


Nutrient Management Plan

<p>Prepared for: Jones Residence 54 East Rd. Town, VA 22543 555-855-5855 r.jones@comcast.net</p>	<p>Prepared by: George Lucas 102 West Main Street Town, VA 22543 Certification #743 g.lucas@planner.net</p>
<p>County: Richmond Watershed: JL25 Plan Written: 4/1/2014 Plan Expires 4/1/2017 Total square footage: 5,200</p>	

Square Footage of Management Area

Front Yard: 5,200

Planner Signature:



Table of Contents

1. Narrative	3
2. Site Maps	4
3. Soil Test Results	6
A. Lawn	6
4. Soil Test Summaries	6
A. Lawn	6
5. Nutrient Application Worksheets	7
A. Lawn (Preventative Crabgrass Plan)	7
B. Lawn	7
6. Fertilizer Application Records	8
7. Reference Material	9

1. Site Description and Supporting Information

The home lawn at 54 East Rd. Town, VA 22543 is a part of the Spring Creek housing development. The house was built in September of 2006. The entire lot is .16 acres with 5,200 square feet currently managed as a tall fescue lawn. After construction of the house the yard was sodded with tall fescue sod from Somerset Turf Farm in Somerset, VA.

Although there is a distinct front and back yard there are no differences in the maintenance practices between the two areas. There are several maple trees and a few evergreen trees planted in the lawn and near the road. These landscape plants do not receive any additional nutrients aside from what the lawn receives.

Surface compaction is moderate on the site with very few roots reaching lower than 4 inches. The site also has the ability to be irrigated using an in-ground irrigation system. The irrigation system was audited in the spring of 2014 and is able to provide 0.5 inches of water per hour. The site is gently sloping from the road to the rear (north) of the property, with slopes less than 2%. There are no environmentally sensitive sites on the property, although fertilizer applications near the ditch that runs along the front (south) of the property should only be made when heavy rain events are not expected.

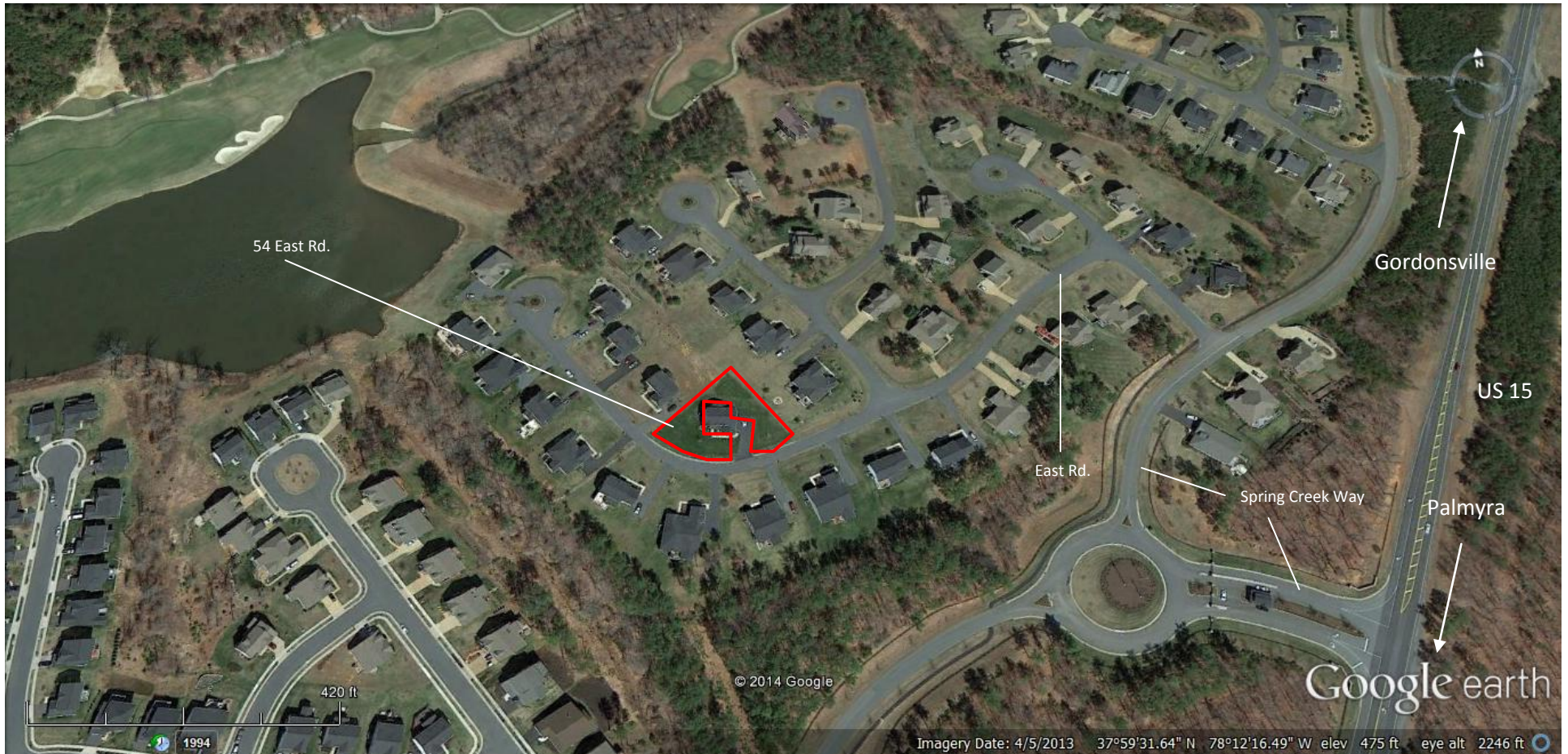
This nutrient management plan is effective for three years and should a major renovation, redesign of the lawn or any major changes to maintenance practices occur please contact your local Master Gardener program to address these changes in the plan. Applications of inorganic fertilizers will not occur on frozen or snow-covered ground. Any fertilizer that makes its way onto impervious surfaces should be swept or blown back into pervious turfgrass-covered areas. Do not use fertilizers as ice melt. Every fertilizer application should be recorded in the record sheet provided. Any questions or concerns with fertilizer products or record keeping should be brought to the plan writer's attention.

54 East Road Fertilization Season

	Killing Frost Dates	Cool Season Applications	Warm Season Applications
Spring	April 15	February 1	April 15
Fall	November 5	December 15	October 5

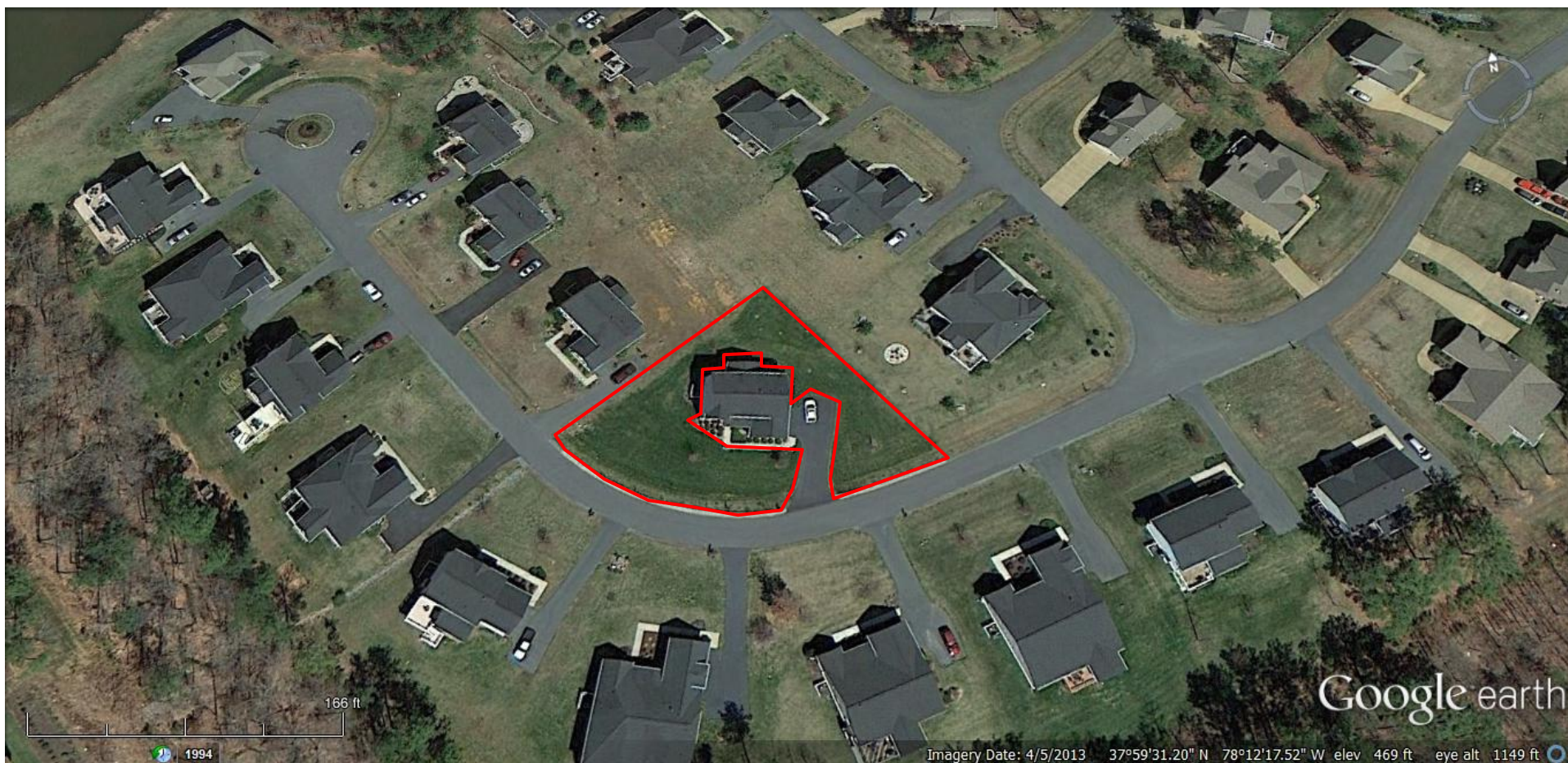
2. Site Maps

Overview Map: Location and Boundaries



Management Areas

Individual Management areas are outlined. Red= Lawn



3. Soil Test Results

Several sub-samples were taken from the entire lawn area from the upper 4" of soil. These sub-samples were taken in a random manner, such as a zigzag pattern to minimize the variability that is present in the sampling area. When sufficient sub-samples from a uniform area were taken they were thoroughly mixed, breaking apart clumps and removing all foreign matter such as roots, stalks, rocks, etc. Because of similar soil and fertility conditions seen in the lawn the entire area is treated as a single management area.

Soil samples were analyzed by Virginia Tech Soil Testing Lab. Standard soil test results provide values for pH, cation exchange capacity, phosphorus, calcium, magnesium, potassium, sodium. The soil samples collected are valid for the life of this plan (three years) or upon a major renovation or redesign of the lawn, whichever occurs sooner.

A. Lawn

Soil pH measures 6.9. No lime is recommended. Phosphorus levels averaged in the High + range. Applications of phosphorus are not recommended. Potassium levels averaged in the Low range. Applications of potassium are recommended, not to exceed 2.5 lbs/1,000 ft² annually. Nitrogen applications may not exceed 3.5 lbs/1,000 ft² annually.

4. Soil Test Summaries

A. Lawn

Managed Area	Soil pH	Buffer pH	Lab P ₂ O ₅ (lbs/A)	VT P (ppm)	VT (H/M/L)	Lab K ₂ O (lbs/A)	VT K (ppm)	VT (H/M/L)
Lawn	6.9	6.52	108	54	H+	26	13	L
Recommendation					H+			L

5. Nutrient Application Worksheets

Applications outlined in the application worksheet will be made each year (2014-2019)

A. Lawn Worksheet (Preventative Crabgrass Plan)

R. Jones			
Management Area	Lawn	Area (Sq. Ft.)	5,200
Turf Species	Tall Fescue		
Application Timing	N/1,000 ft²	P₂O₅/1,000 ft²	K₂O/1,000 ft²
March*	0.5	0	0.5
April*	0.5	0	0.5
September	0.9	0	1.0
October	0.9	0	0
November	0.5	0	0
Total	3.3	0	2.0

Notes:

- *The two spring applications of nutrients are recommended as a part of an herbicide program. These applications should be made using a fertilizer product that has 0 phosphorus and contains some type of crabgrass pre-emergent herbicide. If it is deemed the herbicide program is not necessary, please follow application worksheet B. below. If you have any questions please contact your local Master Gardener program.
- The fertilizer used must contain sources of slow or controlled release fertilizer. This information will be present on the fertilizer label.

B. Lawn Worksheet

R. Jones			
Management Area:	Lawn	Area (Sq. Ft.)	5,200
Turf Species:	Tall Fescue		
Application Timing	N/1,000 ft²	P₂O₅/1,000 ft²	K₂O/1,000 ft²
March*	0.5	0	0
September	0.9	0	1.0
October	0.9	0	1.0
November	0.5	0	0
Total	2.8	0	2.0

Notes:

- *Only make this application if necessary
- The fertilizer used must contain sources of slow or controlled release fertilizer. This information will be present on the fertilizer label.

6. Fertilizer Application Record

			Management Area:	
Date of Application (M/D/Y)	Applicator	Fertilizer Analysis (ex. 10-0-10)	Rate of Total Product per 1,000 ft ²	Total Amount of Product Used (For Entire Area)

Calibrating Your Lawn Spreader

John Hall III, Extension Agronomist, Turf

Diane Relf, Extension Specialist, Consumer Horticulture

Patricia Carry, Extension Technician

Jim May, Extension Technician, Departments of Agronomy and Horticulture, Virginia Tech

There are two basic types of fertilizer spreaders for use on the home lawn: the drop and the broadcast.

The drop type spreader (shown at left) "drops" a set rate of fertilizer. This type is best suited for a limited space in order to avoid wide dispersal on sidewalks and driveways. The amount of fertilizer that is spread depends on the opening setting, the type of fertilizer used, and the speed at which the spreader is pushed.

The broadcast type, also called the rotary or cyclone type, (shown at right), has a rotating disc that "throws out" a circular pattern of fertilizer as it is pushed. This type is best suited for large areas with a wide dispersal range to cover. Both types of spreaders have opening settings for different fertilizer formulations. The settings are only approximate at best, and it is important to calibrate the spreaders before they are used.

Too much fertilizer can be harmful to the lawn and may lead to water pollution through run-off or leaching of nutrients. Some brands of fertilizers have setting information on the bag; other brands don't. Since the amount of nitrogen in fertilizers varies, remember that you should be figuring your application rates from pounds of nitrogen needed, not just pounds of product.

Using the percentage of nitrogen from the fertilizer analysis on the bag, you can accurately figure how much to apply by using the formula:

Desired lbs. of Nitrogen

$$\frac{\text{per 1,000 sq. ft.} \times 100}{\% \text{ Nitrogen in fertilizer}} = \frac{\text{lbs. of fertilizer}}{\text{to apply desired lbs. of Nitrogen to 1,000 sq. ft.}}$$

For example, if you want to apply 1.0 lb. of nitrogen per 1,000 sq. ft. using a 29-4-8 fertilizer you would set up the formula as shown here:

$$\frac{1.0 \times 100}{29} = \frac{3.44 \text{ lb. of 29-4-8 required}}{\text{to apply 1.0 lb. of Nitrogen to 1,000 sq. ft.}}$$

Before calibrating your spreader, walk off or measure the length and width of your lawn. Multiply length x width to get area in sq. ft. If you have several smaller areas, simply add them up to get your total lawn area. Record this number for future reference. This number is important to check for accurate fertilizer application.

If you know how much lawn area you have and how much fertilizer to apply per 1,000 sq. ft., you can then determine the total amount of fertilizer to purchase and apply.

For example, if your lawn area is 5,000 sq. ft. and you want to apply 1 lb. of nitrogen per 1,000 sq. ft. using 29-4-8:

$$\frac{3.44 \text{ lb.}}{1,000 \text{ sq. ft.}} = \frac{17.20 \text{ lbs.}}{5,000 \text{ sq. ft.}}$$

Next, you must actually calibrate the spreader so it will spread the fertilizer at the correct rate. For the calibration of a drop type spreader, make a V-shaped or box-

shaped trough out of heavy cardboard or a piece of aluminum guttering; attach it beneath your spreader to catch the fertilizer as it comes out. Set the spreader on the manufacturer's suggested number, put the fertilizer into the spreader and push it over a 100 sq. ft. area.

If your spreader is:

1.5 ft. wide go forward 66.6 ft.

2 ft. wide go forward 50 ft.

3 ft. wide go forward 33.3 ft.

Weigh the collected material and multiply by 10. This will give you the amount that would be applied for 1,000 sq. ft. Most fertilizer recommendations are given on a 1,000 sq. ft. basis. If you applied the incorrect amount, too much or too little, adjust the setting number appropriately and try again. When you get the correct amount of fertilizer pouring through the spreader, record the setting number so you don't forget it next time.

A broadcast spreader is a bit more difficult to calibrate since you can't catch the fertilizer as it's being thrown out. In this case, first weigh out an amount of fertilizer to cover a specific size test area; for instance, enough for a 200 sq. ft. area.

Note that this area is 1/5 of the area in which you did the fertilizer calculation. Therefore, in the example we have been using, you would only need to put $3.44/5 = 0.69$ lb. of 29-4-8 fertilizer in the spreader to apply the correct amount of nitrogen to the 200 sq. ft. area. Mark a starting point, then push the spreader several feet to measure the width over which the fertilizer is effectively spread. Now calculate and mark off a 200 sq. ft. area from the original starting point. For example, if your spreader throws out a 10 ft. effective width, mark off a total of 20 ft. ($10 \times 20 = 200$ sq. ft.), and complete spreading the fertilizer over 200 sq. ft.

Increase the setting number if there is still fertilizer in the hopper. If you ran out of fertilizer before finishing, close down the setting. Repeat the tests to get it just right. Move across your lawn as you do this to avoid overfertilizing. Once you get an accurate setting, record the setting number for future use.

Another point to remember is to calibrate the spreader over the lawn area, not on the driveway or street. Not only are you wasting money, the fertilizer will be washed into storm drains or creeks and other water systems.

Never leave unused fertilizer in the hopper. Fertilizer salts are corrosive and could ruin the spreader. Be sure to collect unused fertilizer and pour it back into the bag, not on the driveway or road. The spreader should be rinsed thoroughly with water and allowed to dry. Oil the spreader with a light machine oil to prevent rusting and keep the working parts in good condition.

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Reviewed by Mike Goatley, Extension specialist, Crop and Soil Environmental Sciences