

Lesson C4–4

Pricing Landscape Maintenance Work

Unit C. Nursery, Landscaping, and Gardening

Problem Area 4. Landscape Maintenance

Lesson 4. Pricing Landscape Maintenance Work

New Mexico Content Standard:

Pathway Strand: Power, Structural and Technical Systems

Standard: VI: Examine structural requirements to estimate project costs.

Benchmark: VI-A: Use bids and billing information to develop a complete materials list and project cost estimate.

Performance Standard: 3. Identify elements of project cost estimate (materials, labor, administrative, etc.).

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1. Identify the skills a landscape maintenance technician should master.
2. Describe how to estimate landscape maintenance costs.
3. Describe some advantages and disadvantages of using computer spreadsheets in the landscape maintenance business.

List of Resources. The following resources may be useful in teaching this lesson:

Recommended Resources. One of the following resources should be selected to accompany the lesson:

Biondo, Ronald J. and Charles B. Schroeder. *Introduction to Landscaping: Design, Construction, and Maintenance*, Second Edition. Danville, Illinois: Interstate Publishers, Inc., 2003.

Ingels, Jack E. *Landscaping: Principles and Practices*, Fifth Edition. Albany, New York: Delmar Publishers, 1997.

Other Resources. The following resources will be useful to students and teachers:

Schroeder, Charles B., et al. *Introduction to Horticulture*, Third Edition. Danville, Illinois: Interstate Publishers, Inc., 2000.

List of Equipment, Tools, Supplies, and Facilities

Writing surface
Overhead projector
Transparencies from attached masters

Terms. The following terms are presented in this lesson (shown in bold italics):

Computer spreadsheet
Contingency cost
Estimate sheet
Job cost
Landscape maintenance
Landscape maintenance technician
Overhead costs
Profit
Total project cost

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Begin by mentioning that when most people consider landscape maintenance, they immediately think about mowing an area of turfgrass. Ask whether the students who cut their grass at home are paid. If so, how was the amount they were paid determined? Proceed by discussing the fact that if the students owned a landscape business, they would need some method of determining how they would charge customers for services rendered. If they owned a business, would they charge the same amount for every job? Would their charge be based on what their competitors are charging? Introduce the concept that pricing landscape

maintenance work is challenging. The owner of a landscape maintenance business cannot survive on just a knowledge of horticulture. Certain business aspects must be considered in order for the business to be successful.

Summary of Content and Teaching Strategies

Objective I: Identify the skills a landscape maintenance technician should master.

Anticipated Problem: What skills must a landscape maintenance technician master?

- I. **Landscape maintenance** is the continued effort to preserve the existing landscape. A **landscape maintenance technician** is the person who is trained and given the responsibility of preserving the landscape. Landscape maintenance technicians learn skills through formal and informal education. The cost of landscape maintenance is influenced by the types of skills or jobs conducted. These jobs or skills include the following.
 - A. Safety—safety should be the number one priority. An understanding of safe tool and equipment operation is essential. Training in first aid is also recommended.
 - B. Reading a plan—the ability to read and understand a plan in order to interpret the designer’s intent is crucial. Measurements can also be taken from the plan to calculate maintenance costs.
 - C. Plant identification and care—the ability to identify plants and an understanding of specific cultural requirements is valuable.
 - D. Grading and establishing turf—technicians should be able to level and grade an area and properly plant sod, plugs, or seed.
 - E. Identification of irrigation components—since irrigation systems are common in landscapes, a technician needs to understand the function of each part of the system.
 - F. Programming controllers—irrigation controllers are the key that allows precise watering at specific times. Knowledge of how they work and are installed is essential.
 - G. Lateral line repair and head adjustment—since these are essential parts of irrigation systems, knowledge of how to adjust and service them is valuable.
 - H. Trucks and trailers—mastery of the tasks required by state licensing agencies is important.
 - I. Transplanting woody plants—a technician should possess knowledge of the planting procedures and care of newly planted plants.
 - J. Pruning techniques—an understanding of reasons for pruning and various pruning techniques is important.
 - K. Mowing turfgrass—a great part of landscape maintenance work involves mowing turf operation. Knowledge of mowing heights, bagging requirements, and safe mower operation is beneficial.
 - L. Aerating turfgrass—Technicians should recognize when soils need aerification and understand the safe operating of aerating equipment.

- M. Edging and trimming—training is essential in providing a clean appearance to the landscape.
- N. Pesticide safety—the ability to mix and apply pesticides in accordance with label instructions is crucial. This ability protects the technician, living things in the area, and the employer.
- O. Fertilizing—Technicians should be able to choose fertilizers for specific uses and calculate the correct amounts to be applied.

Knowledge of landscape maintenance skills is essential to determining landscape maintenance costs. Use TM: C4-4A to summarize some of the common skills or jobs that are associated with landscape maintenance. Ask the class to name how frequently these skills would be applied in the maintenance of a landscape. Would they be conducted once or twice a year? Or are they done on a more regular basis like weekly? An understanding of the specific work and its frequency is needed in order to develop accurate costs for landscape maintenance. Without this knowledge, costs cannot be calculated accurately. Not having access to accurate costs will prevent the business from operating at a profit.

Objective 2: Describe how to estimate landscape maintenance costs.

Anticipated Problem: How are landscape maintenance cost estimates determined?

- II. It is important to understand that nearly every landscape maintenance company uses a different method for calculating an estimate. There is no industry standard. However, from a business standpoint it is essential to determine a method for accurately pricing maintenance work. Accurate pricing includes using an estimate sheet and understanding the procedures for completing it.
 - A. An **estimate sheet** is a form for calculating prices. It is for the landscaper only. The customer receives a proposal sheet or contract with prices listed. It is best if identical forms are used for each individual project. The following information is usually included on an estimate sheet:
 1. Job name, location, and date that the estimate is prepared.
 2. The size of the job and the work to be completed.
 3. The number of hours and materials to be used in completing the job.
 4. A calculation of the cost of the labor and materials used on the project.
 - B. A procedure for establishing landscape maintenance costs using an estimate sheet is as follows:
 1. Using actual wage rates and materials costs, calculate the total costs for the project.
 2. The **job cost** is the cost of the labor and materials necessary to complete a specific task or job. If a task such as mowing is completed a number of times during the year, the job cost is multiplied by the number of times the job is done in order to calculate total annual costs.

3. **Overhead costs** are general costs associated with running a business. They include costs like insurance, utilities, and lease payments. A general rule is to calculate overhead costs at 20 percent of the job cost.
4. A **contingency cost** accounts for unanticipated expenses. Such expenses include theft of materials and equipment breakdowns. An acceptable contingency charge is calculated by adding 10 percent to overhead and job costs.
5. A cost summation is the adding together of the job costs, overhead costs, and contingency costs.
6. **Profit** is the amount of money received after deducting all project costs. A fair rate of profit is 20 percent of the cost summation.
7. **Total project cost** is the sum of the cost summation and the profit. It is the price that is presented on a proposal sheet or contract to a customer.

Display TM: C4-4B and use it to help students understand the format of a cost estimate sheet. Use classroom discussion to reinforce the various costs that go into calculating the total project cost. It would be ideal to invite a local landscaper to visit the class. He or she could provide insight into the various costs that influence the prices customers are charged. The Introduction to Landscaping Activity Manual has a good exercise on preparing a landscape maintenance sheet. It provides good application of the content associated with this objective. Whether the activity is completed or not, divide the class into groups of three or four and have them calculate their own cost estimate sheets for a fictitious landscape maintenance company. Review the estimate sheets as a class and identify the particular strengths and weaknesses of each.

Objective 3: Describe some advantages and disadvantages of using computer spreadsheets in the landscape maintenance business.

Anticipated Problem: What are some advantages and disadvantages of using computer spreadsheets in the landscape maintenance business?

- III. A **computer spreadsheet** is an all-purpose computer program that is useful for tasks involving the organization of numbers. They are efficient tools in calculating costs, preparing estimates, and keeping records.
 - A. Advantages of using computer spreadsheets include:
 1. Savings in time required to calculate costs.
 2. Space required to save records is relatively small.
 3. Provide a finished, professional appearance to the customer.
 4. Allow for quick cost comparisons between projects.
 - B. Disadvantages of using computer spreadsheets include:
 1. Training may be required to operate software.
 2. Initial investment in new equipment and software may be substantial.
 3. Continued investment required to keep up to date.

Use TM: C4–4C to illustrate a computer spreadsheet program used to calculate landscape maintenance costs. Invite a landscape contractor to visit the class. Ask the contractor to describe the use of computers and spreadsheets in the industry. Have the class determine if most companies use computers to calculate costs and prepare estimates. Also have them determine what spreadsheet programs are most commonly used. Are these programs the popular spreadsheet programs like Excel and Lotus? Or, are they programs developed specifically for the landscape maintenance industry?

Review/Summary. Concentrate the review and summary of the lesson around the student learning objectives. Call on students to explain the content associated with each objective. Use their responses as a basis for determining whether any areas need to be covered again. The questions at the end of the chapter in the recommended resource text will also be helpful in reviewing the lesson's content.

Application. Application can involve the exercises contained in the *Introduction to Landscaping: Design, Construction, and Maintenance Activity Manual*. Having teams develop their own estimate sheets is also an excellent way to apply the lesson's content.

Evaluation. Evaluation should focus on student achievement of the objectives for the lesson. Various techniques, such as student performance, can be used on the application activities. A sample written test is also attached.

Answers to Sample Test:

Part One: Matching

1 = c, 2 = a, 3 = b, 4 = e, 5 = d

Part Two: Completion

1. total project cost
2. landscape maintenance technician
3. Overhead costs
4. job

Part Three: Short Answer

1. Use TM: C4–4A and the information outlined in Objective 1 to grade answers.
2. Use the information presented in Objective 2 to grade answers.

Test

Lesson C4–4: Pricing Landscape Maintenance Work

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

- a. computer spreadsheet c. estimate sheet e. profit
b. landscape maintenance d. contingency costs

- _____ 1. A form used for calculating prices.
_____ 2. An all-purpose program useful for tasks involving the organization of numbers.
_____ 3. Continued efforts to preserve the existing landscape.
_____ 4. The amount of money received by a business after deducting all project costs.
_____ 5. Account for unanticipated expenses like theft or equipment breakdowns.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

1. The sum of the cost summation and profit is the _____.
2. A _____ is the person who is trained and given the responsibility for preserving a landscape.
3. _____ are general costs associated with running a business.
4. The _____ cost is the cost of labor and materials necessary to complete a specific task or job.

Part Three: Short Answer

Instructions. Provide information to answer the following questions.

1. List and briefly explain five skills needed by landscape maintenance technicians.
2. Contrast the differences between an estimate sheet and a customer proposal form or contract.

COMMON SKILLS NEEDED BY LANDSCAPE MAINTENANCE TECHNICIANS

- 1. Knowledge of safety**
- 2. Ability to read plans**
- 3. Ability to identify and care for plants**
- 4. Skill in grading and establishing turf**
- 5. Understanding of irrigation components and controllers**
- 6. Ability to safely operate equipment (trucks and trailers)**
- 7. Knowledge of procedures and care of new transplants**
- 8. Understanding of mowing requirements**
- 9. Ability to mix and safely apply pesticides**
- 10. Knowledge of fertilizer composition and application rates.**

TM: C4-4B

LANDSCAPE MAINTENANCE ESTIMATE SHEET						
JOB NAME					DATE	
JOB LOCATION						
JOB DESCRIPTION						
Description	Number of times done annually	Hours per visit	Labor cost (\$7.00/hour)	Material costs	Job cost	Total annual cost
Mowing and trimming 10,000 sq. ft.	30	2	\$14.00	0	\$14.00	\$ 420.00
Edging	3	2	\$14.00	0	\$14.00	\$ 42.00
Fertilize turfgrass	3	1	\$ 7.00	\$50.00	\$57.00	\$ 171.00
Broadleaf weed control	2	1	\$ 7.00	\$20.00	\$27.00	\$ 54.00
Aerate turfgrass	1	2	\$14.00	0	\$14.00	\$ 14.00
Prune woody plants	3	2	\$14.00	0	\$14.00	\$ 42.00
Fall clean up	1	4	\$56.00	0	\$56.00	\$ 56.00
Subtotal annual costs (labor + materials)						\$ 799.00
					Overhead costs (subtotal annual costs × 20%)	\$ 159.80
					Contingency costs (subtotal annual costs + overhead × 10%)	\$ 95.88
					Cost summation (subtotal annual costs + overhead + contingency)	\$1,054.68
					Profit (cost summation × 20%)	\$ 210.94
					TOTAL (cost summation + profit)	\$1,265.62

TM: C4-4C

Microsoft Excel - maintenance bid sheet.xls

File Edit View Insert Format Tools Data Window Help

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	A	B	C	D	E	F	G	H	I	J	
1											
2		LANDSCAPE MAINTENANCE SPREADSHEET									
3											
4		Lawn	Lawn	Lawn Weed	Pruning	Weeding	Raking	Totals			
5		mowing	fertilizing	Control	shrubs	Flower beds	leaves				
6											
7	Area to maintain	16,000	16,000	16,000	800	200	17,000				
8	No. times/year	30	4	2	1	5	3				
9	Minutes/1,000 sq. ft.	5	1	3	180	60	30				
10	Total hours/year	40.0	1.1	1.6	2.4	1.0	25.5	71.6			
11	Wage rate per hour	\$ 15.00	\$ 25.00	\$ 25.00	\$ 20.00	\$ 15.00	\$ 15.00				
12	Total labor charge/year	\$ 600.00	\$ 26.75	\$ 40.00	\$ 48.00	\$ 15.00	\$ 382.50	\$ 1,112.25			
13	Material cost/1,000sq.ft.		\$ 1.50	\$ 2.00							
14	Total material cost/year		\$ 96.00	\$ 64.00				\$ 160.00			
15											
16				Total Yearly Maintenance Charge				\$ 1,272.25			
17											
18											
19											
20											