Property Maintenance for Managers





C



LIMITS OF LIABILITY AND DISCLAIMER OF WARRANTY

© 2014 by the National Apartment Association, 4300 Wilson Boulevard Suite 400 Arlington, VA 22203. All rights reserved. The course materials or any part thereof may not be reproduced, stored in a retrieval system, or transmitted, in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, or otherwise, without the prior written permission of the National Apartment Association Education Institute (NAAEI).

NAA retains copyright to the original materials and to any translation to other languages and any audio or video reproduction, or other electronic means, including reproductions authorized to accommodate individual requests based on religious or medical deferments from classroom participation.

DISCLAIMERS

Although NAAEI programs provide general information on apartment management practices, NAAEI does not guarantee the information offered in its programs is applicable in all jurisdictions or that programs contain a complete statement of all information essential to proper apartment management in a given area. NAAEI, therefore, encourages attendees to seek competent professional advice with respect to specific problems that may arise. NAAEI, their instructors, agents, and employees assume no responsibility or liability for the consequences of an attendee's reliance on and application of program contents or materials in specific situations. Though some of the information used in scenarios and examples may resemble true circumstances, the details are fictitious. Any similarity to real properties is purely coincidental. Forms, documents, and other exhibits in the course books are samples only; NAAEI does not necessarily endorse their use. Because of varying state and local laws and company policies, competent advice should be sought in the use of any form, document, or exhibit.

POLICY STATEMENT REGARDING THE USE OF RECORDING DEVICES, AUDIO VISUAL EQUIPMENT, AND OTHER MEANS OF REPRODUCTION OR RECORDING OF THE "CERTIFIED APARTMENT MANAGER" MATERIALS

All program contents and materials are the property of the National Apartment Association Education Institute, which strictly prohibits reproduction of program contents or materials in any form without the prior written consent. Except as expressly authorized in writing in advance, no video or audio recording of NAAEI programs or photocopying of "Certified Apartment Manager" materials is permitted. Authorized recording of programs or duplication of materials may be done only by the instructor on site.



ACKNOWLEDGMENTS

SUBJECT MATTER EXPERTS

The NAA Education Institute wishes to thank the following apartment industry professionals for contributing their time and expertise to the rewrite of the Certified Apartment Manager Research, Analysis and Evaluation program:

Lead Subject Matter Expert

Susan E. Weston, CAM CAPS, NAAEI Faculty Licensed Texas Broker Professor, University of North Texas School of Business **The Susan Weston Company** 2655 Mount View Drive Dallas, TX 75234-6239 972.308.6092 Office 972.415.6299 Cell <u>Susan@susanweston.com</u> <u>www.susanweston.com</u>

KEY CONTRIBUTORS

- David Jolley, CAMT
- Howard L. Campbell, Ph.D.
- Fisher & Phillips, LLP
- Kimball, Tirey, and St. John, LLP
- Sue Weston, CAM, CAPS

Property Maintenance for Managers

Table of Contents

Chapter 1: Maintenance Using a Team Approach	1-1
Chapter Overview	
Overview of Maintenance	
Developing a Team Approach	
Simple Repairs Anyone Can Do	
Chapter 2: The Onsite Manager's Role	2-1
Chapter Overview	
Chapter 2: The Onsite Manager's Role Chapter Overview A Property Manager's Responsibilities.	
Setting High Quality Standards	
Hiring Maintenance Personnel	
Assigning and Evaluating Work	
Using a Contractor	
The Bidding Process The Contract	
The Contract	
Vendor Management	
Chapter 3: Exterior Maintenance Chapter Overview	3-1
Chapter Overview	
Elements of Exterior Maintenance	
Property Inspections Common Area Maintenance Checklist	
Common Area Maintenance Checklist	
Building Maintenance Checklist (Exterior)	
Chapter 4: Interior Maintenance Chapter Overview	4-1
Elements of Interior Maintenance	- 4-1 م 1
Make Ready Maintegener	
Make-Ready Maintenance Unit Interior Maintenance Checklist	
Building Maintenance Checklist (Interior)	
Managing Inventory	
Chapter 5: Preventive Maintenance	5-1
Chapter Overview	_
Overview of Preventive Maintenance	
Developing a Preventive Maintenance Program	
Assigning Personnel to Complete the Work	
Monitoring the Preventive Maintenance Program	
Conservation	
Toolbox	Toolbox-1
Overview	
Maintenance Skills Checklist	
Periodic Services Agreement Between Owner and Service Provider	Toolbox-4

Table of Contents, Continued

Service Agreement Between Owner and Contractor	Toolbox-12
Asphalt Sealcoat Specifications	
Parking Area Striping Specifications	
Sample Service Request Form	
Sample Service Request Summary	
Sample Certificate of Insurance	Toolbox-26
Sample Property Inventory Form Sample Preventive Maintenance Schedule	Toolbox-27
Activities	Activities
Skill Checks	Skill Checks
Slides	Slides

Chapter 1: Maintenance Using a Team Approach Chapter Overview

In this chapter The table below lists the topics in this chapter.

Торіс	See Page
Overview of Maintenance	1-2
Developing a Team Approach	1-3
Simple Repairs Anyone Can Do	1-6

Overview of Maintenance

<u>aintenance</u> refers to the upkeep and repair of property and equipment. It volves different tasks, including:
 make ready services; daily property, mechanical, and curb appeal inspections; preventive maintenance services and retrofitting, and; timely, quality responsiveness to resident service requests.
good Maintenance Supervisor can save and control costs more than any ther source. They can do this by proper diagnosing and replacement of the art vs. the entire unit. The objective is maximum results at minimum, rudent costs. Community Managers can make a major contribution to the roperty's financial condition with increased maintenance efficiency, expense ontrol or reduction, and a scheduled preventive maintenance program that stends the life of equipment, fixtures, and structures.
Yell maintained properties will also assist in the recruitment and retention of killed maintenance personnel. Maintenance Technicians who increase their kill levels and accept greater responsibility create a stronger team and otentially add greater value to the property.
 he short answer is that everyone is responsible for the appearance and bkeep of the property. The Community Manager along with the aintenance Supervisor or Service Manager is required to: Know what maintenance work must be done Take a proactive approach to resolving maintenance issues Make decisions Create a plan (daily, weekly and long term) Develop a budget Communicate regularly Work with residents and contractors, and Understand the duties/responsibilities of maintenance personnel.

Developing a Team Approach

The manager's responsibility	Although the Maintenance Supervisor or Service Manager typically supervise and direct the work of maintenance personnel such as technicians, groundskeepers, janitors, and make-ready technicians, it is the Community Manager's ultimate responsibility for the property's effective functioning including maintenance operations.
	The manager, through leadership communication and example, creates the environment where everyone is a part of the maintenance program from taking the service requests from the residents to performing the completed task in a timely and satisfactory manner to the resident.
What needs to be done	To develop the team approach to ensure a well-maintained property the community manager must:
	 establish quality standards; share responsibilities; value the employees; set obtainable goals; and provide training opportunities for maintenance personnel and encourage professional development. Following are some important things the community manager can do.
Emphasize the team approach	 Some ways you can emphasize the team approach are: Share information and decision making. Inform the staff that maintenance and curb appeal is everyone's responsibility, not just maintenance personnel. Make sure the office staff knows how to take accurate and detailed service requests, saving time and money by getting the work done right the first time which means higher resident satisfaction. Encourage residents to report maintenance needs promptly before they become more costly repairs or emergencies. Follow up to make sure repairs were completed and that you have a satisfied resident.

Developing a Team Approach, Continued

Actively seek input	Some ways to actively seek input are:
mput	 Make a point of speaking with the Maintenance Supervisor or staff every day. Know what maintenance or repair activities are scheduled for the day.
	 Make sure a discussion about maintenance is part of every staff meeting even if it is only a brief update, mention of a new situation or issue or words of encouragement or praise for everyone's effort. Engage residents in conversations both on the grounds and in their
	 homes. Develop a network for finding help - use schools, temporary employees, contractors and vendors.
	 Listen, discuss and/or explain specific problems. Seek input for possible decisions and timeframes. Not every problem is urgent.
	 Respect workloads and schedules. Work with your Maintenance Supervisor to set schedules for daily, weekly, monthly and overtime maintenance work.
Use effective time	Some ways to help people be more time efficient are:
management skills	 Work with the Maintenance Supervisor to delegate tasks. Assist maintenance staff in prioritizing their individual assigned tasks.
Support and value	Some ways to show support are:
everyone's contribution	 Treat everyone as an important part of the team. Promote mutual respect for every team member. Respect and understand cultural influences.
C	 When situations arise that make people feel uncomfortable, be involved in finding an agreeable solution. Be aware of stereotypical attitudes and practices.
	Continued on next page

Developing a Team Approach, Continued

Use training Some training opportunities for building a team approach to maintenance include:

- Encourage and support maintenance staff members to earn the Certificate for Apartment Maintenance Technicians (CAMT) offered by the National Apartment Association Education Institute (NAAEI), and
- Involve team members in property and apartment home inspections.

In particular, utilize the training offered by NAAEI as part of CAMT certification program. This Certificate for Maintenance Technicians (CAMT) program is available for local apartment associations and apartment management companies and can be taken as part of a national program with the instructor provided by NAAEI or through local apartment association sponsorship. The curriculum is the same.

CAMT training has seven courses designed as an introduction for new maintenance professionals or as a refresher for the more experience maintenance technician. The purpose remains the same; to give these professionals the knowledge and tools necessary to run an effective maintenance operation. There are two non-technical courses consisting of online learning followed by online practices scenarios; the five technical courses consist on hands on classroom training followed by online practice situations.

The non-technical courses include "Inside the Apartment Business" and "People, Projects, and Profits". The technical courses are: Electrical Maintenance and Repair; Plumbing Maintenance and Repair; Heating, Ventilation and Air Conditioning (HVAC) Maintenance and Repair; Appliance Maintenance and Repair; Interior and Exterior Maintenance and Repair.

Prerequisites for the certification are one year of apartment or rental housing maintenance experience, successful completion of the seven courses and online content noted above, and meeting all examination requirements within 24 months of declaring candidacy for CAMT.

For further information go to: www.naahq.org/education/designationprograms.

Developing a Team Approach, Continued

ReportSoresults,celebrate•success, andencouragetraining

Some ways you can report results and celebrate success are:

- Share the results of your service records, such as:
 - o what went well;
 - o consistent and timely maintenance repairs;
 - o potential problems; and
 - o preventive measures to prevent similar problems;
- Make time to celebrate and acknowledge the team's successes and growth!
- Thank people for their work. It builds trust and motivates and encourages loyalty. Everyone needs to feel appreciated.
- Support the training necessary to allow maintenance personnel to enhance their skills and earn a professional designation. Community managers should not make the mistake of not sending maintenance employees to offsite training because they don't want such employees gone for a few days if it might make their job harder. This can be shortsighted. Such training will help maintenance team members do a project correctly the first time saving time and money, reduce maintenance expenses with better trained professionals, increase productivity, enhance resident satisfaction which will reduce turnover; and finally reduce employee turnover with more capable, personally satisfied maintenance professionals.

The skill standards tab contains maintenance skill standards developed by industry professionals. These skill standards provide a framework for maintenance training and the curriculum developed by NAAEI for CAMT. They also provide a guide for exam preparation and serve as a reference source for community management personnel.

6

Simple Repairs Anyone Can Do

The top priority	Handling service requests from residents quickly and efficiently is always management's a top priority. Therefore, if everyone knows how to determine the problem, many service requests can be handled quite easily.		
Simple trouble- shooting	might be A simple complete	Troubleshooting should always begin with identifying the simple things that might be causing the problem, and then moving to the more complex things. A simple troubleshooting procedure that can be used to diagnose and complete simple repairs includes:	
	Step	_	tion
	1	Identify the primary complaint by the problem(s) being experienced	
	2	Locate the possible cause.	
	3	Fix the problem. Caution: Make sure every staff m precautions and has been trained repair.	ember understands all safety d accordingly before attempting a
Common	Some co	mmon maintenance and repairs ar	e shown in the table below.
maintenance			
and repairs			
-	blem	Possible Cause	Solution(s)
Interior door when opene Low air circu	ed or closed	Doer alignment	 Use dry lubricant on hinges. Test hinges (by lifting door). Inspect gap clearance of door. Check filter
			Install a new A/C filter. Continued on next page

Simple Repairs Anyone Can Do, Continued

Common maintenance and repairs, (continued)

Problem	Possible Cause	Solution(s)
Glass broken in dishwasher.	 Improperly stacked dishes. Dishwasher is overloaded. 	 Retrieve large glass pieces. Vacuum out the glass particles.
	Normal accident.	 Leave use and care booklet.
Water constantly running into the toilet bowl.	 Tank ball not sealing correctly. Flapper worn out or damaged. Ball cock leaks. Chain under flapper. 	 Align lift wires and guide arm. Install new flapper. Install rebuild kit. Shorten the chain. Adjust flush lever.
	Flush lever sticking.	
Garbage disposal not working.	 Power not reaching unit. Circuit breaker tripped. Reset button tripped. 	 Press reset button. Check fuse or circuit breaker. Check outlet plug and wall switch position.
Refrigerator is silent and interior light is off.	 Power source is off. Burned out light bulb and unit is on defrost cycle. 	 Check outlet and plug. Check fuse or circuit breaker. Replace light bulb.
Loose commode seat.	 Loose mounting bolts. Broken or damaged seat. 	Inspect and tighten seat.Replace commode seat.
A slat fell off the living room vertical blinds.	Slat fell off the clip.Slat clip is broken.	Inspect clip, replace if needed.Reinstall the slat.
5		

Chapter 2: The Onsite Manager's Role

Chapter Overview

In this chapter The table below lists the topics in this chapter.

Торіс	See Page
A Property Manager's Responsibilities	2-2
Setting High Quality Standards	2-3
Hiring Maintenance Personnel	2-4
Assigning and Evaluating Work	2-7
Using a Contractor	2-11
The Bidding Process	2-13
The Contract	2-15
Vendor Management	2-18

A Property Manager's Responsibilities

What you are responsible for	A Manager's responsibility for maintenance involves many things. The list below includes several key areas, but should not be considered all-inclusive.
	 Set a standard for high quality work. Keep current with new laws and regulations that impact the property particularly those relating to safety for residents and staff. Keep records and required certificates (occupancy, elevators, swimming pools, etc) for the property. This includes the Environmental Protection Agency (EPA) certification for working with refrigerants and Certified Pool Operator (CPO) where required. Understand the maintenance repairs necessary to ensure that all OSHA, local and state requirements are met. Conduct inspections. Oversee safety issues and emergencies. Work closely with and utilize the skills of the maintenance supervisor or service manager. Work with your supervising office to plan and implement preventive maintenance programs. Hire qualified maintenance technicians and evaluate their performance. Know when to use a contractor, and how to write a job specification and conduct a bidding prosess. Understand basic contracts. Prepare and monitor budgets.
Benefits of maintenance knowledge	Your knowledge about maintenance adds value to the property and enhances your personal value as a manager.
	 It is essential that you understand how simple repairs are made. Having this information will allow you to: Set quality standards. Follow-up and inspect workmanship. Communicate better with maintenance personnel, residents, ownership, and contractors. Control maintenance expenditures. Work with your Maintenance Supervisor or Service Manager to manage the daily maintenance work such as: assigning tasks and prioritizing service requests, and estimating cost and time for completion

Setting High Quality Standards

Importance of setting high quality standards	One of your most significant responsibilities is to add value to the property. By setting high quality standards, you ensure that the property is well maintained and improved. Remember, well-maintained properties attract and retain residents.
Your behavior	Quality standards include the way you treat others. Your behavior sets an example for others to follow. Be respectful, ethical and honest.
The effects of high quality work	Quality also means repairs completed correctly and in a timely manner. It includes following preventive maintenance schedules. Quality workmanship extends the useful life of everything from buildings, to heating and cooling systems, major appliances and landscaping. When repairs and maintenance are performed well, efficiency is increased and expenses are reduced. Don't just do it – dp it well!
Communicate expectations	 In order to effectively communicate your expectations, you must: Use clearly stated service requests. Have correct information about the specific problem and any special information. Clearly state in which room or location the item to be repaired is located. Understand the maintenance staff's current workload and prioritize work. Keep lines of communication open to avoid misunderstandings o consider options, and o resolve issues.

Hiring Maintenance Personnel

Purpose of this topic	Often, the hiring of maintenance personnel is delegated to the Maintenance Supervisor or Service Manager, but the community manager is ultimately responsible for employee performance.
	The actual hiring process is covered in depth in the CAM Human Resources Management Course. However, this topic will concentrate specifically on the technical maintenance job rather than on personnel or legal issues.
	Reference: See the Human Resource Management Participant Guide for additional information.
Job description	Hiring technicians begins with writing a detailed job description. The job description should clearly detail the work to be performed. Depending on the size of the property, you may need separate job descriptions for entry level, mid-level and senior/supervisory level.
	Reference: See Resource Materials for samples of Maintenance job descriptions.
Examples of Maintenance Technician skills	The following are skills that would be included in a job description, depending on the skill level of the Maintenance Technician.
C	 Basic knowledge of tools Interior make ready skills including minor painting Basic electric – changing light bulbs, testing outlets and switches Follow directions well and understand safety requirements Good communication and organizational skills The willingness and ability to learn new skills Basic knowledge of computer skills <u>Mid-Level skills</u>:
	 Communication skills Organizational skills All entry level skills

Hiring Maintenance Personnel, Continued

Examples of Maintenance Technician skills, (continued)	 <u>Senior/Supervisory skills</u>: All skills mentioned above Budgeting skills Communication skills Organizational skills Building codes Ability to train others
Other considerations	In addition to maintenance tasks and skills, you need to consider: • number of years and type of experience; • formal education or training in industry designations; • experience working with contractors and suppliers; • ability to take/give directions and maintain schedules: • administrative skills such as: • organizing and prioritizing • time management • record keeping • communication skills • professional attitude and appearance
Interviewing candidates	It is advisable to have the Maintenance Supervisor and perhaps an experienced senior Maintenance Technician conduct the interview and initiate the biring process. This is often delegated by the Community Manager. The CAM Human Resource Management Course covers the interviewing and hiring procedures. Reference: See the Human Resources Management Participant Guide for additional information. It is helpful to use a Maintenance Skills Checklist during the interview to determine what skills the candidate has. Reference: See the Toolbox for a sample of a Maintenance Skills Checklist.

Hiring Maintenance Personnel, Continued

Checking references

It is always advisable to check an applicant's references, criminal background, and driving record and to conduct drug testing.



Assigning and Evaluating Work

Purpose of this topic	Your Maintenance Supervisor will likely oversee daily and routine maintenance tasks. He or she will know what work is appropriate for specific individuals. On occasion, you and your supervisor may determine an outside contractor will be required to do the work. Further discussion about working with contractors is presented later in the chapter.
	Our focus of this topic is to understand how to assess each staff member's skills and then match the work with the correct skill set.
Evaluating performance	Overseeing the evaluation of the maintenance team's performance is an ongoing task. Ask yourself questions such as:
	 Is the employee properly assigned work for his skill level and experience?
	 Is the work completed correctly and in a timely manner? Are any problems the result of lack of knowledge or lack of performance?
	Good record keeping will provide you many sources of information to evaluate performance.
Reviewing and summarizing service requests	Service requests are important tools to help answer your questions. Part of your responsibilities may already include completing a weekly service request summary for your supervisor. Even if it is not required, it may be advisable to keep such records for purposes of: performance appraisals preventive maintenance planning and budgeting
	 Reviewing and summarizing service requests will give you information about: when service requests are occurring types of requests received who needs service
	- · · · · · · · · · · · · · · · · · · ·

Assigning and Evaluating Work, Continued

Reviewing and summarizing service requests, (continued)	 average turnaround time for requests status of vacant residences cost of service/repair technician work performance records planning maintenance and repairs training and/or adding staff
Contents of a service request form	 Service request forms should contain: Resident name and address Date and time of request Repair or maintenance requested Permission to enter Name of service technician assigned Description of work completed Action taken: pre-inspection/work completed/repaired temporarily/parts replaced/parts ordered Follow up needed (if any) Estimate of cost incurred Amount of time spent for service/repair (time in and time out) Follow-up call with resident or post-inspection Some service tequest forms automatically provide multiple copies. These are useful because one copy can be given to the resident, another copy to the Supervisor, and another copy can be filed in the property's resident and/or unit file. Similarly, service software programs provide such copies and computerized evaluations of work Reference: See the Toolbox for a sample work request form.
Contents of a weekly service request summary	Weekly service request summaries may be maintained for each service technician and for the whole property. This is more easily possible with automated systems.

Assigning and Evaluating Work, Continued

Contents of a weekly service request summary, (continued)	 The type of information for each maintenance technician should include: Name and job title Number of service requests completed Types of work performed Total number of hours worked Space for comments The type of information for the property should include. Total number of service requests received Total number completed and pending Total number needing parts Total number remaining from previous week Total number of follow-up calls/inspections made Total number of make-readies cleaned, painted, repaired and completed Total number of preventive maintenance tasks completed and hours worked
Work order tracking software	 Today many properties use software programs that record work order assignments by type and employee. They capture information such as: who is being assigned what task(s) how many assignments are given in one day. how many assignments are completed and how long did each assignment take. how many call backs were made. Several programs tie this software to locked key drawers so that it is mandatory to enter codes and descriptions before keys can be pulled. These programs provide both excellent reporting and effective key control.
Make-ready and maintenance software	Another change to onsite operations is the introduction of make-ready and maintenance software. These programs are designed to eliminate the typical "white board" make-ready tracking system and capture key information from work orders, including:

Assigning and Evaluating Work, Continued

Make-ready and maintenance software, (continued)	 type of service who performed the service how quickly the service was done what parts were used (and how that affects shop inventory) as well as follow-up on repeat service calls identifying failing building components and targeting preventive maintenance.
	These programs allow companies to schedule, budget, allocate and track resources necessary to turn over units as well as make repairs. Naturally, the faster and more accurately a make-ready is done, the less down time and lost rent is incurred and the more likely the new resident will be able to move in on time. No call backs for service after the move-in remains the objective.
	Some of these programs even interface with property suppliers and can help in scheduling outside contractors or ordening supplies.
Manual tracking systems	Some properties may not have sufficient computer capability for maintenance personnel or they may decide that they do not wish to incur the cost. Therefore, manual tracking systems remain the norm in many companies.
C	

Using a Contractor

Definition: contractor	A <u>contractor</u> is a person or a company who is a separate business entity. They usually perform specific services or work and are hired to perform activities that your normal maintenance or housekeeping staff cannot do or where it has been determined that it is more cost effective to use such an outside vendor.
How a contractor is selected	Contractors are generally selected by using a bidding process, and require a legal contract before work can begin. Reference : See the topics "The Bidding Process" and "The Contract" for additional information.
When to hire a contractor	 Use a contractor when experiencing any of the following circumstances: Shortage of staff due to illness, vacation, termination. Lack of specific skills (parking lot repairs/resurfacing, roofing, landscaping). Lack of specialized equipment (backhoes, welding equipment). Lack of required licenses, permits (electrical and plumbing work). To save money (materials or supplies may be included in contract prices and purchased at wholesale or bulk prices) Materials or supplies may not be available locally. Total cost of labor in terms of special insurance, licensing fees, payroll taxes, etc. may be more cost effective if borne by the contractor.
Advantages to using contractors	 Some advantages to using contractors are: Specialized skills and quality based experience. Avoiding expenses for purchasing and maintaining specialized equipment are avoided. The maintenance staff can continue to meet daily service needs and preventive maintenance schedule. The contractor handles required licenses, permits and insurance. Safeguards warranty issues. It may provide faster, more accurate, timely, and complete work product.

Using a Contractor, Continued

Disadvantages to using contractors	 Some disadvantages to using contractors are: Quality of work may vary from contractor to contractor. Contract disputes can result in property liens and legal problems.
Finding a contractor	 Some ways to find a contractor include: Researching the job to see what is needed Asking for referrals Contacting the local apartment association Contacting other apartment communities or management companies Asking other contractors Looking in the newspaper Looking in trade magazines Asking suppliers – lumber yards, paint companies Asking utility companies Reviewing who did prior work at your property or other apartment communities Calling the Better Business Bureau
Supervising a contractor's work	The Community Manager (and their supervisor) and the Maintenance Supervisor will need to decide how the job will be supervised. Most often, the Maintenance Supervisor will assume this responsibility unless the dollar cost and/or time involved make it more feasible for outside supervision of the work. However, this is an excellent opportunity to learn more about a specific project. It is always a good idea to be aware of what is happening on the property. Check with the contractor frequently, visually inspect the work daily and raise any questions and/or concerns to your Supervisor.

The Bidding Process

Purpose of the bidding process	The bidding process will help you to select the best contractor for the job. The best contractor is not necessarily the cheapest. Sound business practices frequently call for bids from three (3) separate contractors. This should provide enough information to compare and select a contractor.
Scope of work	 It is necessary for you to present all bidders with the same scope of work to be completed if you want accurate and complete competitive bids. It may be necessary for you hire a consultant to determine exactly what the scope of the work should be. Accurate and complete job specifications are the most important part of the bidding process. Incomplete or inaccurate specifications will mean problems when work begins. Job specifications should include the following: Detailed description of the work to be done, including preparation and application (quantity of work and units of measure to be used) Specific materials and equipment to be used Location of the job Timeframe for completion Licenses and hermits meded. Insurance, warranties, quarantees Payment schedules Start and end of the work day Clean up required and how often List of references OSHA requirements The bids should be kept confidential. Do not share details with other contractors who may wish to bid. Advise your staff to keep information confidential, as well. This is another opportunity to set the standard for quality. You are looking for the best candidate, not just the least expensive
	Continued on next page

The Bidding Process, Continued

Reference checking

Before a bid is accepted and certainly before a contract is signed, references need to be checked. References should be for work done locally so that you may also visually inspect the work. You may also want to check with the Better Business Bureau to learn if any complaints have been filed against a particular contractor.



The Contract

Purpose of a contract	Contracts are used to minimize risk to the property, its owners and employees.	
	<u>Reference</u> : See the <i>Legal Aspects & Responsibilities Participant Guide</i> for additional information and a sample contract.	
Who should sign a contract?	The conditions for negotiating a contract and the people empowered to sign a contract are usually covered by company policy. The scope of the project and the dollar amount may require that a company supervisor or owner sign a contract.	
Legal review recommended	All contracts are subject to local, state and federal laws. An attorney should review contracts before they are signed to ensure compliance and reduce risk.	
What should a contract contain?	 A contract should contain: The scope and nature of the work to be performed, outlining the detailed specifications. The starting and completion dates. A remedies and cancellation clause. A hold-hampless clause. Proof of workers compensation and proof of comprehensive general liability insurance. Reference: See the Toolbox for a sample Certificate of Insurance. Total cost of work. A payment schedule, outlining retainage fees. <u>Note: A retainage fee</u> is a percentage of the contractor's payment (usually 10%) that is held by the property or the management company to a specific time period (usually 30 days) after the job is completed. The purpose is to guarantee the completion of the work and cover any delects in the workmanship. List of subcontractors, if any, being used on the project. Performance penalties, if applicable. Time contractor will start work in the morning and end in the evening. Required clean up and frequency. 	

The Contract, Continued

Ways to reduce risk	There are several ways to reduce risk by specifications or requirements you may include in a contract. These include:
	 Lien waivers Multiple payee payments Payment and performance bonds Certificates of insurance
Lien waivers	A waiver of lien is a signed and notarized document that waives or surrenders all claims against the property or the management company from the contractor, his employees, his subcontractors and his material suppliers. It is very possible that a lawsuit or lien (legal claim) could be filed against an apartment community by a vendor or subcontractor for non-payment, even though the community paid the contractor in full, but had not received a lien waiver. Requiring lien waivers from subcontractors working for the general contractor is a good business practice. Lien waivers must be signed before disbursements are made. Local laws may require lien waivers to be filed with county or city agencies. <u>Reference</u> : See the <i>Legal Aspects and Responsibilities Participant Guide</i> for additional information and a sample of avien waiver.
Multiple payee payments	Making disbursement checks payable to both the contractor and his supplier can also reduce risk. This method ensures both parties are paid and protects against mechanical or material liens on the property. This agreement would be outlined in the draw schedule. Sometimes, this method is used after a contract is signed when the contractor is unable to meet his obligations to vendors. However, in these cases the method is not included in the draw schedule.
Payment and performance bonds	Companies may require the contractor to furnish bonds ensuring both the price and the performance of his work. These bonds are usually required by lenders or general contractors in the construction of new apartments, and are required in some states for large jobs. Copies of the bonds are attached to the contract, if required.

The Contract, Continued

Certificates of insurance Contractors are required to provide proof of insurance for liability and Workers Compensation Insurance for contractor employees. The purpose is to prevent injury claims against the property and protect against property damage caused by contractor negligence.

> If a contractor cannot provide adequate insurance coverage, the work should be contracted to another company that can provide the required coverage.

<u>Reference</u>: See the Toolbox for a sample of an insurance certificate.

Vendor Management

What vendors may be used for	In addition to single-event large jobs, vendors are frequently used for recurring weekly or monthly maintenance, such as: pool maintenance landscaping and pest control. Often, interior painting and carpet maintenance are also contracted.
Use a vendor agreement	Just as in the case of large job contracts, formal vendor policies should be set and a vendor agreement should be executed.
Contents of a vendor agreement	 Important areas to cover in the agreement include: Does the vendor supply goods alone, or goods and services? Who will get the bill – management or owner of property? Will payments be processed from invoices or statements? Will payment be made within 30 days? Who has to approve invoices? Are there approval limits? Will employees be prohibited from accepting gifts or favors from vendors? Will vendors be required to complete a W-9 and submit a valid certificate of insurance prior to beginning work? Will the vendor be responsible for damage he causes, including water intrusion that can cause mold? Will vendors be required to meet your fair housing, drug-free, weaponfree workplace policies? Will vendors be asked to use utilities prudently?

Chapter 3: Exterior Maintenance

Chapter Overview

In this chapter The table below lists the topics in this chapter.

Торіс	See Page
Elements of Exterior Maintenance	3-2
Property Inspections	3-3
Common Area Maintenance Checklist	3-4
Building Maintenance Checklist (Exterior)	3-8
Building Maintenance Checklist (Interior)	3-10

Elements of Exterior Maintenance

Exterior maintenance is the ongoing inspection, repair or replacement of hose areas outside of your residential and other buildings.
 Specifically, exterior maintenance includes the following elements: Property grounds Fences, retaining walls Landscape irrigation Exterior lighting Building exteriors including siding, roofs, stairways and balconies Pools, ponds and other water features Utility buildings, trash and mail areas Parking lots and sidewalks, carporis and garages Tennis courts, spas, volleyball areas, playstounds and picnic areas All public accessibility areas with ADA and FairtHousing Act implications
h

Property Inspections

When to inspect	To evaluate the condition of the buildings, grounds and common areas on your property, it is necessary to inspect everything on a regular basis – preferably once a month.
Benefits of frequent inspections	Inspections can help you find problems when they are relatively small, easy and inexpensive to repair. You will be able to identify specific and immediate problems that need the attention of your supervisor and discuss long-range plans and preventive maintenance programs. Frequent inspections also ensure the safety of the property and residents.
Who should accompany you?	The Maintenance Supervisor should accompany you. Inspections also provide excellent training opportunities for others on your staff.
Documenting the inspection	Using a checklist allows you to have a written record of the inspection, and can be used for comparison with previous inspections. Extensive checklists are provided in this chapter.
	Photos also can be useful, and digital cameras are now more commonplace on properties and provide excellent backup for inspections and "incidents" requiring photographs.
Checklists	The following are checklists that you can use to document the inspections of the exterior of the property.

Common Area Maintenance Checklist

Location	What to look for	Inspection/Date	Status	Problem/Action
Entrance and driveways	Clean and well-maintained surfaces, proper grading and drainage; sewers			
Property curb appeal	covered and clear of debris and trip			
r topenty curb appear	hazards.			
Signage	Signage well maintained, visible, and			
	lit at night.			
Parking lot	Free of deteriorated surfaces,			
	potholes, oil stains, and standing		•	
	gravel. Proper grading and drainage.			
	Striped and easily visible.			
	Curb stops, bollards, or approved			
	barriers are provided and secure at			
	the edge of parking areas.			
	Proper grading and drainage.			
Garages and covered parking	Damage and/or leaks to roofs, support posts, siding or doors. Oil			
covered parking	stains. Smoke detectors and lighting.			
Improperly tagged	Free of debris and trash.			
cars				
Parked vehicles	Abandoned or disabled vehicles.			
	Parking permits, license plates, and			
	inspection stickers.			
Accessory	Structurally sound and free of loose,			
Structures:	bent, broken deteriorated or missing			
fences, retaining	materials.			
walls, storage and				
mail areas				

Common Area Maintenance Checklist, Continued

Location	What to look for	Inspection/Date	Status	Problem/Action
	Free from any accumulation of			
	rubbish or garbage and maintained			
	in a clean, safe and sanitary manner.			
	Graffiti.			
	Proper grading and drainage.			•
Trash Containers;	Dumpsters/trash containers in good			
Compactors	condition.			
	Cleanliness and odor.			
	Extermination program.		•	
	Drain plug removed from new			
	dumpsters.			
Sidewalks	Structurally sound, level and free of			
	loose, bent, broken, deteriorated or			
	missing materials.			
11.1.0	Proper grading and drainage.			
Lighting	Sufficient for sight and safety.			
	Check lighting at night.			
	Structurally sound and operating.			
Maintenance shop	Clean, adequately lighted, ventilated, and secure.			
	Equipment/tools stocked and stored			
	properly.			
	Proper storage of paints, solvents,			
	pesticides, etc.			
	Personal Protective Equipment			
	(PPE) available, and in good			
	condition. Fire extinguishers checked			
	and updated			

Common Area Maintenance Checklist, Continued

Location	What to look for	Inspection/Date	Status	Problem/Action
	Inventory - parts properly stocked			
	and stored. SDS sheets on file.			
	Have communication plan posted.			
	OSHA form 200 posted.			
	First aid kits. EPA recovery			
	equipment registration displayed.			
Landscaping	Lawns and shrubs well maintained.			
	Dead trees/shrubs are removed.			
	Tree limbs over gutters and roofs are pruned. Soil erosion; mulch;			
	decorative rock. Sprinkler leaks			
Sprinkler system	Sprinkler system functional. Without			
opinitael eyetein	leaks. Proper spray pattern heads			
	installed. Rain and freeze stats			
	operational.			
Pool	Complies with local ordinances for			
	occupancy, safety precautions,			
	chemical testing with current log	, i i i i i i i i i i i i i i i i i i i		
	updated. Posted pool rules and			
	regulations. SDS sheets kept in log			
	in pool area.			
	Fencing, self-locking gates around			
	the pools, railings, surfaces, locks well maintained.			
	Electrical and plumbing systems,			
	water supply, drain, well maintained			
	and working properly.			

Common Area Maintenance Checklist, Continued

6

Location	What to look for	Inspection/Date	Status	Problem/Action
	Structure – walls, bottom, ladders, steps in good condition. Markings correct.			
	Signage – visible and well maintained.			
	Accessories – chairs, tables, benches, umbrellas well maintained.			
Other: tennis, volleyball courts, playground, etc.	Surface or area well maintained; lighting, cleanliness and safety. Playground equipment in safe, useable condition.			
Other: ponds, fountains, underground storage tanks, etc	Clean, functioning – electrical/plumbing systems. Safety. GFIC protected.			
Snow and ice	Timely and thorough removal. Appropriate use of salt/sand/de-icer. Records kept current.			
	Dangerous areas noted, treated, and properly marked.			

Building Maintenance Checklist (Exterior)

Location	What to look for	Inspection/Date	Status	Problem/Action
Exterior	All exterior surfaces are protected from wind, rain and snow by painting, staining, sealing, siding or the use of other weather tight materials to prevent deterioration.			
	Balcony joists and decks are structurally sound and free of cracked, rotted, rusted or bowed materials.		V	
	Awnings are anchored to the structure and free of loose, torn, bent or deteriorated materials.			
	Porches, stairs and stringers are level and structurally sound.			
	Decorative features are anchored to the structure and free of loose, missing or deteriorated materials.			
	Columns are structurally sound and free of any loose, bowed or deteriorated materials			
	Property is free of accumulation of rubbish or garbage and maintained in a clean, safe and sanitary manner.			
	Proper grading and drainage of exterior property areas Missing or worn ground cover/grass.			

Building Maintenance Checklist (Exterior), Continued

5

Location	What to look for	Inspection/Date	Status	Problem/Action
	Siding is weather tight and secure to			
	the exterior wall, free of bent,			
	missing or deteriorated materials.			
	Brickwork is free of cracked, loose or			
	deteriorated materials.			•
	Foundation shows no sign of			
	seepage or entrance of rodents into			
	the building. Foundation is			
	structurally sound and free of large		•	
	cracks, holes, or loose materials.			
	Sewer and drain connections and			
	sump pump working properly.			
	Shutters are secure to the exterior			
	wall and free of loose, deteriorated or			
	missing materials.			
	Antenna, cable and phone systems			
	securely fastened; all wires intact.			
Meters	Functional; no signs of tampering.			
	Meter labeled.			
Other		•		
Ouidi				

Chapter 4: Interior Maintenance

Chapter Overview

In this chapter The table below lists the topics in this chapter.

Торіс	See Page
Elements of Interior Maintenance	4-2
Make-Ready Maintenance	4-3
Unit Interior Maintenance Checklist	4-6
Building Maintenance Checklist (Interior)	4-13
Managing Inventory	4-15

Elements of Interior Maintenance

What is Interior Maintenance?	Interior Maintenance refers to the work required to inspect, repair or replace items that keep building interiors, including residential units, in excellent condition.
<section-header></section-header>	 Knowledge about the following areas is helpful for the community manager and improves their capability in overseeing the implementation of the property's interior maintenance functions: Office and clubhouse areas Interior hallways Cleaning and janitorial areas Business centers, fitness centers, laundries and other interior amenities and common areas Service to occupied units Make ready of residential units

Make-Ready Maintenance

Manager's responsibilities	Make-ready maintenance is one of the most intensive activities in apartment management. As the manager, you will be involved in:
	 pre-inspecting the unit deciding what maintenance and make-ready tasks are needed, and post-inspection to ensure that the work is completed satisfactorily, in a timely manner, and the apartment home is ready for showing and eventual occupancy. Although this is sometimes delegated to other staff members, the Community Manager is responsible for the "market-ready" condition of the property.
Maintenance department responsibilities	The Maintenance Supervisor or Service Manager, with oversight from the Community Manager, is responsible for monitoring future move-outs and ensuring vacant apartments are made ready timely and to the required highest standard possible. Details make the difference in the make-ready process.
Move-out inspection	 Inspect each vacant unit Each vacant unit will need to be inspected at move-out to determine the scope of the make-ready process for this particular unit. Is there significant physical damage? Are major appliances in good working condition? Is there retrofit on rehab work to be done during the turn? Will contractors be involved, and what will be the scope of their work? Be thorough Inspections must be thorough. A good inspection of appliances includes turning on the stove, dishwasher, exhaust fans and disposal, and opening the retrigerator door. It is a good idea to carry a flashlight and notebook or paper for notes when making inspections.
	Have a plan You want to be sure you are able to meet the expectations of prospective residents. You should work with your maintenance and housekeeping staffs to develop sound and efficient plans for handling make-readies.

Make-Ready Maintenance, Continued

Deciding what tasks should be done and when	As a Community Manager, you will organize and supervise the necessary people and contractors to complete the make-ready process or oversee this being done by the Maintenance Supervisor or Service Manager. You need to know:
	 The tasks and supplies required to "turn" a vacant unit. Amount of time each task takes. How many tasks can be done at the same time without staff or contractors getting in each other's way or interfering with the work already completed
Quality of work	The Community Manager must set the quality expectation for the apartment home and it must be clear to employees or contractors who paint, clean, shampoo, or change carpet and employees what is acceptable in terms of their work quality and timeliness. You or someone you designate will need to inspect the units as they complete various stages of make-ready. This will ensure tasks are being completed to market-ready standards in reasonable time and order without overlaps with other workers or vendors.
Order of make-ready maintenance	 The usual order in which make-ready maintenance occurs is: Trash removal (refuse and abandoned personal belongings) Note: If you are unclear as to abandonment, you may wish to have a policy to not remove personal property without checking with the former resident it they can be reached. <u>Reference</u>. See the topic "Move Out Inspections" in the Occupancy Management chapter of the <i>Management of Residential Issues</i> <i>Participant Guide</i> for additional information on handling items left behind by a resident. Pest control Mechanical systems – electrical, plumbing, appliances, HVAC Retrofits and rehab items Sheetrock, doors, windows, locks, cabinets, counters Painting, caulking Flooring Final cleaning and welcome gift

Make-Ready Maintenance, Continued

Turn around time requirements	Many companies establish standard turn around time requirements. Example: 5-7 working days following the day of move-out.
Market-ready requirements	Some companies also have goals such as having 75% of all vacant units "market-ready" at all times. Such targets help ensure maximum effort and focus on the best possible, most complete apartment home inventory.
	Your occupancy level and the progress of your leasing results depend greatly on the quantity of your rent ready units as well as the quality of each of those apartment homes. If high quality units in sufficient quantities are not available to lease at all times, your current occupancy and your leased occupancy will decline. Clean, like-new, as if never lived in apartment homes should be the goal. Move-in condition is the key to start a residency in the right way.
Checklists	The following are checklists that you can use to document the inspections of the interior of the property.
C	

Unit Interior Maintenance Checklist

	The following is a checklist that can be us	· · · · · · · · · · · · · · · · · · ·		
Location	What to look for	Inspection Date	Status	Problem/Action
Walls & Ceilings	Structurally sound and free of water damage.			
	Clean and free of holes, dents, cracks and loose drywall taping.			
	Wallpaper or wall coverings are adhered to the wall and free of loose, torn, missing or deteriorated materials.			
	Shower walls and grout are water tight and free of mold or mildew.		•	
	Base molding and trim are secure to the wall or ceiling and free of cracks or missing sections.			
Floors	Floors are structurally sound, level and free of rotting wood.			
	Floor coverings are secure, clean, impervious to water and free of broken, cracked, worn or missing materials.			
	Carpeting is clean and secure to the floor; free of holes, tears, burns, stains and loose strands.			
	Stair treads, risers and stringers are structurally sound; stair coverings are secure and level to prevent trip			
	hazards. Stairs are free of any loose, broken or deteriorated materials.			

Location	What to look for	Inspection Date	Status	Problem/Action
Doors	Doors and doorframes must be free of holes, cracks and deteriorated materials.		X	
	Door hardware intact. Locks at the entrances to all dwelling units tightly secure the door.			
Cabinets	Kitchen and bathroom cabinet surfaces can be easily cleaned. Cabinets are free of water damage and loose, missing or broken materials and hardware. Doors open and close easily within the frame.	\mathbf{R}		
Counter tops	Free of damage, stains or scarring.			
Safety	Approved smoke detectors are installed and maintained in hallways and stairways. Smoke detectors are located in each apartment or dwelling.			
	Fire extinguishers are available in common areas. Mailboxes are labeled and secure.			
Windows	No cracks in panes, clean, tracks and sills clean, blinds/shades in working order.			
Drapery and rods	Good condition, clean, securely attached.			

ocation	What to look for	Inspection Date	Status	Problem/Action
Electrical	Common areas have adequate			
	lighting. (A minimum of 10-foot			
	candles of natural or artificial light should be provided at the tread			
	level).			
	Light fixtures are in working order			
	and bulbs and fixture covers are			
	clean.			
	Conduit completely encloses		•	
	electrical wiring.			
	Electrical outlets, switches and junction boxes are wired properly,			
	operate safely and have secure			
	cover plates. Cover plates are free of			
	charred surfaces.			
	Intercom or buzzer systems are			
	maintained and labeled.			
	Panels and circuits are not			
	overloaded. All openings are covered and circuits labeled. Panels provide			
	adequate service and operate safely.			
			ł	
				Continued on next pa

Location	What to look for	Inspection Date	Status	Problem/Action
Appliances	All appliances must be installed correctly and free of broken, missing or loose parts.		X	
	Refrigerators should be cleaned and maintain the proper temperatures.			
	Stoves must be installed properly, free of gas leaks or electrical hazards.			
	Washing machines are free of water leaks, electrical hazards and broken or missing parts.			
	Dryers are installed and vented according to local code.			
	Air conditioners are properly installed and functional.			
Plumbing	All plumbing fixtures drain quickly and can be easily cleaned. Fixtures are properly installed and free of leaks, cracks or deterioration. Hot and cold water is supplied at all faucets and showerheads.			
	Toilets are free of leaks and operate properly.			
	Faucets are operable, secure and free of leaks, cracks and corrosion.			

Location	What to look for	Inspection Date	Status	Problem/Action
	Plumbing supply lines must be			
	connected to an approved water			
	supply system.			
	Plumbing waste lines are free of			
	leaks or obstructions. No odor of			
	sewer gas is present.			
	Water heaters must provide an			
	adequate supply of hot water at a			
	temperature of not less than 110			
	degrees F. and no more than 140 degrees.			
	Temperature and pressure relief			
	valves are installed on the water			
	heater at the proper location. The			
	valve is free of leaking, corroded,			
	obstructed or missing parts.			
	A rigid copper or galvanized steel			
	discharge pipe is installed at the			
	temperature and pressure relief			
	valve. An air gap of at least twice the			
	diameter of the pipe is provided.			
	Gas burning water heaters are			
	properly vented to allow toxic gas to			
	exit the building safely. Ductwork or			
	vents are tight fitting and free of			
	holes or deterioration.			

5

Location	What to look for	Inspection Date	Status	Problem/Action
Heating and	Unit receives adequate heat during			
ventilation	heating season.			
	Baseboard heater covers are present			
	and secure.			
	Vents are clean and free from			
	obstructions, loose, missing, bent or			
	broken materials.			
	Thermostats work and properly			
	regulate the temperature within the		•	
	unit. Thermostat is level.			
	Exhaust fan works; has a secure			
	cover and no exposed wiring.			
Mechanical	Boilers are free of leaks and broken,			
	corroded or missing parts.			
	Fuel burning equipment is properly			
	vented to allow toxic gas to exit the			
	building safely. Ductwork or vents			
	must be tight fitting and free of holes			
	or deterioration.			
	Proper clearances are maintained			
	between combustible materials and			
	all heat producing equipment and appliances.			

Location	What to look for	Inspection Date	Status	Problem/Action
	A rigid copper or galvanized steel			
	discharge pipe is installed at the			
	temperature and pressure relief			
	valve. An air gap at least twice the			
	diameter of the pipe must be			
	present. (The bottom of the pipe			
	should not be threaded).			
	Safety valves are provided and in			
	working order to allow for immediate		•	
	shut off of the gas supply to fuel			
	burning appliances.			
	Combustion air vents are provided			
	and free of obstructions to allow for			
	complete combustion of fuel burning			
	appliances.			



Building Maintenance Checklist (Interior)

Checklist	The following is a checklist you can use f	or interior building ma	aintenance.	
Location	What to look for	Inspection/Date	Status	Problem/Action
Doors	Hardware and locks must tightly secure the door. Peepholes and deadbolts installed to code. Apartment number and addresses marked correctly. Visible from afar			
	Doorframe molding and sidelights are secure, weather tight and rodent proof and free of loose, broken or deteriorated materials.			
Windows	Window frames are weather tight and free of loose or deteriorated materials. Window locking devices work and meet code standards.			
	Windows panes must be free of broken or cracked glass.			
	Windows operate easily and are capable of being held in position by window hardware.			
	Screens present and in good condition.			
	Window blinds and curtains should have tangle free cords.			
Handrails and guardrails	Exterior and interior handrails and guardrails are installed where required to prevent accidents. Handrails and guardrails are firmly fastened and free of loose, deteriorated or missing parts.			

Building Maintenance Checklist (Interior) Continued

ocation What to look for Inspection/Date Status coofs Shingles are weather tight and free of loose, missing or deteriorated materials. Image: Coord of loose, missing materials and installed to direct water away from the structure. Image: Coord of loose, missing materials, ma	
and free of obstructions or missing materials and installed to direct water away from the structure.	
sound, and properly flashed.	
Chimneys are free of loose, missing, spalled or cracked masonry. Chimney caps are present and secured.	

Managing Inventory

Importance of inventory management	Material purchasing and managing inventory contributes to the Net Operating Income and consequently adds value. Maintenance and repairs can be handled more efficiently when tools or parts are readily available.
Who is responsible?	The Maintenance Supervisor, under the direction of the community manager, is responsible for maintaining an inventory of frequently used parts and supplies and balancing the expense of the inventory with the timing of the need.
Standard inventory	Standard inventory includes items that are used frequently. Items that are used infrequently, or that are extremely expensive, are not normally included in standard inventories.
Keeping costs down	Purchasing items in bulk and standard sizes can help reduce inventory costs, yet large inventories can be difficult to maintain and control. Keeping more than one or two extras of major appliances does not make sense nor is space likely available for storage. Product knowledge can save you time and money. You may work with your Maintenance Supervisor in developing your inventory items and "shopping list," but it is essential that you understand each of the items and their role in your everyday maintenance of extenors, interiors and apartment units.
	In addition to understanding maintenance terminology and industry or common names, managers must understand the concepts of comparative shopping. It is much like shopping for weekly groceries or big-ticket items like refrigerators.
Comparing quality, cost, size and supplier	Assume you need to purchase garbage disposal units for the property. You have read Consumer Reports to narrow down your purchase to one brand, but learn there are generally three (3) grades in every tool, supply and part that you buy:
	 Basic – least expensive, short life expectancy. Slightly more expensive – more durable, and has stainless steel blades. Heavy duty – most expensive, long life expectancy, all stainless steel parts.

Managing Inventory, Continued

Comparing quality, cost, size and supplier, (continued)	To make your decision, you need to calculate the short and long-term costs – such as how often you will need to repurchase these items. You also need to consider the owner's maintenance goals, and then decide on the best value. Current equipment on the property should be considered. Should the same brand be used that was used when built or renovated. If an item has a relatively short useful life anyway, maybe top quality isn't necessary. If your owner plans to improve the property on a minimal level and then sell the property, that goal will impact your purchasing just as the goal to upgrade and enhance the property for a long term hold would.
Buy what works best for you	 Always buy in the quantity and size that works best for you. Constraints could be: a small shop area, small budgets, or
	mostly contractor work rather than in-house maintenance.
Storage of tools and supplies	Proper care and storage of tools and supplies is essential. A well considered purchase of paint or a new hand tool for added efficiency will be poorly spent money if the paint cans are sealed poorly or the tool is left out in the rain. Managers should consider the following.
	 Controlling inventory costs is important. Storage areas should be secure, conveniently located and properly organized to minimize the risks of theft and loss due to spoilage. All OSHA standards should be followed for safety purposes.
Relationships with suppliers and contractors	An important task as a manager is to ensure that good working relationships exist with suppliers and contractors. This is often handled directly by the Maintenance Supervisor or Service Manager. Creating sound, ongoing business relationships benefit you and the supplier. These relationships may be especially helpful in emergency situations and when special products must be found.

Managing Inventory, Continued

Relationships	The benefits are:
with suppliers and contractors, (continued)	 Time saved because you trust the product and prices. (However, do not be afraid to get second opinions on costs, services, etc). Suppliers who know your product and needs can suggest an appropriate selection of products. Purchases are delivered. Many suppliers measure and install products.
Vendor programs	Many property management companies and owners have developed national buying programs with certain vendors and suppliers. Many of the programs require certain levels of purchases in order to guarantee lower pricing levels. Rebates may be tied to required spending. A Community Manager must stay abreast of those purchasing requirements, including pricing structures and availability. It is important to purchase products that are in the best interest of the property. Do not always buy what is on sale that week.
Maintenance management software	 Today there are maintenance management software programs that help: generate and track work orders. schedule preventive maintenance. produce inventories for parts and supplies. categorize expenses. analyze employee and contractor productivity; and provide histories for all property components. These programs require significant upfront training but can be successful in lowering maintenance expense and improving property productivity. Many of these software providers are members of the local and national apartment associations and can discuss your needs.
Record keeping	Finally, and in all cases, no matter the level of sophistication, you should maintain good records to monitor purchases, keep warranties and plan future purchases.

<u>Reference</u>: See the Toolbox for a sample property inventory form.

Chapter 5: Preventive Maintenance

Chapter Overview

In this chapter The table below lists the topics in this chapter.

Торіс	See Page
Overview of Preventive Maintenance	5-2
Developing a Preventive Maintenance Program	5-4
Assigning Personnel to Complete the Work	5-7
Monitoring the Preventive Maintenance Program	5-8
Conservation	5-10

Overview of Preventive Maintenance

What is Preventive Maintenance?	Preventive Maintenance (PM) is a proactive approach to protecting and maintaining the value of property assets. It requires significant planning and scheduling. It is designed to:
	 extend the life of equipment; reduce unexpected problems; and lessen the likelihood of normal problems becoming more costly ones.
Who is responsible?	Managers are responsible for planning and overseeing the implementation of preventive maintenance activities, but the success of PM is based on everyone's contributions. This includes the manager and the maintenance staff.
Benefits of a preventive maintenance program	A properly administered PM program will: • reduce service requests; • reduce expenses; • extend the useful life of fixtures and equipment; • increase resident satisfaction and resident retention; and • increase the value of the property. Many properties suffer physically and economically as a result of an inadequate preventive maintenance program.
	Cleaning a dirty condensing unit (\$5-10) with staff labor is considerably less expensive than replacing the condensing unit (\$400-600) when it breaks down because it was not cleaned.
When it may be required	Lenders and insurers frequently require evidence of some type of ongoing preventive maintenance program, including a system of follow-up, especially for areas of maintenance involving safety, water intrusion and areas of environmental pollution and compliance concern.

Overview of Preventive Maintenance, Continued

SuccessThe following are key factors that will add to the success of your PM
program:

Gain the commitment of everyone.

- Involve your staff in planning, scheduling and implementing your preventive maintenance program.
- Review the PM plan with your staff and discuss everyone's assignment.
- Lead by example.

Customize your program to address the specific needs of your apartment community.

- Consider all aspects of the community:
 - o Owner's goals
 - o Type of equipment used and frequency of use
 - o Property size, age and geographical region
 - o Residents' profile and special needs
 - o Staff and resources
 - o Seasonal issues (PM needs in summer and winter)
 - o Budget

Communicate frequently with your staff.

- Keep staff informed of maintenance activities.
- Encourage your staff to keep one another informed.
- Provide staff with access to PM information.
- Implement preventive maintenance as a team effort.
- Review the budget with the entire staff.
- Emphasize the value of PM and the staff's involvement.

Monitor and follow up on PM activities.

- Keep track of maintenance work records.
- Make sure work is inspected.
- •____If there is an action item, ensure it gets completed by the deadline.
 - Review PM activities on a regular basis.

Developing a Preventive Maintenance Program

Inspections and inventory	A good preventive maintenance (PM) program begins with a thorough inspection of the property and a list of all items that are subject to regular inspection. This list can be developed or updated by walking through the property and taking note of maintenance equipment, structural components and the condition of the landscaping.		
	To support the team approach, ask staff members to take part in some or all of the inspections.		
Items to be included	Examples of items that should be included in a preventive maintenance program:		
	AC coilsFencesAC condenserFire extinguishersBalconiesFoundations/buildingsBlower motorsFoundations/buildingsBoilersGuttersCarpentryWater heatersCarpetingLandscapingCaulkingLightingChimneysPlumbing/fixtureClubhouse & modelsRoolsCommon areasScreensCurb/sidewalksSewers/drainsDownspoutsSignageElectric panel/switchesSmoke alarmsEntry gatesSprinkler systemsExterior walksStairs/Handrails		
Establish tasks and frequency	After identitying the items subject to preventive maintenance, establish the tasks to complete each item and the frequency with which these tasks should be performed (daily, weekly, quarterly, etc.).		
Create a maintenance schedule	The maintenance schedule includes the list of items that are subject to regular maintenance and the date when the preventive maintenance is scheduled. In addition to timing concerns (daily, weekly, monthly, etc.) seasonal maintenance must be considered part of the plan.		
	Continued on next page		

Developing a Preventive Maintenance Program, Continued

Create a maintenance schedule, (continued)	Climate and property location influence the items that must be on the list. Checking supplies for ice and snow conditions would be normal for a Chicago-area property, but not for one in the Tampa area.
(continued)	Example: Take a file box and fill it with 52 index cards (one card for each week).
	On each card, record the PM tasks should be performed that particular week, using the information from your detailed inspection, including any manufacturer's special procedures and special tools, and noting any important safety issues.
	Some tasks will be listed on multiple cards and done several times a year. For example, changing HVAC filters. If you change them four times a year, the task will appear on four cards, one for each week when the filters will be changed.
	If you inspect your boilers thoroughly twice a year, you will have two cards in your file box telling you the week to do your boiler inspection.
	Some items, like roofing, are inspected thoroughly only once a year so there will only be one card with roof inspection on it.
	Reference: See the Toolbox for a sample preventive maintenance schedule.
Helpful resources	The maintenance manuals provided by equipment manufacturers are invaluable when trying to create a maintenance schedule. The procedures in these manuals should be reviewed to determine if additional tests, repairs or inspections should be added which reflect the special use of the equipment in your facility. Warranties should also be kept on file.
Inventory records	It is important to keep inventory records. Should a theft occur, you would have the information you need to submit a claim to the insurance company.
	You might consider having an engraver to engrave the property name on all tools and equipment.

Developing a Preventive Maintenance Program, Continued

Tickler file A tickler file contains the use and care manual for every appliance, the equipment manufactures specifications of what type and how often PM should be performed, and all related information.

Each week, on Monday, management photocopies and staples a copy of that week's PM tasks file card and a copy of the tickler file information to the weekly PM work order.

Once PM is completed and inspected, written records are kept of the results and results are forwarded off-site and follow-up if necessary

By mid-week, management follows up to ensure that the PM for that week has been started or to get a projection of when it will be done that week.

Combining
PM with
regularIt is a good idea to combine PM with other regularly-scheduled maintenance
tasks.regularregular

maintenance Example: Pest control is professionally performed in each apartment unit every three months (quarterly). You can combine the routine quarterly apartment inspection with HVAC filter change (which should also be done at a minimum of every quarter) with the pest control service. The maintenance technician or staff person visits each apartment with the pest control technician.

By doing this, you:

- set a clear date that maintenance will visit each apartment for a quick inspection;
- ensure that each A/C filter is changed on time;
- provide supervision of the pest control technician, making sure the job is done safely; and

correctly retain tighter key control. (The maintenance technician or staff person locks and unlocks the doors).

Assigning Personnel to Complete the Work

Onsite staff vs vendors	Once inspections have been made and the maintenance schedule is prepared, the Manager and Maintenance Supervisor must decide who will do the work.
	Sometimes decisions must be made regarding whether to use the onsite maintenance staff or an outside company or service for certain preventive maintenance activities.
	In general, the Manager will want to work with the onsite staff to retain control of expenses.
Tasks that onsite staff can do	Assigning personnel to a service schedule requires knowledge of each Maintenance Technician's skill level. The onsite Manager should be familiar with personnel skill levels so that the Manager is generally aware of who is likely to be assigned to what task by the Maintenance Supervisor.
Tasks that outside vendors can do	Outside vendors can do: • exterior painting • brickwork • carpentry • concrete and driveway repairs and • turn services (painting, carpet shampoo or installation)
Tasks that require a licensed expert	 There are certain maintenance tasks in a multifamily housing operation for which a licensed service expert may be required by state/local or federal regulations to get equipment in operating condition or to perform scheduled preventive maintenance activities throughout the year. These include: central air conditioning elevators swimming pool pest control landscaping and snow removal

Monitoring the Preventive Maintenance Program

What needs to be done	The Manager and Maintenance Supervisor need to:
be done	 monitor the maintenance work being performed, and keep preventive maintenance records to make sure the work is inspected.
Ways to monitor the work	 The work can be monitored by: creating and submitting a written maintenance report to the Maintenance Supervisor at the beginning of the month and reviewing the monthly service schedule at the end of the month meeting with the Maintenance Supervisor on a regular basis to discuss PM progress using one-on-one or group discussions with the maintenance staff to identify opportunities for improvement inspecting the property/equipment with the maintenance supervisor, and comparing budgeted expenses to actual.
Ways to keep records	When inspections are made, the preventive maintenance schedule can be filled in to show the date and any comments you have. Similarly, the landscaping report can be completed. Each month, the monthly PM report can be used to record the date that each task was completed. <u>Reference</u> : See the Toolbox for samples of a preventive maintenance schedule, landscaping report and monthly preventive maintenance report.
Preventive maintenance file	A preventive maintenance (PM) file should be created to keep track of all PM work.
What should be kept in the file	 PM information that should be contained within this file includes: Equipment information Serial/model number Date of purchase Warranty Manufacturers PM requirements

Monitoring the Preventive Maintenance Program, Continued

What should be kept in the file, (continued)	 PM records Termite and pest control inspection records Preventive maintenance needs Records of maintenance actions PM schedule Staff information Name of person who performed the work Length of time it took to complete the work Manager's notes
How information should be filed	Information should be filed according to how often the maintenance needs to be performed.

Conservation

What you can conserve	Managers can add value by taking advantage of opportunities that conserve:
	 time money and resources
	One method used to conserve resources is retrofitting, which when completed will also save time and money.
Definition: retrofitting	<u>Retrofitting</u> is replacing worn, older less efficient parts and equipment with newer energy saving models.
Benefits of retrofitting	Retrofitting is conducted for several reasons. The five (5) most common reasons are to: 1. enhance the value of the property 2. better serve the residents 3. reduce operating costs 4. lengthen the time between service calls and 5. conserve energy and resources
Other ways to decrease water usage	 More retrofits In addition to replacing showerheads, other retrofits can decrease water use while delivering water in a manner satisfactory to your residents: Consider: low-flow faucet aerators Stop leaks The number one way to save water is to stop leaks! As aerators are placed in faucets, seals can be checked and replaced providing a double benefit.
	Continued on next page

Conservation, Continued

-		
Incentives to replace toilets/washing machines	Although your budget may not allow for purchases of such devices, some municipalities and public water authorities offer apartment communities incentives and rebates to replace old toilets with Ultra-Low Flush Toilets (ULFTs). These toilets can save 10 to 20 gallons of water per toilet per day!	
	Many programs also include replacements of in unit and laundry clothes washers as well. Still others offer your residents conservation kits containing the aerators, showerheads and displacement devices already mentioned.	
Other energy smart practices	Thermostats Programmable/Set Back thermostats can be installed in offices, clubhouses, fitness centers, and laundries. Locked covers should be installed and management should set the desired temperature levels for the various times of the day.	
	Lighting Motion detectors, photocells, and timers for lighting systems can also control energy use.	
	Insulation Checking insulation adequacy and adding more can save money.	
	HVAC HVAC coils, evaporator, and condensers should be cleaned annually. Filters should be changed quarterly.	
	Light bulbs Energy efficient bulbs should be installed in lamps in hallways and models.	
C	Water heaters Water heaters should be turned off at the breaker.	
	Irrigation system Regularly check (weekly in season) the property's irrigation system. Check clock functioning that controls time of day and amount of water. Make sure rain sensors work so you are not watering when it is raining. Perform monthly inspections looking for leaks, broken heads, misaligned nozzles, and missing valve box lids.	
-		

Toolbox

Overview

In this Toolbox The table below lists the documents in this Toolbox.

Торіс	See Page
Maintenance Skills Checklist	Toolbox-2
Periodic Services Agreement Between Owner And Service	Toolbox-4
Provider	
Service Agreement Between Owner and Contractor	Toolbox-12
Asphalt Sealcoat Specifications	Toolbox-20
Parking Area Striping Specifications	Toolbox-23
Sample Service Request Form	Toolbox-24
Sample Service Request Summary	Toolbox-25
Sample Certificate of Insurance	Toolbox-26
Sample Property Inventory Form	Toolbox-27
Sample Preventive Maintenance Schedule	Toolbox-28
Skill Standards for Maintenance Professionals—See Skill St	andards Tab

5

Maintenance Skills Checklist

	Skill		Experience	level
		None	Some	Expert
Electrical	Rewire shorted fixtures.			
	Replace circuit breaker.			
	Operate testing meter.			
Plumbing	Replace washers.			
<u> </u>	Replace faucet and handles.			
	Repair ball cock assemblies.			
	Install new ball cock assemblies.			
	Remove and replace trap.			
	Remove and install/reseal toilet.			
	Solder and replace pipes.			
Hot water heaters and	General maintenance.			
circulating pumps				
	Install water heater.			
	Oil circulating pump.			
	Install circulating pump.			
	Flush out water heaters,			
	Replace thermocouple, heating			
	elements.			
Furnaces/wall heaters	Replace filters.			
	Clean filters.			
	Replace gas valve.			
	Check/test gas valve.			
	Replace fan motor.			
	Check/test pilot generator.			
Appliances	Install oven element.			
••	Install stove element.			
	Rewire stove (partial).			
	Install oven timer.			
	Install oven thermostat.			
	Recharge refrigerant.			Ī
		1		Ī
Garbage disposal	Free jammed garbage disposal.			
	Replace gasket.			Ī
	Disassemble and reassemble.			
	Rewire.			

Maintenance Skills Checklist, Continued

Skill		Experience level		
	Install new disposal.			
	·			
Dishwasher	Remove impeller.			
	Install new pump.			
	Adjust timer.			
	Install new timer.			
	Install new dishwasher.			
Ceilings and walls	Repair wallboard and prepare for			
J	painting.			
	Install new wallboard.			
	Acoustic spraying.			
Flooring	Repair sub floor.			
	Replace sub floor.			
	Install tile.			
	Repair carpet with patches.			
Locks/Doors	Install deadbolt.			
20010/20010	Replace lock cylinders.			
	Install a door jamb.			
	Hang new door.			
Pools	Backwashing.			
	Disassemble/assemble filter.			
	Clean - vacuum.			
	Replace heater.			
	Balance chemicals.			
	Replace shutoff valve.			
	Treplace shuton valve.			
Sprinklers	Adjust sprinkler beads.			
ophinklers	Replace sprinkler heads.			
	Replace spinikier neads.			
Landscaping	Trim and prune.			
Lanuscaping	Fertilizing.			
	Fernizing.			
Glass/windows	Glass cutting.			
GIdSS/WIIIdOWS	Glass installation.			
Corooning -	Papair with patabas			
Screening	Repair with patches.			
	Rescreen windows/patio doors.			

Periodic Services Agreement Between Owner and Service Provider

ABC Management, LLC

Contract Number:	_
Community:	_

PERIODIC SERVICES AGREEMENT BETWEEN OWNER AND SERVICE PROVIDER

THIS AGREEMENT is made and entered into by and between _____(the "Service Provider") and _____(the "Owner"). Owner owns the Property known as ______(the "Property") located at , _____. Owner shall act through its Agent, ______(the "Agent"). The Owner and Service Provider agree as follows:

- SCOPE OF WORK (See Exhibit <u>A</u>)
 - A. The Service Provider agrees to perform the Work and services required by this Agreement ("Periodic Services Agreement"), including any drawings, specifications and addenda listed and/or attached hereto (collectively referred to as the "Periodic Services Agreement Documents") in accordance with the Periodic Services Agreement Documents. Service Provider agrees to provide at its sole expense all labor, materials, services, equipment, tools, scaffolds and hoists required to fulfill its obligations and to properly execute and complete the Work as described more particularly on the attachments (the "Work") per Specification(s) No(s). _____ and Exhibit(s): ______.
 - B. This Agreement represents the entire Agreement between the parties and contains all terms and conditions required for the proper execution and completion of the Work. The Owner or his Agent may order changes in the Work consisting of additions, deletions or other revisions. All changes in the Work shall be authorized only in writing by use of a Change Order, signed by the Owner. In the absence of such signed Change Order, such work shall be considered to have been performed as part of the original Agreement without additional compensation.

C. This Agreement will be effective from _____, 200 ____ through _____, 200 ____.

2. SERVICE AGREEMENT SUM

A. Owner agrees to pay to the Service Provider for the full satisfactory performance and completion of the Work as specified or required in the Periodic Services Agreement Documents according to the payment schedule outlined below:



- B. The total Service Agreement Sum shall not exceed _____ Dollars (\$____00). This amount (the Agreement Sum) shall not be increased by any changes in labor rates, transportation charges, material costs or taxes.
- C. Prices are good through the _____ day of _____, 20__.

D. Owner may withhold any payment to the Service Provider if: there is defective Work that has not been remedied; third parties have filed claims or liens or have threatened to file claims or liens; Service Provider has failed to pay subcontractors for labor, materials or equipment; damage has been caused to the Owner or another contractor; Service Provider fails to submit an invoice as required by the terms of this Agreement; or Service Provider fails to carry out the Work in accordance with the Periodic Services Agreement Documents.

3. SERVICE PROVIDER OBLIGATIONS

- A. The Service Provider shall supervise and direct the Work using its best skills and efforts and shall perform the Work in strict accordance with the Periodic 2 ervices Agreement Documents. Service Provider warrants that unless otherwise specified, all materials and equipment incorporated in the Work will be new and of good quality and free from faults or defects. To enable the Work to be laid out and prosecuted in an orderly and expeditious manner, Service Provider shall, before commencing the Work, submit to ner a scher for completing the Work during the hours of 8:00 AM and 6:00 PM, Monday through unless otherwise agreed to by the Owner. Service provider shall at all tim soordinat s with Owner with respect to the scheduling, commencement and completion of Nork and perform the Work in a manner that will least disrupt residents on the Property. The Service Provider shall require each subcontractor to be bound by this Agreement to the extent of the Provide Work performed by such subcontractor. The agrees to erform the Work or interfere with any with due diligence and without delay. The Service Pro dela er will . Service Provider shall Work of the Owner or any subcontractor rdinate its Work with others performing work at the Property as Owner dire
- B. The Service Provider shall enforge ct discipline and good order among employees of the rrying out the Work. The Service Provider shall not Service Provider and all other pers ons not skilled in tasks assigned to them. Owner permit employment of unfit persons ovider remove an employee from the premises if reserves the right to have the Servi unfit or unskilled. If requested by Own r, all employees of the Service Provider shall wear uniforms with nametas mbroidery howing the name of the Service Provider and the name of the employee The Provider shall employ labor and personnel in vice Federal laws. accordance with applicable Lo al, Stat
- C. The Service Provider shall pay, when due, sales, consumer, use, FICA and unemployment compensation taxes and any other taxes due for the Work or portions thereof provided by the Service Provider.
- D. Prior to commencing the Work, the Service Provider shall obtain, at its own expense, all permits and licenses and agrees to pay all royalties that may be necessary for the proper performance of this Work.
 - . The Service Provider shall give notices and comply with all building codes, local ordinances, laws, rules, regulations and orders of any public authority having jurisdiction over the Property.
- F. The Service Provider will at all times facilitate and permit the inspection of the Work by the Owner, Agent, and public authorities. The Service Provider shall not be relieved of its obligations to perform the Work because of tests, inspections, or approvals required or performed by persons other than the Service Provider. The Work shall not be accepted until the Owner, Agent and all public authorities have inspected and approved the Work and any certificates of occupancy and/or final inspection certificates that are required are issued.

- G. The Service Provider shall at all times be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. It shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to (1) all employees of Service Provider or any other subcontractor performing services on the Property and other persons including, but not limited to, residents or tenants of the Owner and their guests; (2) the Work and all materials and equipment used to complete the Work; and (3) other property at the site or adjacent thereto. The obligation of the Service Provider to protect shall include the duty to provide and maintain at its sole expense at the Property, suitable and sufficient guards, lights, barricades and enclosures. All damage or loss to any property caused in whole or in part by the Service Provider, its subcontractors or their agents, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable, shall be remedied by the Service Provider. The Owner reserves the right at all times to halt Work that is being performed in an unsafe manner until Service Provider rectifies same.
- H. The Service Provider shall at all times keep the premises and surrounding area free accumulation of waste material or rubbish caused by its performance of the Work. hin twenty-four (24) hours from the completion of any Work, or any portion of Work, the rvice Provider shall remove all waste material, rubbish, tools, construction equipment machinery and surplus materials from the Property, and shall leave the Work area broom clean or its equivalent at the end of each work day. If the Service Provider fails to clean the premises, Owner may perform the clean up and the cost shall be deducted from any payment requests submitted by the Service Provider. Service Provider e fo removal and proper respor disposal of all waste from the Work.
- Service Provider agrees to abide by the requirements of the Fair Housing Amendments Act of 1988 and will not engage in any discriminatory practices, any discriminatory language, or any act that may be deemed discriminatory by Fair Housing Law.
- J. Service Provider agrees to abide by the Dapartment of Fransportation regulation (Part 382 of Title 49 of the Code of Federal Regulations), if applicable. Service Provider agrees that any employee operating a motor vehicle at the direction of the Owner or Buckingham Management, LLC or while undertaking the business of this Periodic Services Agreement is participating in a DOT mandated and approved random drug and alcohol testing program. Failure to maintain such a program in compliance with DOT regulations would be grounds for termination of this Agreement pursuant to Article 10.
- K. All Periodic Service Providers shall execute the Equal Employment Opportunity addendum.

L. The Service Provider shall hereby indemnify and hold the Owner harmless from all losses, costs, or expenses including fines incurred by the Owner or Buckingham Management, LLC for the Service Provider's failure to comply with the Federal Occupational Health and Safety Act, and like State and Local requirements.

4. OWNER OBLIGATIONS

- A. The Owner shall not be responsible for or assume any liability or responsibility for loss or damage to equipment or materials, tools or other personal property whether owned or leased by the Service Provider, subcontractor, their agents, or anyone employed by them in the performance of the Work.
- B. When Work is being performed on Owner's premises where water, power, gas, and toilet facilities are available, the Owner will furnish said utilities and facilities to the Service Provider and his workmen. All scheduled uses shall be coordinated and approved by the on-site

Property Manager. Where said utilities are not available through the Owner's in-place facility, the Service Provider shall provide same at his own expense to the extent required to fulfill this Agreement.

5. CORRECTION OF WORK

The Service Provider shall promptly correct at its own expense any Work that fails to conform to the requirements of the Periodic Services Agreement Documents where such failure to conform appears during the progress of the Work. Service Provider warrants and shall also promptly remedy at its own expense any defects due to faulty materials, equipment or workmanship, all within such period or periods of time as may be prescribed by law or by the terms of any applicable guarantee required by the Periodic Services Agreement Documents. The provisions of this Article apply to work done by subcontractors as well as to Work done by direct employees of the Service provider.

INSURANCE

- A. The Service provider shall purchase from and maintain in a company or companies authorized to do business in the jurisdiction in which the Property is located such in ance as will protect the Service Provider and the Owner from all claims including, but r limited to, those that may arise out of or result from operations of the Service Provider under this Agreement and for which the Service Provider may be legall liable whether such operations be by the Service Provider or by a subcontract nyone directly or indirectly employed liable. by any of them, or by anyone for whose them y be Insurance acts any Coverage to be provided shall include, but not be limited to, (Comprehensive General Liability; (2) Workers' Compensation and Employers Liability; and (3) Automobile Liability. Coverage to be written on an occurrence basis, in the e amounts as follows:
 - <u>Commercial General Liability</u>
 - \$1,000,000 for contracts under \$50,000.
 - \$2,000,000 for contracts over \$50,000.
 - \$5,000,000 for security contracts.
 - (2) Workers' Compensation and Employers Liability -



(3) Automobile Liability -

00

000 combined single limit

Check required amounts. If nothing is checked the maximum insurance requirements apply for each category.

B. The Service Provider shall, concurrent with the execution of this Agreement, deliver to the Owner a Certificate of Insurance in a form acceptable to the Owner evidencing the coverage set forth by this Agreement. The Certificate of Insurance will name the Owner and Buckingham Management, LLC as additional insured. In no circumstance shall the Service Provider commence any Work without the issuance of policies for all the insurance coverage specified in this Article. The Certificate of Insurance and insurance policies shall contain a provision that coverage under the insurance policy will not be cancelled, non-renewed or reduced in coverage until after thirty (30) days prior written notice has been given to the Owner.

7. PREVENTION OF LIENS

The Service Provider acknowledges that no liens shall be attached to the Property by virtue of any work done hereunder by the Service Provider or by any suppliers, employees, materialmen, or other subcontractors employed by him; and the Service Provider warrants that all such parties shall be advised of same and certifies to the Owner that they are aware thereof and bound thereby.

8. INDEMNIFICATION

- A. To the fullest extent permitted by law, the Service Provider shall indemnify and hold harmless the Owner, its partners, Buckingham Management, LLC, and other officers, directors, controlling persons, shareholders, partners, employees and affiliates from and against any and all claims, damages, losses, costs and expenses whenever incurred, including, but not limited to, reasonable attorney's fees arising out of any kind and nature whatsoever including without limitation claims, damages, costs and expenses attributable to injury or destruction to tangible property, bodily injury, sickness, disease or death or resulting inaccuracy of any warranty or representation made in the Periodic Services Agreement Documents.
- B. The indemnification obligation under this Article shall not be limited by any restriction on the amount or type of damages, compensation or benefits payable by or for the Service Provider under workers' compensation acts, disability benefit acts or other employee benefit acts.
- C. All provisions of this Agreement that require the Service Provider to insure, defend or indemnify the Owner shall survive any termination of this Agreement.

OWNER LIABILITY

The Service Provider shall not bring claims or lawsuits under or related to this Agreement against any principals, employees, agents, officers, directors, stockholders, controlling persons, partners or affiliates of the Owner or Buckingham Management, LLC. The Service Provider further agrees that the sole and exclusive remedy of the Service Provider for payment and/or performance of this Agreement shall be against the assets of the Owner.

10. OWNER'S RIGHT TO TERMINATE THE AGREEMENT

- A. Should the Provider neglect to carry out the Work properly, correct defective Work or its obligations under the Periodic Services Agreement Documents, the fail to perform iny of Owner, after thr e (3) d written notice to the Service Provider and its surety, if any, may without prejudio to any other remedy it may have, direct by written notice that the Service Work, make good the deficiencies and may deduct the cost from the er stop the ayment then or the reafter due to the Service Provider or, at the option of the Owner, may terminate this Agreement and take possession of all materials, tools, and appliances and y such means as the Owner sees fit. If the unpaid balance of the Agreement finish t e expense of finishing the Work, such excess shall be paid to the Service xceeds rovider, but such expense exceeds the unpaid balance, the Service Provider shall promptly pay e difference to the Owner.
- B. Notwithstanding anything in this Agreement, the Owner, at its sole discretion, may terminate this Agreement at any time without cause by giving at least ten (10) days prior written notice of such termination to the Service Provider. Upon any termination of this Agreement, and subject to all the terms and provisions of the Agreement, the Service Provider shall be entitled to payment at the Agreement Sum for all accepted Work finished or installed. However, the Owner may retain from any monies due to the Service Provider an amount sufficient to cover Service Provider's obligations under any guarantee of materials and workmanship provided in the Periodic Services Agreement Documents. Upon the expiration

of these obligations, the balance of the amount, if any, shall be paid to the Service Provider. The Service Provider, upon termination of this Agreement, shall peaceably and quietly surrender to the Owner all premises, facilities, machinery and equipment of or belonging to the Owner or for which Owner has paid the Service Provider.

11. MISCELLANEOUS

- A. Nothing contained in this Agreement shall be construed to create the relationship of employer and employee, principal and agent, partnership or joint venture between the parties, it being understood that the only relationship between the parties is that the Service Provider is an independent contractor of the Owner. Nothing contained in this Agreement shall create any contractual or other relationship between Owner and any subcontractor or supplier.
- B. The invalidity or unenforceability of any provision in this Agreement shall not affect or limit the validity and enforceability of any other provisions. The waiver by any party of a breach of any provision of the Agreement shall not operate or be construed as a waiver of any subsequent breach by any party. The remedies and rights of the Owner, in the event of any default by the Service Provider, are cumulative and in addition to those otherwise available by law, and the expression of any specific right or remedy shall not be construed as preventing the Owner from exercising any other right or remedy it may have.
- C. Notice required under this Agreement shall be in writing and sent by personal delivery, certified mail, commercial overnight courier (e ederal Exp UPS, g or certified mail postage prepaid return receipt requested to the partie as set forth in this at the res Agreement and to the Buckingham Management, LL e at the address set corporate offic forth at the end of this Agreement, to such other addresses as any of the parties may narty. hereafter specify in writing to the other office shall be deemed effective when received.
- D. This Agreement shall be construed in accordance with the laws of the State where the Work is to be performed.
- E. The Service Provider shall not assign this Agreement. Nothing in this Agreement shall preclude or prohibit the Owner from assigning or transferring the whole or any part of the Agreement including the Owner's rights, benefits or obligations hereunder to any corporation, partnership or individual.
- F. This Agreement and all the representations, warranties and conditions shall be binding upon and inure to the benefit of the parties and their respective heirs, executors, administrators, assignees and other successors in interest to the extent permitted by this Agreement.

Whenever the context so requires, the masculine gender includes the feminine and the neuter as appropriate and vice versa, and the singular includes the plural. Caption headings are for convenience only and are not to be used to construe or interpret the Agreement.

		SERVICE	
OWNER:	(Name of Partnership)	PROVIDER:	(Print Company Name)
BY:		BY:	
	(Signature)		(Signature)
	(Print Name)		(Print Name)
	(Title)		(Title)
	(Witness)	_	(Witness)
	(Street Address)		(Street Address)
	(City/State/Zip Code)		(City/State/Zip Code)
	(Telephone)		(Telephone)
	eations are attached as Exhibit		

Contract Number: _____- _ ____ Community: _____

EQUAL EMPLOYMENT OPPORTUNITY

Attached to and made a part of the Contract by and between _____, Owner, and _____, as Contractor, dated _____

During the performance of this contract, the Contractor agrees as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race creed, religion, color, sex, national origin or any other protected classification proscribed under local, state or federal law. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated ring employment without regard to their race, creed, religion, color, sex, nation origin or any other protected class ration proscribed under o yment, upgr local, state or federal law. Such action shall include, but not be limited to, the following: en demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of or other f of compensation; and selection for training, including apprenticeship. The Contractor agrees to picuous place n ca available to employees and applicants for employment, notices to be provided by the contracting offic setting forth provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, religion, color, sex, national origin or any other protected classification proscribed under local, state or federal law
- C. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contractor understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers representative of the Contractor's communents under Section 202 of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the V.S. Segretary of Labor.
- D. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the U.S. Secretary of Labor.
- E. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the U.S. Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the U.S. Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and relevant orders.
- F. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rules, regulations or order of the U.S. Secretary of Labor, or as otherwise provided by law.
- netions of Paragraph (A) through (G) in every subcontract or purchase order unless G. The Contractor will include the second exempte les, regulations or orders of the U.S. Secretary of Labor issued pursuant to Section 204 of Executive Order September 24, 1965, so that such provisions will be binding upon each contractor or vendor. The Contractor will 11246 ubcontract or purchase order as the contracting agency may direct as a means of th action with take. t to a anctions for noncompliance; PROVIDED, HOWEVER, that in the event the enfo cing such p udin n, or is threatened with, litigation with a subcontractor or vendor as a result of such direction Cont es involve by the contracting agency, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Contractor

Owner

Date:

Date:



Service Agreement Between Owner and Contractor

Contract Number: <u>2005-BRI</u> - <u>04</u> Community : Bradford Ridge

AGREEMENT BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is made and entered into by and between <u>Lentz Asphalt & Excavating Co.</u> (the "Contractor") and Bloomington Housing Associates, L.P. (the "Owner"). Owner owns the Property known as <u>Bradford Ridge Apartments</u> (the "Property") located at <u>2900 Ridge Road, Bloomington IN, 47403</u> The Owner and Contractor agree as follows:

1. SCOPE OF WORK (See Exhibit A)

- A. The Contractor agrees to perform the Work and services required by this Agreement including any drawings, specifications and addenda listed and/or attached hereto (collectively referred to as the "Contract Documents") in accordance with the Contract Documents. Contractor agrees to provide at its sole expense all labor, materials, services, equipment, tools, scaffolds and hoists required to fulfill its obligations and to properly execute and complete the Work as described more particularly on the attachments (the "Work") per Specification(s) No(s), and Exhibit(s). A.
- B. This Agreement represents the entire Agreement between the parties a ntains all terms a conditions required for the proper execution and complet Owner or I Vork ent may order changes in the Work consisting of addition tion ther re iges in the ange Order Work shall be authorized only in writing by use of In the gned by absence of such signed Change Order, such work all be conside formed as part of to have been the original Agreement without additional compet
- C. Contractor shall commence work on <u>Mat 11, 2005</u>. Contractor shall prosecute the Work diligently and the Work is to be fully completed by <u>June 11, 2005</u> (Date of Final Completion). Time is of the essence.
- D. In the event the Contractor fails e Date of Final Completion stated in to complete th Vork Hundred and no/100 Dollars (\$100.00) Article 1. C., then liquidate in the amo nt of O per day shall be assessed by ontractor for each day or portion of a day of delay ast th beyond the Date of Final Comp uidated damages are not established as a penalty, but are calculated and agreed upor Owner and the Contractor due to the uncertainty lvance in as to the actual and consequential damages which may be and impossibil naking a determ incurred by the e on the part of the Contractor to complete the Work on sult of the . The liquidated damages stated herein shall be the time in accorda with co uireme. exclusive measure ONLX es sustained by the Owner due to breach by the Contractor of nely the Work. This liquidated damages subsection shall not alter or its agreement to co r's rights to assess damages against the Contractor for loss resulting from versely the OTHER THA elay by the Contractor in timely completion of the Work. auses

CONTRACT SUM

2.

Subject to Article 1 D., Owner agrees to pay to the Contractor for the full satisfactory performance and completion of the Work as specified or required in the Contract Documents, the sum of <u>Twenty</u> <u>Seven thousand Three Hundred Twenty Five Dollars and 00/100</u> Dollars (\$27,325.00). This amount (the Contract Sum) shall not be increased by any changes in labor rates, transportation charges, material costs or taxes.

Payment is to be made as follows. Asphalt repairs will be completed and billed for payment, amount will be \$20,000 and will be paid within 30 days of invoice date and upon acceptance of Director of Technical Services, less applicable retainage. Remainder of contracted amount will

be billed upon completion, \$7,325.00. Payment of remainder will be paid within 30 days of invoice date, less applicable retainage.

Any payments due under this Agreement will be made no more than once a month and no later than the twenty-fifth (25th) day of each month for Work completed the previous month. To receive any payment, the Contractor must submit to the Owner an invoice detailing the labor, services or materials already provided for Work performed in the previous month on or before the first day of the following month. By submission of an invoice for payment, the Contractor warrants that all Work performed for the Owner by the Contractor to that date is free and clear of liens, claims, security interests or encumbrances from persons or entities providing labor, materials and equipment relating to the invoiced Work. No payment shall be made for equipment or materials that have not yet been installed on the Property.

- C. A sum equal to <u>X</u> Ten Percent (10%) or <u>Two Thousand Seven Hundred Thirty Two Dollars and <u>50/100 (\$2,732.50)</u> of the Contract Sum will be retained by the Owner. The final payment, including release of retainage, shall be paid by Owner within 30 days after final completion of the Work and its acceptance by the Owner or Agent, provided first, however, that Contractor shall have fulfilled all the obligations to be performed by Contractor under this Agreement. Contractor's initials ______.</u>
- D. Unless waived by Owner in writing, the Contractor agrees to provide waivers and releases of liens from the Contractor and all subcontractors and suppliers of Work under this Agreement (the "Release Documents") and any other evidence in a form satisfactory to the Owner demonstrating that all labor, materials, bills, invoices, payroll taxes of any kind and any other indebtedness incurred by the Contractor up to and including the date of invoicing have been paid in full prior to or in exchange for final payment to Contractor.
- luding the r tainage, to the Contractor: if there is defective E. Owner may withhold any payment, it Work that has not been remedied; if this ies have filed claims or liens or have threatened to file claims or liens; if the Contractor has faile subcontractors for labor, materials or equipment; if damage has been caused to the Owner or atractor if Contractor fails to submit an invoice as othe or fails to carry out the Work in accordance with required by the terms of this A reement; or f Cont the Contract Documents.

3. CONTRACTOR OBLIGATIONS

- Dervise and direct the Work using its best skills and efforts and shall perform dance with the Contract Documents. Contractor warrants that unless otherwise A. The Contractor the Work in strict accordance l equipment incorporated in the Work will be new and of good quality and terials ar specified, all ma rs. To enable the Work to be laid out and prosecuted in an orderly and free from faults or def ous manner Contractor shall, before commencing the Work, submit to Owner a schedule for completing the Work during the hours of 8:00 AM and 6:00 PM, Monday through Friday, unless to by the Owner. Contractor shall at all times coordinate with Owner with respect to otherwise agree e duling, nmercement and completion of the Work and perform the Work in a manner that least disrup residents on the Property. The Contractor shall require each subcontractor to be greement to the extent of the Work performed by such subcontractor. The Contractor bound by this A to perform the Work with due diligence and without delay. The Contractor will not delay or agrees with any Work of the Owner or any subcontractors. Contractor shall coordinate its Work inter with others performing work at the Property as Owner directs.
- B. The Contractor shall enforce strict discipline and good order among employees of the Contractor and all other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. Owner reserves the right to have the Contractor remove an employee from the premises if unfit or unskilled. If requested by Owner, all employees of the Contractor shall wear uniforms with nametags or embroidery showing the name of the Contractor

and the name of the employee. The Contractor shall employ labor and personnel in accordance with applicable Local, State and Federal laws.

- C. The Contractor shall pay, when due, sales, consumer, use, FICA and unemployment compensation taxes and any other taxes due for the Work or portions thereof provided by the Contractor.
- D. Prior to commencing the Work, the Contractor shall obtain, at its own expense, all permits and licenses and agrees to pay all royalties that may be necessary for the proper performance of this Work.
- E. The Contractor shall give notices and comply with all building codes, local ordinances, laws, rules, regulations and orders of any public authority having jurisdiction over the Property.
- F. The Contractor will at all times facilitate and permit the inspection of the Work by the Owner, Agent, and public authorities. The Contractor shall not be relieved of its obligations to perform the Work because of tests, inspections, or approvals required or performed by persons other than the Contractor. The Work shall not be accepted until the Owner, Agent and all public authorities have inspected and approved the Work and any certificates of occupancy and/or final inspection certificates that are required are issued.
- G. The Contractor shall at all times be responsible for initiating maintaining and super safetv precautions and programs in connection with the Work. It shall take all reasonable prec utions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to (1) all employees of Contractor or any other subcontractor s on the P erty and other ing se persons including, but not limited to, residents of d their guests; (2) the Work ants o Owne and all materials and equipment used to comp ete the Work: d (3) othe erty at the site or adjacent thereto. The obligation of the Cont or to protect shall include the duty to provide and maintain at its sole expense at the Property, su able and sufficient guards, lights, barricades and enclosures. All damage or loss to and in whole or in part by the Contractor, its erty ca subcontractors or their agents, or anyo ctly or ndnectly employed by any of them, or by anyone died by for whose acts they may be liable, shall the Contractor. The Owner reserves the right at all times to halt Work that is being per rmed in an unsafe manner until Contractor rectifies same.
- H. The Contractor shall at all tiss ep the premises and surrounding area free from accumulation of performance of the Work. Within twenty-four (24) hours from tion of Work, the Contractor shall remove all waste material, waste material or rubbish ca d by the completion of any Work, o w portion rubbish, tools construction equip at, machinery and surplus materials from the Property, and shall equivalent at the end of each work day. If the Contractor fails leave the Wo om clean or its may perform the clean up and the cost shall be deducted from any to clean the pr ises. payment request ubmitt entractor. Contractor is responsible for removal and proper disposal of all wa t fr n the Work

Contractor agrees to abide by the requirements of the Fair Housing Amendments Act of 1988 and will not engage in any discriminatory practices, any discriminatory language, or any act that may be deemed discriminatory by Fair Housing Law.

- J. Contractor agrees to abide by the Department of Transportation regulation (Part 382 of Title 49 of the Code of Federal Regulations), if applicable. Contractor agrees that any employee operating a motor vehicle at the direction of Buckingham Management, LLC or while undertaking the business of this Contract is participating in a DOT mandated and approved random drug and alcohol testing program. Failure to maintain such a program in compliance with DOT regulations would be grounds for termination of this Agreement pursuant to Article 10.
- K. All Contractors shall execute the Equal Employment Opportunity addendum.

- L. Contractor guarantees that all Work shall be free from defects in workmanship and materials for minimum period of <u>One Year</u> from date Owner accepts the Work and promptly upon Owner's request, Contractor will correct by repair or replacements, without charge, any such defects (and any damage to other property, including without limitation the Work of other subcontractors resulting therefrom or from the correction thereof) which may appear in the Work during that period. Additionally, materials and/or equipment warranties provided by the manufacturer of said materials and/or equipment is to be for a period of <u>One Year</u>. Where any governmental bodies or agencies regulating the Owner's operations, such as the United States Department of Housing and Urban Development, require guarantees and/or warranties beyond said periods, the Contractor's obligations shall remain in effect through such extended period of time. If the Contractor fails to commence and to complete the repair or replacement of improper or defective Work, as specified, within a reasonable period of time as determined by the Owner, the Owner may proceed to have such Work completed by whatever method it may deem expedient and may charge the Contractor for the expense incurred.
- M. The Contractor will be responsible to protect living units against the elements at the end of each working day and under no circumstances shall any living unit be left unprotected due to Work under the Agreement. In addition, no occupied living unit will be without essential services such as heat, light, and water at the end of each working day as a result of this Work.
- N. The Contractor shall hereby indemnify and hold the Owner maximless from all losses, costs, or expenses including fines incurred by the Owner for the Contractor's falure to comply with the Federal Occupational Health and Safety Act, and like State and Local requirements.

4. OWNER OBLIGATIONS

- A. The Owner shall not be responsible for or assume any liability or responsibility for loss or damage to equipment or materials, tools or other personal groperty whether owned or leased by the Contractor, subcontractor, their agents, or anyone employed by them in the performance of the Work.
- B. When Work is being performed on Owner's premises where water, power, gas, and toilet facilities are available, the Owner will furnish said utilities and facilities to the Contractor and his workmen. All scheduled uses shall be coordinated and approved by the on-site Property Manager. Where said utilities are not available through the Owner's in-place facility, the Contractor shall provide same at his own expense to the extent required to fulfill this Agreement.

5. CORRECTION OF WORK

errect at its own expense any Work that fails to conform to the The Contractor sha ts where such failure to conform appears during the progress of the requirements of the ntract D Work. Contractor w o promptly remedy at its own expense any defects due to faulty ints shall a. manship, all within such period or periods of time as may be prescribed by mate uipment d ay applicable guarantee required by the Contract Documents. The provisions of e terms of a Article apply to work done by subcontractors as well as to Work done by direct employees of the ontractor

6. INSURANCE

A. The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Property is located such insurance as will protect the Contractor and the Owner from all claims including, but not limited to, those that may arise out of or result from operations of the Contractor under this Agreement and for which the Contractor may be legally liable whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. * Insurance Coverage to be provided shall include, but not be limited to, (1) Comprehensive General Liability; (2) Workers' Compensation and Employers' Liability; and (3) Automobile Liability. Coverage to be written on an occurrence basis, in the amounts as follows:

(1) Commercial General Liability -

XXX	\$1,000,000 for contracts under \$50,000.
	\$2,000,000 for contracts over \$50,000.
	\$5,000,000 for security contracts.

- (2) Workers' Compensation and Employers' Liability -
 - <u>X</u> (Statutory) \$100,000 each accident \$500,000 disease – policy limit \$100,000 disease – each employee
- (3) Automobile Liability -

X \$1,000,000 combined single limit

- Check required amounts. If nothing is checked the maximum insurance requirements apply for each category.
- B. The Contractor shall, concurrent with the execution of this Ag. ement, deliver to the Owner a Certificate of Insurance in a form acceptable to the Q widen the coverage et forth by this Agreement. The Certificate of Insurance will name and Ruckingham Management, LLC as e the Ox additional insured. In no circumstance shall the Contractor ork without the issuance nmence of policies for all the insurance coverage specified in this Article. The Cestificate of Insurance and insurance policies shall contain a provision that (verage under the insurance policy will not be cancelled, non-renewed or reduced in er thirty (30) days prior written notice has been erage unt given to the Owner.

7. PREVENTION OF LIENS

The Contractor agrees to pay when due all claims of subco tractors and others for labor, materials, services is and to prevent the filing of any liens by mechanics or or equipment for the performance materialmen or attachments, garnish bits affecting title to the Property upon which the Work is ditter performed. The Contractor agrees within fifteen (15) days after notice is mailed to the Contractor to cause be dismissed or removed from the Property and to pay all expenses for, and on any such suit or lien to behalf of the Own including attorney fees acurred as a result of any suit or lien. The Contractor may, ovide a bond in a form and substance satisfactory to the Owner to bond with the approval of the Owne to disputes with subcontractors, sub-subcontractors or any other person or the Owner against any oss é widing labor verials to complete the Work. The Contractor further agrees that no liens or entity a hall attach to the Property owned by the Owner by virtue of Work done by the Contractor or by supplier, employees, materialmen or sub-subcontractor employed by him, and the Contractor warrants hall be advised of these terms and bound by the provisions of this Article. Failure to at all such this Aruce shall constitute a default by the Contractor and entitle the Owner to terminate this ment or pursue other appropriate remedies at law or in equity.

8. INDEMNIFICATION

A. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, its partners, Buckingham Management, LLC, and other officers, directors, controlling persons, shareholders, partners, employees and affiliates from and against any and all claims, damages, losses, costs and expenses whenever incurred, including, but not limited to, reasonable attorney's fees arising out of any kind and nature whatsoever, including without limitation claims, damages, costs and expenses attributable to injury or destruction to tangible property, bodily injury, sickness, disease or death or resulting inaccuracy of any warranty or representation made in the Contract Documents or in the Release Documents.

- B. The indemnification obligation under this Article shall not be limited by any restriction on the amount or type of damages, compensation or benefits payable by or for the Contractor under workers or workers' compensation acts, disability benefit acts or other employee benefit acts.
- C. All provisions of this Agreement that require the Contractor to insure, defend or indemnify the Owner shall survive any termination of this Agreement.

9. OWNER LIABILITY

The Contractor shall not bring claims or lawsuits under or related to this Agreement against any principals, employees, agents, officers, directors, stockholders, controlling persons, partners or affiliates of the Owner or Buckingham Management, LLC. The Contractor further agrees that the sole and exclusive remedy of the Contractor for payment and/or performance of this Agreement shall be against the assets of the Owner.

10. OWNER'S RIGHT TO TERMINATE THE CONTRACT

- A. Should the Contractor neglect to carry out the Work properly, correct defective ik or fail to any of its obligations under the Contract Documents, the Owner, after three (3) day ritten r office to the Contractor and its surety, if any, may without prejudice to any other remedy it may have, direct by written notice that the Contractor stop the Work, make good the deficiencies and may deduct the cost e, direct by from the payment then or thereafter due to the Contractor or, at the option of the Ox er, may terminate applian this Agreement and take possession of all material s and fu the Work by such 416 means as the Owner sees fit. If the unpaid balance of the Cont the expense of ract Sum see finishing the Work, such excess shall be paid to the Contract but if such a expense exceeds the unpaid balance, the Contractor shall promptly pay the difference the Owner.
- B. Notwithstanding anything in this Agre t, the Owner, at its sole discretion, may terminate this Agreement at any time without cause by ing at least ten (10) days prior written notice of such ermination of this Agreement, and subject to all the terms termination to the Contractor. Upon any and provisions of the Agreement, the Contractor shall be envired to payment at the Contract Sum for all accepted Work finished or installed. However, the Owner may retain from any monies due to the ver Contractor's poligations under any guarantee of materials and Contractor an amount sur ntract Documents. Upon the expiration of these obligations, the workmanship provided in the balance of the amount, if any, shall be paid to the Contractor. The Contractor, upon termination of this Agreement, shall peaceably and quietly surrender to the Owner all premises, facilities, machinery and to the Owne equipment of or bel or for which Owner has paid Contractor.

11. MISCELLANEOU

Nothing contained in this Agreement shall be construed to create the relationship of employer and employee, principal and agent, partnership or joint venture between the parties, it being understood that the only relationship between the parties is that the Contractor is an independent contractor of the Owner. Nothing contained in this Agreement shall create any contractual or other relationship between Owner and any subcontractor or supplier.

- B. The invalidity or unenforceability of any provision shall not affect or limit the validity and enforceability of any other provisions. The waiver by any party of a breach of any provision of the Agreement shall not operate or be construed as a waiver of any subsequent breach by any party. The remedies and rights of the Owner, in the event of any default by the Contractor, are cumulative and in addition to those otherwise available by law, and the expression of any specific right or remedy shall not be construed as preventing the Owner from exercising any other right or remedy it may have.
- C. Notice required under this Agreement shall be in writing and sent by personal delivery, certified mail, commercial overnight courier (e.g., Federal Express, UPS, etc.) or certified mail postage prepaid return receipt requested to the parties at the addresses as set forth in this Agreement and to the Buckingham

~.....

Management, LLC corporate office at the address set forth at the end of this Agreement, to such other addresses as any of the parties may hereafter specify in writing to the other party. Notice shall be deemed effective when received.

- D. This Agreement shall be construed in accordance with the laws of the State where the Work is to be performed.
- E. The Contractor shall not assign this Agreement. Nothing in this Agreement shall preclude or prohibit the Owner from assigning or transferring the whole or any part of the Agreement including the Owner's rights, benefits or obligations hereunder to any corporation, partnership or individual.
- F. This Agreement and all the representations, warranties and conditions shall be binding upon and inure to the benefit of the parties and their respective heirs, executors, administrators, assignees and other successors in interest (to the extent permitted by this Agreement).
- G. Whenever the context so requires, the masculine gender includes the feminine and the neuter as appropriate and vice versa, and the singular includes the plural. Caption headings are for convenience only and are not to be used to construe or interpret the Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the 9th. day of May, 20

OWNER:		CONTRACTOR Lentz Asphalt & Excavating Co.
	(Name of Partnership)	(Print Company Name)
BY:	Its authorized Agent	
BY:		B1
	(Signature)	(Signature)
	(Print Name)	(Print Name)
	President	
	(Title)	(Title)
	(hitness)	(Witness)
	(Street Address)	(Street Address)
	(City/State/Zip Code)	(City/State/Zip Code)
	(Telephone)	(Telephone)
Specification	as are attached as Exhibit A.	

Contract Number: _____- _ ____ Community: _____

EQUAL EMPLOYMENT OPPORTUNITY

Attached to and made a part of the Contract by and between _____, Owner, and _____, as Contractor, dated _____

During the performance of this contract, the Contractor agrees as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race creed, religion, color, sex, national origin or any other protected classification proscribed under local, state or federal law. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated ring employment without regard to their race, creed, religion, color, sex, nation origin or any other protected class ation proscribed under local, state or federal law. Such action shall include, but not be limited to, the following: en yment, upgr demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of or other f of compensation; and selection for training, including apprenticeship. The Contractor agrees to icuous place available to employees and applicants for employment, notices to be provided by the contracting offic setting forth provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, religion, color, sex, national origin or any other protected classification proscribed under local, state or federal law
- C. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contractor understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers representative of the Contractor's communents under Section 202 of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the V.S. Segretary of Labor.
- D. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the U.S. Secretary of Labor.
- E. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the U.S. Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the U.S. Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and relevant orders.
- F. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rules, regulations or order of the U.S. Secretary of Labor, or as otherwise provided by law.
- netions of Paragraph (A) through (G) in every subcontract or purchase order unless G. The Contractor will include t exempte les, regulations or orders of the U.S. Secretary of Labor issued pursuant to Section 204 of Executive Order September 24, 1965, so ti at such provisions will be binding upon each contractor or vendor. The Contractor will 11246 ubcontract or purchase order as the contracting agency may direct as a means of take. ich action with to a anctions for noncompliance; PROVIDED, HOWEVER, that in the event the enfo cing such p udin n, or is threatened with, litigation with a subcontractor or vendor as a result of such direction Cont es involv by the contracting agency, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Contractor

Owner

Date:

Date:

Asphalt Sealcoat Specifications

Asphalt Sealcoat Specifications

Scope of Work

Sealcoat all visible asphalt at _______partments.

Specifications

- 1. Preparation of existing road surface:
 - a. Holes and depressions in granular surface shall be repaired by removing all loose and defective material and replacing with a patching mixture of slow curve asphalt and mineral aggregate.
 - b. Fill small cracks (except hairline cracks) with a lighter grade of rapid and medium-curing liquid asphalt (heat, if necessary, to a pouring viscosity).
 - c. Fill larger cracks with same material combined with fine sand or other fine aggregate.
 - d. Oil spills (from autos) must be torched to a level of solid asphalt to remove all volatile oil, followed by removal of all loose aggregate then sealed with shellac or a sealer manufactured for this purpose before sealcoating.
 - e. Immediately prior to application of asphalt sealsoat, all loose and foreign material shall be removed by light sweeping, and if dusty, the surface shall be dampened with water.

Materials:

The sealcoat material shall be homogenous and show no separation or coagulation of components that cannot be overcome by moderate stirring. It shall be capable of application and complete coverage, by squeegee, brush, or by approved mechanical methods, to the surface of bituminous pavements at a spreading rate of 1.5 to 2.5 gallons per 100 square feet in two coats. The emulsion shall be prepared from straight run high temperature coke-oven tar conforming to requirements of R-T-143. Petroleum tar and oil and water gas tars shall not be used even though they comply with R-T-143. #52 Silica Sand should be added at the rate of 4-6 pounds per gallon.

3. Chemical and Physical Requirements:

The material shall conform to the following requirements prior to fortification with antifreeze"

	<u>MAX.</u>	<u>MIN.</u>
Water, percent	53%	-
Nonvolatiles, percent	-	47%
Ash of nonvolatiles, percent	40%	30%
Solubility of nonyolatiles in CS2	-	20%
Specific gravity 2S C/25 C		1.20%

Asphalt Sealcoat Specifications

4. Drying Time:

The coating shall exhibit "final set" in not more than eight hours.

5. Adhesion and Resistance to Kerosene:

The cured coating shall exhibit no penetration or loss of adhesion. Kerosene shall be defined as material complying with VV-K-211.

6. Resistance to Heat:

The cured coating shall show no sign of blistering, sagging or slipping when heated at 80° C. for two hours.

7. Adhesion and Resistance to Water:

The cured coating shall exhibit no blistering, loss of adhesion, or tendency to re-emulsify,

8. Flexibility:

The coating shall show no flaking, cracking, or loss of adhesion to the metal.

<u>Resistance to Impact</u>:

The coating shall exhibit no shipping, flaking, cracking, or loss of adhesion extending more than 1/4 inch beyond the periphery of the area of impact. (NOTE: This requirement may be waived at the discretion of the purchaser or engineer in charge of the project, provided the supplier can furnish a certification of satisfactory field performance record of not less than three years.)

- 10. Resistance to Volatilization shall be determined in accordance with ASTM D1010, except that the residue from the procedure outlined in section 6 shall be heated in an oven at 270 degrees F. for 30 minutes.
- 11. Wet Film Continuity

Emulsion, when wet, shall be uniformly smooth, nongranular consistency free from coarse particles.

12. Resistance to Freezing:

When specified, emulsion shall be fortified with antifreeze and be capable of exposure for 24 hours at 0 degrees F. (-17 C.) and when warmed to 77 degrees F. (25 C.) shall return to a homogeneous consistency with stirring.

Asphalt Sealcoat Specifications

13. Application:

Material should be applied with a machine designed for this purpose or with a squeegee at the rate of 0.1 to 0.2 gallons per square yard, depending on the texture and porosity of old pavement. Second coat <u>only may be sprayed</u>.

14. Complete coverage without bleed-through or pock marks must be obtained after drying.

	Contractor Signature
X	Date
7	
•	

Apartments.

Parking Area Striping Specifications

Parking Area Striping Specifications

Scope of Work

Stripe all visible parking areas at

Specifications

1. Preparation of existing surface:

Areas to be striped must be thoroughly cleaned. Heavy dirt, grease, and debits must be removed by scrubbing or sealing affected areas.

2. Application of Striping Materials:

Paint is to be applied with a brand of machine capable of this function. Striping machine must utilize a curtain of air to clean the surface as it is being painted. Machine must provide a clean cut line by directing compressed air against the edges of the spray pattern to cause premature drying.

Product Specifications:

Product should be commercial traffic zone paint. Color is the choice of management. Making sure to follow all local codes. Paint must be applied per manufacturers specifications.

Operational Specifications:

Traffic should not be allowed onto area for minimum of 4 hours.

NOTE:

The restriping of "No Parking Areas" and "Handicapped Parking Areas" will be indicated by on site staff. Color and size are to follow local code.

Contractor Signature

Date

Sample Service Request Form

Property Name:
Date:
Time:
Taken By:
Apartment Number:
Resident Name:
Resident Phone Number:
Entry Permission:
Specific Problem/Work Requested:
Assigned to:
Date:
Recommendations/Comments.
Action Taken: Completed Temporary Repairs Parts Replaced Parts on Order Time In: Time out:
Completed by
Resident Charge/Subcontractor Cost:
Resident called back
Comments:

Sample Service Request Summary

Property: _____

Date: _____

Employee	Title	_	rk Orders npleted	Total Time	Comments
Vork Requests					
SERVICE REQ	UESTS		MA	KE-READY	
Total received for	or week.		Tot	al painted.	
Total comple	eted.			maintenance ompleted.	
Pending from p week.	revious		Tot	al cleaned.	
Pending from o week.	current		Tota	completed.	
Holding for p	oarts.				
	allests 🔺				
Total all work re	iquests.				

Service Request Follow-up

Apt # Resident	# of SRs	Follow-up Date	Response/Result

Sample Certificate of Insurance

						SET TAB STO	PS AT ARROWS
E	RTIFICATE OF INS						5/85
X	DDUCER YZ Agency 589 Flower Blvd.	THIS CEF RIGHTS L OR ALTER	TIFICATE IS ISSUE	D AS A MATTER (ATE HOLDER. THIS FFORDED BY THE	DF INFORMAT S CERTIFICAT POLICIES BEI	TON ONLY AND TE DOES NOT AN LOW.	CONFERS NO MEND, EXTEND
C	leveland, Ohio 44213		COMP	ANIES AFFOR	DING CO	VERAGE	
		COMPAN LETTER	Y A United S	States Fidelity & Gua	ranty Co.		
	URED sphalt Paving Co. 256 Norman Drive	COMPAN'	Y B				
ċ	leveland, Ohio 44135	COMPAN	Y C			/	
		COMPAN	Y D				
		COMPAN'					
		LETTER	_				
T	DVERAGES HIS IS TO CERTIFY THAT POLICIES OF INSURANCE UDICATED. NOTWITHSTANDING ANY REQUIREMENT ERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE XCLUSIONS, AND CONDITIONS OF SUCH POLICIES.	LISTED BELOW TERM OR CONE INSURANCE AF	HAVE BEEN ISSUE DITION OF ANY CON FORDED BY THE F	D TO THE INSURE			OLICY PERIOD
;O TR	TYPE OF INSURANCE	POLICY	POLICY EFFECTIVE	POLICY EXPIRATION	LIABI	LITY LIMITS IN THO	
TR		NUMBER	DATE (MM/DD/YY)	DATE (MM/DB/YY)		OCCURENCE \$300	AGGREGATE
	GENERAL LIABILITY	1CC061293750	11/30/84	11/30/85	PROPERTY DAMAGE		S100
	PRODUCTS/COMPLETED OPERATIONS				BI & PD COMBINED	8	\$
	CONTRACTUAL INDEPENDENT CONTRACTORS BROAD FORM PROPERTY DAMAGE PERSONAL INJURY				PERSONAL	INJURY	s
	AUTOMOBILE LIABILITY	100001007700	11/30/84	11/30/85	BODILY INJURY (PER PERSON)	\$ 250	
L.	X ALL OWNED AUTOS (OTHER THAN PRIV. PASS.) X ALL OWNED AUTOS (OTHER THAN PRIV. PASS.) X HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY	1CC06123750	1120/04		BODILY INJURY (PER ACCIDENT)	\$ 500	
					PROPERTY	\$ 100	
					BI & PD COMBINED	\$	
(EXCESS LIABILITY	CEP059507569	11/30/84	11/30/85	BI & PD COMBINED	\$1,000	S
	WORKERS' COMPENSATION	18 54466 84 4	11/30/84	11/30/85	STATUTORY		
	EMPLOYERS' LIABILITY	10 0 100 0 1			\$ 100 (EACH ACCIDENT) \$ 500 (DISEASE-POLICY LIN		
						100 (DISEASE-E	
	OTHER		1		1		1
]	l			
ES	CRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SP Asphalt paving and repairs	PECIAL ITEMS					
E	RTIFICATE HOLDER	(CANCELLATIC)N			
018	ipital Investors 573 Penel Lane tron, Ohio 44145		EXPIRATION DATE 10 DAYS WRITTEN BUT FAILURE TO M	THE ABOVE DESCR THEREOF, THE IS NOTICE TO THE O MAIL SUCH NOTICE N THE COMPANY, I	SUING COMP CERTIFICATE SHALL IMPOS	ANY WILL ENDE HOLDER NAMEI	AVOR TO MAIL TO THE LEFT
		- ·	AUTHORIZED REPRI	ESENTATIVE			

Sample Property Inventory Form

roperty:		By: Date: _			
Location	Description	Make	Madal		
Location	Description	маке	Model	Serial #	
		1			
		+			
		+			
			+		
			+		
			·		
				-+	
			+	+	
ocation: M - M	Maintenance Shop				
S-S	Office Storage				

Property Inventory

C - Clubhouse

Sample Preventive Maintenance Schedule

Property:	M	onth: <u>M</u>	arch	
Description	Completed By Date	Check	Regional Check	Comments
check all circulating pumps & notors for leaks & corrosion. Oil as becified by manufacturer.				
clean storage, equipment & naintenance rooms. Update iventory.				
eplace burned out exterior lights, heck photocells.				
lse enzyme sewer p.m. on problem oldgs. Replace missing sewer caps.				
nspect gutters, downspouts, oundations, exterior walls, balconies k washouts—attach list of needed epairs.				
0-day maintenance inspection and filter change. Aptsthru completed. (Must complete one hird of property.)				
Complete repair of sprinkler ystems. Set timers to water every ther day. Check weekly for broken leads, etc.		X		
Clean automatic chlorinator & . heck out all pool equipment.				
awns & shrubs are to be fertilized & vatered thoroughly. Flower beds to be cleaned & turned.				
ome items on schedule may not app completed column. This schedule mus by the first of the following month of th	st be complete	erty. If not, a and retu	put N/A unde rned to the R	er the date egional Office

Preventive Maintenance Landscaping Monthly Report

	(month/year)	
Group 1	Work to be Completed	Completed
Chain Saw	Inspect/replace filter	
Street Blower	Inspect Change oil and filter	
Storm Drains	Check and clean out	
36" Toro Lawnmower	Inspect/replace tilter	
Group 2	Work to be Completed	Completed
Back Pac	Inspect	
Trailer	Inspect	
Site Inspection	Use chart	
Vacuum/Blowing	Parking lots	
52" Toro Lawnmower	Inspect/replace filter	
Supervisor/Foreman	Work to be Completed	Completed
Shrub Care	 Prune (shape and corrective) Spray for insects 	
Turf Weed Control	Weed control for crabgrass and broad	adleaf
Turf Insect Control	Order	
Mow/Weedeat/Edge	Entire site	
Weed Control	 Spray mulch beds with hand spraye 	r

Preventive Maintenance Maintenance Monthly Report

	(month/year)	
Group 1	Work to be Completed	Completed
White Sand Boiler	 Inspect weekly/use chart 	
Pickup	 Inspect & clean Check all fluids, belts, and tires Change oil, filter, and grease 	
Tennis/Volleyball Courts	 Inspect surface, nets, and fence 	
Community Building	Inspect and service per checklist	
Buildings	Inspect exterior	
Group 2	Work to be Completed	Completed
Brownleaf Boilers	Inspect weekly/use chart	•
Tenant Storage	Inspect Check smoke detectors	
Paint Compressor	Check chart in paint trailer	
Buildings	Inspect exterior	
Paint Trailer	Inspect	
Swimming Pool	Inspect pump room, guard room, fence, and furniture	
Group 3	Work to be Completed	Completed
Black Rock Boilers	Inspect weekly/use chart	
Buildings	Inspect exterior	
Maint Cart #1	 Inspect tires, lights, batteries, and cover 	r
Hand & Power Tools	Inspect	
Group 4	Work to be Completed	Completed
Green Moss Boilers	 Inspect weekly/use chart 	
Garage	Inspect	
Fire Extinguishers	 Inspect at Community Building, vehicles, and storage rooms 	
Maint Cart #2	 Inspect tires, lights, batteries, and cove 	r
Buildings	Inspect exterior	<u></u>

	Work to be Completed	Completed
Mill Shop	Inspect	
Building #39	Inspect	
Maint Cart #3	Inspect tires, lights, batteries, and cover	
Supervisor/Projects	Work to be Completed	Completed
Staff Meetings	Pros and Cons of Operations	
Outside lights	Inspect by Security	
Fire Sprinkler System	Inspect Community Building	
Safety Meeting	 Material Data Safety Sheets Review safety equipment and procedures 	
V.H.D.A.	Inspection	
Exercise Room	Oil and check all exercise equipment	
S		

Activity #1: COPA Airlines

Instructions Watch the Covey video "COPA Airlines." After watching the video, answer the three concept questions as a class. In groups of three to five, complete the following exercise. Use one of the goals below and describe how each member of the team can assist with strategies to meet the goal. 25 make-readies in 25 days 85% renewal capture 24 hours service order response Locate and set-up a new model 95% Resident satisfaction rating No work site injuries

Activity #2: Trends on a Service Request Summary

Instructions Working in groups, review the information on the Service Request Summary. Look for trends and discuss what you find.

Service Request Summary

Property: Date:02-0	The G 06-2011	ood Apartments		
Employee	Title	# Work Orders Completed	Total Time	Comments
John W.	Lead	4	2.5 hr	No make-readies
Ted. R	Asst.	23	19 hr	Three make-readies

Work Requests

SERVICE REQUESTS		MAKE-READY	3
Total received for week.	30	Total painted.	1
Total completed.	27	Total maintenance completed.	3
Pending from previous week.	8	Total cleaned.	1
Pending from current week.	N N	Total completed.	1
Holding for parts.	1		
Total all work requests.	39		
Emergencies Handled		Total Vacancies	14

Service Request Follow-u

Apt #	Resident	# of SRs	Follow-up Date	Response/Result
1-101	Tomlin		02-06-06	John didn't clean up.
3-221	Jackson		02-07-06	John left a razorblade on tub
2111	Kenny		02-07-06	Ted did good job!

Activity #5: Retrofitting Case Study: Slow Water Leaks

Instructions	Working in groups, complete the worksheet.		
Background	It is estimated that 7% of all water used in apartments is wasted due to slow often unseen leaks. Older hardware and seals break down over time. In addition, new technology has allowed the development of synthetic seals and fixtures that significantly reduce water use without compromising the quality of water delivery.		
	Often times sewer rates are a function of water usage. Saving water will lead to a reduction in sewer expenses as well.		
	Have you ever considered how much water will escape through a 1/32" leak over 24 hours? What about a 1/16" leak over 24 hours or a 1/8" leak over 24 hours? Not only will new seals solve the leak, but new fixtures will make an even more significant change.		
	Let's look at how retrofitting toilets and showerheads can save money.		
Situation	An apartment community has 100 apartment homes. The cost of water is \$0.20 per 100 gallons, and, on the average, two (2) showers are taken per day. In each apartment, the estimated length of shower is 5 minutes.		
	The existing showerhead allows water to flow at a rate of seven (7) gallons per minute; a new showerhead allows water to flow at a rate of 2.5 gallons per minute.		
The Problem	What are the cost and energy savings of replacing the existing showerhead with a new showerhead?		
Water usage	Use the following formulas to calculate the water usage, in gallons per day.		
	Existing showerhead: gallons per day (100 apts. X 2 showers per day X 5 minutes per shower at 7 gpm.)		
	<u>New showerhead</u> : gallons per day (100 apts. X 2 showers per day X 5 minutes per shower at 2.5 gpm.)		

Continued on next page

Activity #5: Retrofitting Case Study: Slow Water Leaks, Continued

Water saved	Use the following formulas to calculate the water saved, in gallons.		
	Savings per day: gallons (existing showerhead usage – new showerhead usage)	•	
	Savings per year: gallons (gallons saved per day x 365 days)		
Money saved	Use the following formulas to calculate the money saved	d, in dollars per year.	
	Savings per year: \$ (gallons saved per year x \$0.20/100 gallons)		
Rate of return on investment for	Use the following formulas to calculate the rate of return purchasing new showerheads for all units in this commu		
showerheads	Cost of new showerheads: \$40.00 each		
	Cost of new showerheads for all units:	\$	
	Savings on water bill the first year	\$	
	Number of years to pay of cost of showerheads from water savings: (cost of showerheads/savings per year)	years	
	2		



CERTIFIED APARTMENT MANAGER[®]

NAAEI thanks you for taking the Certified Apartment Manager (CAM) program.

Following is a list of items that you may find on the NAA Web site that may not be included in the program text that is to be used for your reference while taking the courses in this program:

- Supplement/Resource Materials
- CAM Skill Checks and Answer Key
- Additional Course Handouts

These files may be downloaded from the NAA Web site by visiting:

www.nashg.org/education/CandidatesOnly





4300 WILSON BLVD., SUITE 400 ARLINGTON, VA 22203 703/518-6141 FAX 703/248-8370 education@naahq.org www.naahq.org