Grounds Management 101

George G. Bernardon,
Director of Grounds Management
GCA Services Group

Agenda

- Grounds Management vs. Grounds Maintenance
- What defines a grounds manager?
- Cultural Management Plans
- Time Motion Study / Cost Analysis
- Budgeting
- SOPs / Quality Assurance
- SAFETY
- Equipment
- Top Ten


**Maintenance vs. Management**

- The act of maintaining or the state of being maintained.
- The work of keeping something in proper condition; upkeep.
- To keep in an existing state; preserve or retain:

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**Maintenance vs. Management**

- To direct or control the use of;
- The act of managing something
- Grounds Management provides flexibility in management based on historical data, knowledge, prognostication, reaction, preventive measures and other means.
Grounds Management 101

What is Grounds Management?

- The management of the outdoor environment which includes; lawns, shrubs, trees, ground covers, perennials, annuals, athletic fields / events, soil (not dirt), playgrounds, inclement weather conditions, parking lots, equipment maintenance, furniture moves and all other tasks as assigned by the director of facilities or anyone else with a title.

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Grounds Management 101

- In other words if you have a good grounds management team you can solve 90% of the worlds problems!
Grounds Management 101

What Defines A Grounds Manager

Adjectives that must be found in a resume of a successful grounds manager

- People Skills
- Equipment knowledge
- Resourceful
- Ownership
- Foresight
- Educated
- Neat
- Organized
- Willingness to cooperate
- Perseverance
- Consistent / Uniform
- Planner
- Procedure oriented
- Visionary
- Common sense
- Recognition
- Effort
- Proactive
- Ability to react positively
- Stewardship
What Defines A Grounds Manager cont’d

- Detail oriented
- Pay attention to the little things
- Responsible
- Vigilant
- Inspector
- Detective
- Conscientious
- Safety driven
- Motivated
- Trainable / trainer
- Gambler
- Mentor
- Teacher
- Prognosticator
- No Time Clock

What Defines A Grounds Manager

- And the most important is to be 4D
  - Dedicated to the job
  - Determined
  - Diligent
  - Dependable
## What Defines A Grounds Manager

### Cultural Management Calendar

#### Tree / Shrub and Woody Vine Cultural Management Calendar

<table>
<thead>
<tr>
<th>Task</th>
<th>January</th>
<th>February</th>
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- Optimum
- Good
- O.K.
- No
- Only Emerg

Pertains to all but tropical plants in zone 8b and above
### Cultural Management Calendar

#### Symbols
- C = container
- BR = Bare Root
- BR+ = Bare Root + Supplements
- C+ = Container + Supplements

#### Timing to perform task
- O = Optimum
- G = Good
- K = O.K.
- N = No
- E = Only Emerg

#### Task
- Bed Maintenance
  - Mulch refreshment
- Bed Definition
- Pre-emergent Herb.
- Summer annuals
- Winter annuals
- Fertilization
- Perennials
- Ornamental Grasses
- Bulbs
- Annuals
- Pruning
  - Perennial cut back
  - P. Detail Heading
- Annuals cut back
  - A. pinch spent blooms
  - A. dead heading
- Installation
  - Plant
  - Transplant
- Pest / Transplant
  - Installation
- Pests
- Proper identification is mandatory before any control methods are instituted

Typically, the major insects or disease problems occur in perennial gardens if the proper plant has been chosen for the right place. Monthly inspections should occur and once identification has been made, the proper control methods can be employed. Weed control for the first two years of establishment can follow the schedule on this table. After that spot control can be employed: both pre- and post-emergence.

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### Turf Management Calendar

#### Cool Season Turf

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GCA Services Group Inc
Know What You Are Managing

- Has a site audit been conducted?
  - Time Motion Study / Costing
  - Landscape Master Plan
  - Standard Operating Procedures developed
- Equipment Audit?
  - Is the proper equipment in place?
  - Has it aged beyond being productive?
- Scope of Responsibilities Established
- Standard Operating Procedures in Place
### Time / Motion / Cost Analysis

**Site: Highschool**

<table>
<thead>
<tr>
<th>Description</th>
<th>Speed</th>
<th>Actual width</th>
<th>% productive</th>
<th>Acres / hr</th>
<th>Total Acres</th>
<th>Total time</th>
<th>Labor / hr</th>
<th>Equip / hr per acre</th>
<th>Total</th>
<th>raw labor</th>
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<tbody>
<tr>
<td>Athletic Flds Prem</td>
<td>6.20</td>
<td>15.50</td>
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<td>80.00</td>
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<td>397.50</td>
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<td>Athletic Flds Prac</td>
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**Total area per 1500**

- Weed Eat: $132.00
- Curb & Walk Edge: $245.50

**Total hours on site:** 87.12

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### Time / Motion / Cost Analysis

**Site: Your district**

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<td>0.00</td>
<td></td>
<td>80.00</td>
<td>1066.10</td>
<td>17.90</td>
<td>15.63</td>
<td>$0.00</td>
<td>0.00</td>
<td>$12.50</td>
</tr>
<tr>
<td>Walk Behind 36&quot;</td>
<td>4.17</td>
<td>12.43</td>
<td></td>
<td>80.00</td>
<td>1066.10</td>
<td>17.90</td>
<td>15.63</td>
<td>$3.30</td>
<td>706.08</td>
<td>$12.50</td>
</tr>
<tr>
<td>Trim Mower 21&quot;</td>
<td>0.82</td>
<td>4.78</td>
<td></td>
<td>80.00</td>
<td>1066.10</td>
<td>17.90</td>
<td>15.63</td>
<td>$2.24</td>
<td>497.74</td>
<td>$12.50</td>
</tr>
</tbody>
</table>

**Total area per 1500**

- Weed Eat: $132.00
- Curb & Walk Edge: $245.50

**Total hours on site:** 87.12

---

**Total hours to perform routine mowing maintenance:** 115.47

**Annualized hours to perform routine mowing maintenance:** 4310.27
Deliver consistency

Standard Operating Procedures

Subject: Mow, Edge and Trim Standard Operating Procedure for the care of lawns, sport fields and parks.

Background: This procedure is intended to standardize mowing, edging, and trimming of lawns, sport fields and parks. The procedure is designed to deliver consistent results and ensure the health of the turf and landscape.

Example

Standard Operating Procedures

Subject: Mow, Edge and Trim Standard Operating Procedure for the care of lawns, sport fields and parks.

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Example

POLICY

Areas Affected

Lawns / sport fields and parks will receive a regularly scheduled mowing, mechanical edging, non-filament trimming of fixed objects (excluding living plants), and clean up of the site(s) affected.

Equipment

Rotary mowing equipment will be used on all lawns, parks and sport fields as dictated by specifications, where Reel mowers are specified they will be used. For Rotary mowers it is imperative that blades are maintained sharp and balanced. It is also imperative that ground speed does not exceed rotation of blade resulting in a tearing motion versus cutting. Typically ground speed should not exceed 5 MPH; this recommendation is based on density of turf. The denser the turf the more the ground speed should be slowed to ensure cutting versus tearing. Typically on dense athletic fields ground speed is reduced to a speed of 2.5 to 3 MPH. Steel mowers will have deck/blade sharpened a minimum of once per year (more if use of mower is extensive or conditions warrant) and be back lapped/monthly.

Example

Deliver consistency

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### Deliver consistency

![Image of a running track]

### Quality Assurance Forms

#### Grounds Management Check off Sheet

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHECK CHECK</td>
<td></td>
</tr>
<tr>
<td>1:00 CLEAN UP PROCEDURES</td>
<td></td>
</tr>
<tr>
<td>1:01 GROUNDS / LOTS POLICED BEFORE MOW</td>
<td></td>
</tr>
<tr>
<td>1:02 GROUNDS / LOTS POLICED AFTER MOW</td>
<td></td>
</tr>
<tr>
<td>1:03 WASTE BASKETS EMPTIED / CLEAN</td>
<td></td>
</tr>
<tr>
<td>1:04 WASTE BASKETS WASHED PERIODICALLY</td>
<td></td>
</tr>
<tr>
<td>1:05 PRESSURE WASHING COMPLETED</td>
<td></td>
</tr>
<tr>
<td>2:00 WEEDING</td>
<td></td>
</tr>
<tr>
<td>2:01 ORNAMENTAL PLANT BEDS</td>
<td></td>
</tr>
<tr>
<td>2:02 ORNAMENTAL PLANTERS</td>
<td></td>
</tr>
<tr>
<td>2:03 TREE RINGS</td>
<td></td>
</tr>
<tr>
<td>2:04 SEASONAL COLOR BEDS</td>
<td></td>
</tr>
<tr>
<td>2:05 WALKS, CURBS, DRIVES</td>
<td></td>
</tr>
<tr>
<td>2:06 GRAVEL / COOLING UNIT AREAS</td>
<td></td>
</tr>
<tr>
<td>2:07 PARKING LOTS</td>
<td></td>
</tr>
<tr>
<td>3:00 PRUNING OPERATIONS</td>
<td></td>
</tr>
<tr>
<td>3:01 TREES PROVIDE ADEQUATE CLEARANCE</td>
<td></td>
</tr>
<tr>
<td>3:02 WATER SPROUTS, SUCKERS</td>
<td></td>
</tr>
<tr>
<td>3:03 DEAD WOOD FROM TREES</td>
<td></td>
</tr>
<tr>
<td>3:04 DEAD WOOD, TREES &amp; SHRUBS</td>
<td></td>
</tr>
<tr>
<td>3:05 NATURAL PRUNING COMPLETED</td>
<td></td>
</tr>
<tr>
<td>3:06 GROUND COVERS MAINTAINED</td>
<td></td>
</tr>
<tr>
<td>3:07 LEAF REMOVAL</td>
<td></td>
</tr>
<tr>
<td>3:08 EQUIPMENT REPAIR &amp; MAINTENANCE</td>
<td></td>
</tr>
<tr>
<td>3:09</td>
<td></td>
</tr>
</tbody>
</table>

All items must be checked. If it does not apply, indicate that and briefly explain why. Provide notes below.
### Inspection forms

**Athletic Complex & Field Inspection Form**

- **Campus:**
- **Date:**
- **Inspector:**
- **Follow up Date:**
- **Supervisor:**
- **Date:**

<table>
<thead>
<tr>
<th>Scale 5 - 1:</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Football / Soccer / Field Hockey / Lacrosse fields (Natural Grass)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turf Density - are bare spots visible where turf is thinning</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turf uniform in height - is height appropriate for game conditions</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil compacted - soil hard - rocks or construction debris present</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil too loose to support play, turf shallow rooted - tearing away from the soil</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turf - soil maintained too wet causing slippery conditions</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field properly graded creating a safe playing surface</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divots, holes or uneven grades creating trip hazards exist</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle or equipment rut exist</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable holes or mounds on or in playing surface</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wear, wear or disease damage present</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Turf Density - are bare spots visible where turf is thinning:**
- **Turf uniform in height - is height appropriate for game conditions:**
- **Soil compacted - soil hard - rocks or construction debris present:**
- **Soil too loose to support play, turf shallow rooted - tearing away from the soil:**
- **Turf - soil maintained too wet causing slippery conditions:**
- **Field properly graded creating a safe playing surface:**
- **Divots, holes or uneven grades creating trip hazards exist:**
- **Vehicle or equipment rut exist:**
- **Variable holes or mounds on or in playing surface:**
- **Wear, wear or disease damage present:**

---

### Safety is Important in all operations

**GCA Services Group, Inc.**

**Title: Safety Guidelines for Operating String Trimmer**

**Subject:** General Guidelines for Operating a String Trimmer safely.

**Purpose:** Ensure that all GCA and managed personnel adhere to safety guidelines for String Trimmers (Weed Eaters).

**Background:** Provide supplemental information on the safe use and operation of a String Trimmer in ground management operations.

**POLICY**

**Policy**

It is GCA's, supervisors and user's obligation to instruct and familiarize users in the safe operation of equipment and be sure they read, and follow the instruction for safety procedures, manufacturers operation manual and other material provided by GCA.

**Equipment Operator**

The operator must acknowledge that they have received training, read provided materials and understand all information before operating a String Trimmer.

**Symbols**

Safety Icon symbols provided with equipment to alert the operator of potential personal injury hazards. Safety Icon symbols are used at all times when handling or operating equipment.

**Operate**

String Trimmers require operators to be physically fit and have familiarity with the specific model being operated. Operation must be at least sixteen years of age (16) or older. Children are not allowed to operate String Trimmers.

**Clothing / PPE**

- **Head:** Hard hats must be worn when overhead hazards are present.
- **Eye:** Eye protection must be worn at all times during operation. Face protection must be worn if there is a chance of flying objects to the face.
- **Foot:** Wear adequate footwear. Never wear loose fitting clothing which could get caught in moving parts.
- **Hand:** Wear leather work boots, preferably steel-toed, textured tread and soft rubber soles. Optional PPE may include anti-vibration gloves, dust mask, and back brace. Do not operate equipment while wearing sandals, open shoes, sweaters or shorts.

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12
Safety is Important in all operations

Equipment
Equipment

- Coolest is not always the best!
Equipment

Grounds Management Top 10

- Implement a consistent M.E.T. program
  - Mow – uniformly, with consistency
  - Edge – Use a mechanical edger to define walks, curbs, and other hard surfaces – line trimmers do not give the same definition but in a crunch will suffice.
  - Trim – Line trim all areas inaccessible by mowing equipment with the same frequency and height of mowing.
Top 10

- Rejuvenation pruning
  - Invigorate old plants by cutting back to a few new canes / or shape shrubs in accordance with design intent.
  - Naturalize pruning so that more can be done during the dormant or slow growth season.
  - Stop shearing everything into a box or a ball
  - When shearing be uniform in appearance
  - Shear correctly – not in V form.

---

Top 10

- Weed control in ornamental beds
  - Weed beds through the judicial use of preemergent herbicides prior to the onset of germination.
  - Use Post / preemergent tank mixes – for those that think herbicides are too expensive, what is the cost of labor to weed an acre vs. $150.00 for herbicides and no weeding during the growing season?
For trees in the lawn, define tree rings
- Ensure that rings are uniform in appearance – use SOP’s, i.e.; 4 – 6” trees, 4’ ring, 6 – 8” trees 6’ ring and so on.
- Define edge same as for beds
- Apply mulch if budget permits
- Coalesce trees into groups when feasible to reduce mowing and allow canopies to develop.

Develop a weed abatement program for lawns
- Prioritize areas based on available budget.
- Aggressively go after these areas first and then work around buildings.
- Create site maps for hot spots
Top 10

- Adopt an Integrated Pest Management Program (IPM)
  - IPM does not mean the use of pesticides but being more aware and astute to defining pest, casual agent, and curative measures that can be taken to reduce the population.

---

Top 10

- Define ornamental plant beds
  - Separate to keep turf from encroaching
  - Mulch if budget is available – various types of mulch, organic, composted leaves, inorganic, rubber, etc.
Top 10

- Develop a Landscape Master Plan
  - Look for the original design, has the integrity of the design been managed?
  - No Plan, consult with a professional LA, CGM, or Horticulturists to assist in developing a landscape master plan.
  - Implement the plan over a period of years, up to five if needed.

---

Top 10

- Hire a qualified grounds manager
  - See the adjective list, must have a minimum of five to meet the bill
  - Must have three of the four D’s
  - Must have demonstrated experience – not a custodian that wants to play outside (although this very rarely does work).
Top 10

Ensure that you have the basics to perform grounds management – even if it is only a good mower, start somewhere and build a plan.

Home Gardening tools are not a good fit for a large scale landscape.
Top 10

- Look for the obvious
  - Remove dead or damaged limbs, branches, plants
  - Sweep debris at curbsides, walks, drives
  - Remove guy wires that are girdling plants
  - Repair signs that are too low, or have sharp edges exposed, lean too far over walks etc.

- Don’t overlook the obvious
Top 10

- Develop a management plan
  - Know where you are going
  - Know how to get there
  - Know how much it will cost
  - Plan and budget the cost accordingly
  - Sell the benefit, don’t cry I need

---

Top 10

- Conduct an audit on irrigation system
  - 9 out of 10 operators do not know how much water is being applied, too much or too little
  - Most of the time when irrigation is available too much is applied too frequently.
  - Most systems do not provide uniform distribution of water.
  - This is a waste of a valued natural resource
Top Ten

- **Materials**
  - Use quality materials, cheap is not always better.
  - Example, seed at half the price per pound may contain 5% weed seed. Cost of herbicide and labor to eradicate weeds eliminates the savings in price of seed.
  - Fertilizer is much the same – know what you are using, fast, slow, controlled release, organic, synthetic organic – IT matters

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Top 10

- **Suppliers / Vendors**
  - Good suppliers are invaluable resources not only for quality materials but for second opinions.
  - Extended web of information with those that are in the industry fighting the same battles you are.
Top 10

Professional Organizations
- Professional Grounds Management Society (PGMS)
- Sports Turf Managers Association (STMA) & local chapters
- Professional Landcare Network (PLANET)

Top 10

Soil Testing
- Lawns, conduct bi-annual soil tests
- Sports fields, conduct annual tests – if sand based fields are utilized three tests per year including micro-nutrient testing
- Three to four years for trees and shrubs unless a nutrient deficiency is suspected.
Top 10

- Make it easy

Grounds Management 101

Thank you,

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