cost(\$35,000.00 to 40,000.00)
3. Rebuild 9 green Estimated cost(\$35,000.00 to 40,000.00)
4. Install new drainage in 1 fairway Estimated cost(\$40,000.00 to 45,000.00)
5. Install new drainage in 5 fairway Estimated cost(\$40,000.00 to 45,000.00)

If we could make enough revenue to do one of these projects a year, this would eliminate a lot of our problem areas and greatly improve the whole appearance of the golf course. Although there are costs related to completing these projects, the end result will be lucrative financially to the operation.