

Required Maintenance Versus Available Labor — Are You Adequately Staffed?

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HOW MUCH maintenance is required on a golf course? Obviously the amount varies with each course, but each course should have a formula for determining what represents an acceptable level of conditioning.

Every superintendent knows the necessary frequency for each maintenance procedure, and he also knows that the quality is diminished if the frequency is disrupted. The question then becomes, "Are there enough staff members to keep up regular maintenance and still deal effectively with additional or emergency requirements that cannot be anticipated?" If an irrigation mainline breaks, do the fairways go uncut? If high winds cut through the course, do you have the manpower to clean up the debris and still run your regular operations?

It is unrealistic to suggest that staff sizes be increased to the point where manpower is available for any unforeseen emergency. Nevertheless, in many cases available labor is not sufficient to accomplish basic maintenance and still keep up with the wishes of the membership. When you reach the point where required routine maintenance cannot be performed consistently, the quality of any golf course will suffer.

Because of this problem, the golf course superintendent should review periodically what types of maintenance he is required to perform, how long it takes, and how many man-hours are

TABLE 1

Basic Required Maintenance vs. Available Labor Analysis

To determine the extent of our man-hour deficiency, a time/task analysis was prepared (see Table 2). The total number of man-hours required to perform every necessary maintenance procedure was calculated. The composite results are as follows:

| | Apr./Oct. | Nov./Mar. |
|---|-----------|-----------|
| Required weekly maintenance | 509 | 380 |
| Required periodic maintenance/weekly average | 114 | 73 |
| Required emergency & project maintenance/weekly average | 50 | 24 |
| Preparation & breaktime hours | 75 | 75 |
| Benefit hours/weekly average | 51 | 51 |
| Total weekly man-hours required | 799 | 603 |
| Total man-hours available | 600 | 600 |
| <i>(includes all staff directly assigned to golf course)</i> | | |
| Deficit man-hours | (199) | (3) |

Given that 799 man-hours are required to maintain the course weekly, April through October, and we have only 600 man-hours available, we are therefore maintaining the course at 75 percent of the required minimum level.

TABLE 2

Time/Task Analysis — Required Weekly Maintenance

| | Day | | | | | | | Apr./Oct. Total | Nov./Mar. Total/Adj. | Explanation |
|------------------------|-----|----|----|----|----|---|---|--------------------|-------------------------|---------------|
| | M | T | W | T | F | S | S | | | |
| Change cups | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 28 | 28 | |
| Putting green cups | 1 | | 1 | | 1 | | | 3 | 3 | |
| Ballwasher water | | 2 | | 2 | | | | 4 | 4 | |
| Sandpro | 3 | 3 | 3 | 3 | 4 | 3 | | 19 | 19 | |
| Trap touch-up | 6 | 6 | 6 | 6 | | 6 | 6 | 36 | 36 | 2 men/3 hours |
| Trap complete | | | | 16 | | | | 16 | 16 | 4 men/4 hours |
| Cut greens jac. | 16 | 8 | 16 | 8 | 16 | 8 | | 72 | 72 | 4 men |
| Cut tees & aprons | 7 | 7 | 7 | | 7 | | | 21 | 14 | |
| 84" mower | 7 | 7 | 7 | | 7 | | | 21 | 14 | |
| Cut fairways | 7 | 7 | 7 | 7 | 7 | 7 | | 35 | 21 | |
| 5-gang rough | 7 | 7 | 7 | 7 | 7 | 7 | | 35 | 21 | |
| GM 72 rough | | | 7 | 7 | 7 | | | 21 | 14 | |
| Spray greens | | | | 6 | | | | 6 | 2 | |
| Spot water | 11 | 11 | 11 | 11 | 11 | | | 55 | — | 1 man/7 hours |
| Sweeping | 4 | 4 | 4 | 4 | 4 | | | 20 | 20 | |
| Irrigation maintenance | 2 | 2 | 2 | 2 | 2 | | | 10 | 3 | |
| Tee divots | | | | | 20 | | | 20 | 20 | 5 men/4 hours |
| Fairway divots | | 16 | | 16 | | | | 32 | 32 | 4 men/8 hours |
| Fairway spot spray | 6 | | | | | | | 6 | 6 | |
| Green syringe | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 14 | — | |
| Dew removal | | | | | 8 | 8 | | 16 | 16 | |
| Ropes & chains | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 19 | 19 | |
| | | | | | | | | 509 | 380 | |

Daily work preparation and break time = 10 minutes A.M. start-up
10 minutes A.M. break
10 minutes pre-lunch
10 minutes post-lunch
10 minutes P.M. break
10 minutes P.M. start-up

60 minutes
× 5 days × 15 men = 75 hours/week

available to get it done. Much the same as he determines how many ounces of pesticide are required to control an agricultural pest, the superintendent can determine how many people are required to perform each maintenance procedure. Just because an individual golf course has always had a 15-man crew doesn't mean that is enough to keep up with constantly increasing maintenance demands. As use increases, and with it revenues, so must the size of the maintenance staff.

Consider the number of man-hours available to be similar to a checking account. In other words, if you have 15 employees multiplied by 40 hours a week, you will have 600 man-hours. If overtime is a regular part of your operation, add this to the total. Once we have quantified the number of man-hours available, we must accurately

quantify the total number of maintenance and associated work hours expected in the same period.

How do we accurately figure how much time it takes to do everything in our operation? In my case, the daily maintenance records for the past few years were reviewed. In a very short time, patterns developed, and based upon historical performance, I was able to come up with some pretty accurate projections for every area. The maintenance hour-consuming items were broken into five groups (Table 1):

1. Mandatory weekly maintenance.
2. Mandatory periodic maintenance, weekly average.
3. Mandatory emergency and/or project maintenance, weekly average.
4. Preparation and break time hours, weekly average.
5. Benefit hours, weekly average.

The next step was to split the operation into two basic time periods — daylight savings time (30 weeks) and standard time (22 weeks) — to allow for the variance in required maintenance during these periods.

TO ARRIVE at the numbers in Table 1, a time/task analysis sheet (Tables 2, 3, and 4) was devised for required weekly maintenance, additional required maintenance, and required emergency and project maintenance. You will also note in Table 1 the daily work preparation and break time amounted to nearly two full-time employees per week. While these hours may not relate to the hours on the course, it provides a good outline for approaching the board, green committee, or ownership concerning the needs of your particular situation.

TABLE 3
Time/Task Analysis — Additional Required Maintenance

| | Hours | Apr./ Oct. No. of Times | Hour Total | Nov./ Mar. No. of Times | Hour Total | Explanation |
|-----------------------|-------|----------------------------------|---------------|----------------------------------|---------------|-----------------------------|
| Green verticut | 3 | 15 | 45 | 5 | 15 | 1 man/3 hours |
| Green topdress | 8 | 10 | 80 | 5 | 40 | 2 men/4 hours |
| Trim apron/verticut | 8 | 7 | 56 | 3 | 24 | 1 man/8 hours |
| Green aerification | 268 | 3 | 804 | 1 | 268 | See below |
| Tee aerification | 84 | 2 | 168 | 2 | 168 | 3 men/4 days |
| Fairway aerification | 140 | 2 | 280 | 1 | 140 | 4 men/5 days |
| Fairway verticut | 7 | 10 | 70 | 1 | 7 | 1 man/7 hours |
| Trap edging | 180 | 4 | 720 | 2 | 360 | 6 men × 6 hours × 5 days |
| Weedeaters | 80 | 4 | 400 | 2 | 160 | 4 men × 4 hours × 5 days |
| Green edging | 80 | 7 | 560 | 3 | 240 | 4 men × 4 hours × 5 days |
| Tee fertilization | 4 | 4 | 16 | 5 | 20 | 1 man/4 hours |
| Green fertilization | 4 | 7 | 28 | 5 | 20 | 1 man/4 hours |
| Fairway fertilization | 8 | 2 | 16 | 2 | 16 | 2 men/4 hours |
| Rough fertilization | 8 | 2 | 16 | 2 | 16 | 2 men/4 hours |
| Rough aerification | 21 | 2 | 42 | 1 | 21 | 1 man/3 days |
| Edge plaques | 4 | 7 | 28 | 2 | 8 | 1 man/4 hours |
| Course flower beds | 28 | 2 | 56 | 1 | 28 | 2 men/2 days |
| Load dumpster | 1 | 28 | 28 | 20 | 20 | 1 man/1 hour 4×/month |
| RTC court squeegee | 4 | | | 10 | 40 | 2 men/2 hours 10×/year |
| | | | 3,413 | | 1,611 | |

Green aerification — 2 men × 3½ days = 49
 Clean plugs — 2 men × 3½ days = 49
 Topdress — 8 men × 1 hour per green × 20 = 160
 Seed amendments — .5 hour per green × 20 = 10
TOTAL: 268

After deciding what must be done, how long it takes, and how often it must be done, it is simple to determine whether or not the maintenance department is staffed to handle the expected maintenance effectively. In this particular case, the course was operating at a deficit level of five employees per week from April through October. What does it mean when you are operating with a regular deficit in man-hours? It means that you must constantly adjust and choose which maintenance procedures to omit periodically or regularly. The result is a situation where the nuances of quality begin to

disappear. In other words, every area listed directly affects the quality of day-to-day playing conditions. Shaggy turf, partially raked bunkers, unswept areas, unfilled divots, puffy fairway and tee surfaces, leaky sprinklers, inconsistent rough, and weed encroachment are the result of deficit maintenance. Sooner or later, maintenance is performed in each of these areas, but not with consistent frequency, which is directly related to consistent quality or the lack of it.

It is not the intention of this article to have the golf course superintendent immediately begin pounding on the

doors of our managers or green committee chairmen demanding more staff members. It is recommended, however, that you take a hard look at your operations, and accurately assess labor needs based on historically acceptable levels of maintenance. Before we can upgrade our operations, we must be able to accurately communicate our needs to our employers. If we can accurately quantify the labor hours required for maintenance procedures, we can legitimately request additional staff when we are required to perform additional maintenance.

TABLE 4
Time/Task Analysis — Required Emergency/Project Maintenance

| | Hours | Apr./ Oct. No. of Times | Hour Total | Nov./ Mar. No. of Times | Hour Total | Explanation |
|--|---------------------------------------|----------------------------------|---------------|----------------------------------|---------------|-----------------------------|
| Mainline repair | 28 | 7 | 196 | 4 | 112 | 2 men × 2 days |
| Grade road | 4 | 7 | 28 | 5 | 20 | 1 man/4 hours |
| Branch clean-up | 4 | 7 | 28 | 5 | 20 | 2 men/2 hours |
| Tree clean-up | 28 | | | 1 | 28 | 4 men/2 days |
| Tree planting | 8 | 2 | 16 | 1 | 8 | 2 men/4 hours |
| Trap renovation | 140 | 1 | 140 | | | 4 men × 1 week |
| Painting | 147 | | | 1 | 147 | 4 men × 1 week+ |
| In-house construction | 105 | 1 | | | | See below |
| Drainage | 140 | 1 | 140 | 1 | 140 | 4 men × 2 weeks per year |
| Herbicide | 105 | 1 | 105 | | | 1 man/3 weeks |
| Rough seeding | 35 | 1 | 35 | | | 1 man/1 week |
| Cart path program | 315 | 1 | 315 | | | See below |
| Apron scalping | 84 | 1 | 84 | | | 2 men/6 days |
| O. B. maintenance | 42 | | | 1 | 42 | 2 men × 3 days |
| Sodding | 140 | 1 | 140 | | | 4 men/1 week |
| Brush clearance | 280 | 1 | 280 | | | 4 men × 2 weeks |
| | | | 1,507 | | 517 | |
| Cart path program — Remove asphalt and grade | — 1 man/3 weeks | | | | | |
| Add soil to edges | — 2 men/1 week | | | | | |
| Seed sod | — 2 men/2 weeks | | | | | |
| Total: | 315 hours | | | | | |
| In-house construction — Tees | — 1 man × 3 weeks = 105 | | | | | |
| Brush clearance | — 4 men × 2 weeks = 280 | | | | | |
| Starter house | — 2 men/2 days = 28 | | | | | |
| Benefit hours — Sick pay | — 8 hours × 5 days × 15 men = 600 | | | | | |
| Vacation | — 8 hours × 10 days × 15 men = 1,200 | | | | | |
| Holiday | — 8 hours × 7 days × 15 men = 840 | | | | | |
| | 2,640 per year = 51 hours per week | | | | | |