New Tools: Engaging Residents and Operations Staff in Sustainability

A LIVE ONLINE EVENT
Agenda

Welcome + Introduction to the 2015 Criteria

New Tools: Residents

New Tools: Operations Staff

Q+A
Objectives

Attendees of this Live Online Event will be able to:

• Understand the purpose of these resources, what they cover, and how to access them.
• Identify the key components in Resident Engagement materials and how to use the Enterprise resources.
• Identify the key components in implementing a sustainability focus to your Operations & Maintenance program and how to use the Enterprise resources.
Enterprise Green Communities is transforming the way America thinks about, designs, builds, and rehabilitates affordable housing.

Green building integrates materials and methods that promote environmental quality, economic vitality, and social benefits through design, construction and operations of the built environment.

Enterprise Green Communities aligns affordable housing investment strategies with environmentally responsive building practices.
Green Communities Certification

Enterprise Green Communities certified projects are underway in 39 states + the District of Columbia.
www.enterprisecommunity.org/Green

**Tools & Services**

**Green Communities Criteria**
Our clear, cost-effective framework for all affordable housing. >>

**Charrette Tools**
Customizable resources to aid your integrative design plans. >>

**Resident Engagement**
Mobilize residents to help maximize energy-saving efforts. >>

**Operations & Maintenance**
Green efforts continue after construction ends! >>

**Research & Evaluation**
Discover new research and practical insights in green building and affordable housing. >>

**Online Event Archive**
Download one of over 30 webinars we’ve hosted with leaders and experts in green affordable housing. >>

**Construction Specs Templates**
Editable specs in MasterSpec format that correspond to the 2015 Criteria. >>

**Tools for Resilience**
Tools to help housing organizations prepare for and respond to disasters. >>

**Retrofit Toolkit**
Upgrade existing multi-family buildings with energy-efficient features and systems. >>

**Technical Assistance Database**
Experts ready to address your affordable housing technical needs. >>
Today’s Speakers

Mark Pando & Andrea Mancino, Bright Power

Rachelle Macur, Group14 Engineering
New Tools:
Engaging Residents and Operations Staff in Sustainability

Resident Engagement Manual
Manuals provide the backbone of a property’s resident engagement program. This suite of materials align with the key principles of the 2015 Criteria and allows owners to translate information about the design and construction of their building into a format that engages residents on how to best maintain their dwelling unit and the building at large.

- Green Resident Engagement Manual Template
- Guidelines on how to tailor the manual to meet your needs
- Sample Orientation Agenda
- Supplement Signage, Icons, and Images
Rachelle Macur  
Group14 Engineering

Rachelle is the head of Group14’s Enterprise Green Communities and Occupant Engagement consulting service.

Her expertise includes:

- Charrette facilitation for dozens of affordable housing communities
- Taught graduate level courses at CU on qualitative analysis and social engagement for sustainability-oriented initiatives (including developing, conducting, and analyzing different types of evaluation techniques).
- Designed, implemented, and evaluated several behavior-based occupant engagement programs throughout the country
- Trains affordable housing developers how to educate and engage their residents to reduce resource consumption
C8.3: Resident Manual

Criterion 8.3 Resident Manual *(Mandatory)*: Provide a guide for homeowners and renters that explains the intent, benefits, use and maintenance of their home’s green features and practices. The resident manual should encourage green and healthy activities.
Rationale

- Education on the operations and maintenance of the home will allow residents to fully realize the environmental, health and economic benefits that green housing offers.
- Further the investment: help ensure that the intent of the standards and products put in place are carried into ongoing operations.
- Create a culture of sustainability
YOUR GREEN & HEALTHY HOME

Our resident guide to a healthy home, a healthy community and a healthy YOU.
Feedback, interviews and focus 
groups with: Property Managers, 
Resident Services, Energy Managers, 
Development Directors, and 
Residents
Intro to manual

Not meant to replace lease or owner’s manuals, but seen as a resource to residents -- a way to find out more information about the building and their home, and how to maximize their health & wellbeing, and minimize their impact on the environment.

THE MANUAL
- Provides guidance on maintaining and operating the home
- Offers tips and suggestions for creating and maintaining a healthy and green lifestyle
- Outlines building policies and procedures
- Provides maps of the building and nearby amenities, including public transportation access and bike trails
- And much more!
Indicators

ENERGY STAR TIPS
WASHING MACHINE

• Always use HE (high efficiency) detergent. Regular detergent makes too many suds which affects performance of the machine. Look for the blue ⚜ when purchasing.

• Fill it up. It takes the same amount of energy to wash regardless of the size so run full loads when possible.

• Wash in cold. Heating water uses 90% of the energy it takes to run a load. Cold water will do just as good a job cleaning clothes and can save over $40/year.

• Avoid the sanitize cycle. This super-hot cycle uses less energy.

• Leave the door open after use. Front loading washers use orifice seals to prevent leakage which can trap moisture and lead to mold. Leave the door open after use to allow the moisture to evaporate.

• Rinse the washer monthly. Some manufacturers recommend a monthly rinse with 2 cups of white vinegar with 1/3 cup of baking soda to reduce the risk of mold or mildew.

DID YOU KNOW?
Washing in cold water cleans just as well as warm or hot water and prolongs the life of your clothes.

- The Inevitable, “The Case for Washing in Cold”
Indicators

ENERGY STAR TIPS
WASHING MACHINE

- Always use HE (high efficiency) detergent. Regular detergent makes too many suds which affects performance of the machine. Look for the blue water drop when purchasing.

- Fill it up. It takes the same amount of energy to wash regardless of the size so run full loads when possible.

- Wash in cold. Heating water uses 90% of the energy it takes to run a load. Cold water will do just as good a job cleaning clothes and can save over $40/year.

- Avoid the sanitizing cycle. This super-hot cycle uses lots more energy.

- Leave the door open after use. Front loading washers use airtight seals to prevent leakage which can trap moisture and lead to mold. Leave the door open after use to allow the moisture to evaporate.

- Rinse the washer monthly. Some manufacturers recommend a monthly rinse with 2 cups of white vinegar with 1/3 cup of baking soda to reduce the risk of mold or mildew.
- Welcome to our community
- What to expect from this manual
- What to expect from your home
- What is a “green” home
- Building features
• Green Lifestyle
  • Buying locally
  • Being active
  • Fresh food

• Community Connection
  • Nearby amenities and open space
  • Public transportation access

• Breathe Easy with Clean Air
  • Indoor air quality
  • Reducing allergens

• Environmental Tobacco Smoke
  • Smoking policy
  • Importance of smoke-free environments
LIFESTYLE
LIVE GREENER

There is a strong connection between your personal lifestyle choices and the health of the environment. In taking care of your health you are taking care of the earth (and vice versa).

LIVE GREENER

1. Buy Local
Buy local reduces the emissions required to get goods to consumers while supporting the local economy and providing you with fresher, healthier foods and products.

2. Use Green Cleaning Products
Choose non-toxic, zero VOC, biodegradable products in recycled packaging or use homemade substitutes when possible. This is better for your family’s health, your wallet, and the environment.

3. Stay Active
Use the stairs, ride your bike, go for a walk. Staying active greatly decreases risk for chronic disease, obesity, and health disparities. It also keeps you living longer and decreases your cost of healthcare.

4. Use Public Transportation
Public Transportation cuts down on your environmental footprint, so does carpooling! Find out more information on the public transportation in your area in this guide.

DID YOU KNOW?
The more connections we have to the people and places around our home, the healthier and happier we are and the longer we live. — Robert Putman, Harvard University Professor
BREATHE EASY
AVOID ASTHMA AND ALLERGY TRIGGERS

Help keep your home clear of these common asthma and allergy triggers:

1. PESTS
2. TOBACCO SMOKE
3. MOLD & MOISTURE
4. DUST MIES

Report issues: Report problems to management as soon as possible (Insert phone number).

Good Housekeeping: Be sure to: clean up food waste daily, avoid collecting boxes/papers/magazines, check cupboards and corners for pests and mold, maintain a regular cleaning routine.

Treat Pets: Have pets treated for fleas and other pests yearly.

No Pesticide Foggers: Avoid using foggers as they are often ineffective and contain products that are harmful to your health.

Report Leaks: Report plumbing/root/toilet leaks to management as soon as possible (Phone number). A small leak can turn into a big problem quickly.

Exhaust Fans: Use the exhaust fans in your kitchen and bathroom to avoid mold and moisture damage. Clean regularly to avoid buildup of dust.

Smoking: Smoke at least 25 feet away from the building.

If you or a family member is experiencing persistent hives, rash, or breathing issues, contact your health care provider.

SMOKE FREE
SMOKING POLICY & SUPPORT

Briefly state where smoking is allowed / not allowed on the property.

Why is Smoke Free Housing Good?
- Smoking is the #1 cause of lung cancer and shortening of lives.
- Smoking is the #1 cause of severe ear aches and asthma in children.
- Secondhand smoke is the third leading cause of preventable death.
- Secondhand smoke can cause sudden infant death syndrome (SIDS) in babies.
- Limiting exposure to smoke improves your chances of avoiding heart disease and other problems.
- Smoking poses a fire hazard and damages interior finishes.

Resident Role:
- To be respectful to others and ensure the health and well-being of all residents, please smoke outside at least 25 feet from windows and doors.
- To keep our grounds clean and safe, please use an ashtray and throw away butts properly.

If you want to quit smoking, XXX programs offer help. Contact XXX for more information.
• Energy: Comfort and Efficiency
  • How to use equipment and thermostat
  • Energy star tips (washer, dryers, fridges, and dishwasher)
  • Energy saving tips

• Water Smart
  • Water fixtures
  • Water savings tips
  • Greywater / Rainwater catchment guidelines
ENERGY EFFICIENCY

USE CFL OR LED LIGHT BULBS
Use high-efficiency bulbs and reduce energy use by up to 80%

TURN OFF/UNPLUG APPLIANCES
Unplug when not in use. For example, TV, DVR, fans and coffee makers.

TURN LIGHTS OFF
Turn the lights out when you leave a room and use natural light over electric light when possible.

KEEP REFRIGERATOR CLOSED
Think about what you need prior to opening the fridge to minimize time spent with the door open.

USE POWER STRIPS
It’s easier to turn off/unplug all appliances at the same time and remove “phantom/vampire” energy loads.

UNPLUG CELLPHONE/LAPTOP CHARGERS
These use energy even when the electronic is not being charged. This is called a “vampire” or “phantom” load.
<table>
<thead>
<tr>
<th>Fixture</th>
<th>Average Flow Rate</th>
<th>Your Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Showerhead</td>
<td>2.5 gallons/min</td>
<td>1.5 gallons/min</td>
</tr>
<tr>
<td>Bathroom Faucet</td>
<td>2.2 gallons/min</td>
<td>0.5 gallons/min</td>
</tr>
<tr>
<td>Kitchen Sink</td>
<td>2.2 gallons/min</td>
<td>1.5 gallons/min</td>
</tr>
<tr>
<td>Toilet</td>
<td>1.6 gallons/flush</td>
<td>1.28 gallons/flush</td>
</tr>
<tr>
<td>Dishwasher</td>
<td>10 gallons/cycle</td>
<td>5.8 gallons or less</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>23 gallons/wash</td>
<td>15 gallons or less</td>
</tr>
</tbody>
</table>

**Fix Dripping Faucets and Running Toilets**
If you notice an issue with your plumbing, notify management right away.

**Do Not Flush Garbage**
Never use the toilet as a wastebasket. Save water and prevent blockages by disposing of waste properly.

**Wash Full Loads**
A full load of laundry uses less water than two half loads.

**Take Shorter Showers and Fewer Baths**
Showers typically use less water. Shortening your shower even by 1 minute can save over 500 gallons per year.

Water is one of the Earth’s most valuable resources, yet many of us don’t take the time to think about where our water comes from. In fact, every year the number of states in drought grows and fresh water is becoming scarce. Less than 3% of the water on Earth can be used for drinking and only 0.5% is readily available.
• Green Cleaning
  • Cleaning Guidelines
  • Cleaning Products
  • Home Recipes

• Pest Management
  • Prevention Guidelines
  • Mitigation Process and Products

• Waste Reduction & Recycling
  • Recycling
  • Reducing Waste
  • Composting
  • Hazardous Waste
USE A REUSABLE BOTTLE
Each year, billions of plastic water bottles are thrown away.

DO NOT USE DISPOSABLES
Avoid using Styrofoam cups, paper plates, plastic utensils, and single use coffee cups.

USE REUSABLE SHOPPING BAGS
Take your own bag for groceries to help cut down on single use plastic bags.

END JUNK MAIL
Remove yourself from mailing lists. For more information, visit: www.catalogchoice.org

REUSE/RECYCLE
Think twice before putting something in the trash. Decide if there is a better way to dispose of or reuse the item.

DO NOT USE DISPOSABLES
Avoid using Styrofoam cups, paper plates, plastic utensils, and single use coffee cups.
**Basic Window Cleaner**

- ¼ Cup white vinegar
- Water

Pour white vinegar in a spray bottle and fill to top with water. Spray on surface and wipe with clean sheets of newspaper.

**All-Purpose Spray**

- 2 Tbsp. white vinegar
- ½ Tsp. liquid dish soap
- 1 Tbsp. baking soda
- 2 Cups warm water

Combine vinegar and soap in spray bottle. Add baking soda and wait until foaming stops. Add water and shake to mix. Spray and let sit before wiping with a clean rag.

**Peppermint Floor Cleaner**

- ¼ Cup Murphy’s Oil Soap
- 1 Cup white vinegar or lemon juice
- 1 Cup very strong peppermint tea

Combine ingredients in a bucket of warm water and mix until sudsy.

Scrub floor with mop or rag. Follow with a clean water rinse.

**Toilet Bowl Cleaner**

- Sprinkle baking soda inside bowl
- Squeeze in a few drops of Murphy’s Oil Soap or Castile Soap

Scrub toilet with a bowl brush and finish outside surfaces with a rag sprinkled with baking soda.

Rinse well with clean water.
PEST MANAGEMENT
PREVENTION TIPS

Pests can carry disease. If you find bugs, ants, rodents, or other pests in your apartment, report it to management (insert phone number) immediately. Pests are often not a sign of “dirtiness” and are something that can happen to any of us.

If you do find pests, please use non-toxic pesticide products and avoid those products that are dangerous to your health, such as Raid spray and Moth Balls. Most pesticides are poisons, and they are often poisonous to humans, as well as to pests. Studies have linked some pesticides to cancer, birth defects, neurological disorders, and immune system disorders, as well as allergies.

Non-toxic solutions (such as sprinkling borax), baits and traps should be used prior to more aggressive means.

The best strategy is to keep pests from coming into your apartment in the first place.
• Clean up food and spills right away
• Clean the kitchen regularly
• Sweep the floors regularly
• Rinse bottles before recycling
• Take out garbage and recycling regularly
• Minimize clutter and paper piles

Carefully inspect all used furniture before you buy. Most bed bugs are carried into the home on used furniture. If you have bed bugs contact Management ASAP.
MAINTENANCE & SAFETY

- Emergency maintenance situations
- Exterior site management
- Maintenance checklist
- Building Policies
**EMERGENCY PLAN**

**Tornado**
When a warning is issued by sirens or other means, seek inside shelter. Consider: (1) Small interior rooms on the lowest floor and without windows, (2) Hallways on the lowest floor away from doors and windows, and (3) Rooms constructed with reinforced concrete, brick, or block with no windows. • Stay away from outside walls and windows. • Use arms to protect head and neck. • Remain sheltered until the tornado threat is announced to be over.

**Earthquake**
Stay calm and keep away from overhead fixtures, windows, filing cabinets, and electrical power. • Assist people with disabilities in finding a safe place. • Evacuate as instructed by a designated official.

**Hurricane**
If a hurricane watch has been issued: Stay calm and await instructions from a designated official. • Continue to monitor local TV and radio stations for instructions. • Move out of low-lying areas or from the coast, at the request of officials. • If you are on high ground, away from the coast and plan to stay, secure the building, moving all loose items indoors and boarding up windows and openings. • Collect drinking water in appropriate containers.

If a hurricane warning has been issued: Be ready to evacuate as directed by a designated official. • Leave areas that might be affected by storm tide or stream flooding.

During a hurricane: Remain indoors and consider the following: (1) Small interior rooms on the lowest floor and without windows, (2) Hallways on the lowest floor away from doors and windows, and (3) Rooms constructed with reinforced concrete, brick, or block with no windows.

Stay calm and await instructions from a designated official. • Stay indoor! • If there is no heat: Close off unneeded rooms or areas. • Stuff towels or rags in cracks under doors. • Cover windows at night. • Eat and drink. Food provides the body with energy and heat. Fluids prevent dehydration. • Wear layers of loose-fitting, light-weight, warm clothing, if available.

**Blizzard**

**EMERGENCY MAINTENANCE**

If you encounter any of these situations, contact management immediately:
- Inoperative smoke alarm or carbon monoxide detector
- Kitchen sink stopped up
- Water leak
- Overflowing or broken toilet causing leaks
- Stopped up toilet (after plunging failed)
- No A/C or Heat
- No hot water
- Power out
- Lightbulb replacement
- Gas leak or pilot light out
- Wall-mounted sink loose or fallen off the wall
- Inoperative stove
- Inoperative refrigerator/freezer
- Broken first floor window
- Broken entrance door lock
- Interior and exterior railings loose and/or broken
- Banister loose and/or broken
- Add more as needed

**MANAGEMENT CONTACT NUMBERS**

To Report a Leak or Concern 000-000-0000
To Learn More About How to Conserve Resources 000-000-0000
Other Comments/Questions 000-000-0000

Thank you for helping to make XXX a healthy and happy community!
## HOME MAINTENANCE CHECKLIST

### INTERIOR WALLS, CEILINGS, DOORS

<table>
<thead>
<tr>
<th>Task</th>
<th>Spring</th>
<th>Fall</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check for signs of water damage</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Check operation of windows and doors</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Check for rodents and pests</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PLUMBING FIXTURES AND APPLIANCES

<table>
<thead>
<tr>
<th>Task</th>
<th>Spring</th>
<th>Fall</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check and clean refrigerator coils</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Check and clean refrigerator drip pan</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Check plumbing traps and drains</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Check hot water heater for leaks</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Check bath and kitchen fans</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

### APPLIANCES

<table>
<thead>
<tr>
<th>Task</th>
<th>Spring</th>
<th>Fall</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean kitchen range hood screens</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Clean dryer vents and screens</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Clean exhaust fan outlets</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Clean A/C coils, drains, pans</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

### ELECTRICAL AND HVAC

<table>
<thead>
<tr>
<th>Task</th>
<th>Spring</th>
<th>Fall</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check smoke and CO alarms</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Replace air conditioner filters</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Replace dehumidifier filters</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
X Apartments works with local waste haulers to provide you with an easy means of reducing the amount of waste you put in the landfill. All trash should be disposed of in the dumpster/trash room/trash chute near X. There are separate bins for recycling and trash available. Please dispose of your waste in the proper location. Add additional info on composting or waste procedures as needed.
Customize it!

- Change text in red
- **Notes section**
  - Table of contents
  - Phone numbers
  - Logo
  - Intro Letter

How to use this page:
- Adjust the slide to reflect information relevant to your county or city.
- Insert information on where individuals can recycle e-waste, such as city waste guidelines; you can include it here.
- Add any additional tips you may have for reducing waste.

Consider getting input from: Property Management
Customize it!

- Change text in red
- Notes section
- **Table of contents**
  - Phone numbers
  - Logo
  - Intro letter

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<th>Page</th>
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<td>Important Phone Numbers</td>
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<tr>
<td>Welcome from the Director</td>
<td>00</td>
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<tr>
<td>Utility</td>
<td>00</td>
</tr>
<tr>
<td>Community Connection</td>
<td>00</td>
</tr>
<tr>
<td>Beating Easy with Cleaner Air</td>
<td>00</td>
</tr>
<tr>
<td>Smoking Policy &amp; Support</td>
<td>00</td>
</tr>
<tr>
<td>Energy, Comfort &amp; Efficiency</td>
<td>00</td>
</tr>
<tr>
<td>Water Use</td>
<td>00</td>
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<tr>
<td>Recycling &amp; Waste Management</td>
<td>00</td>
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<tr>
<td>Green Cleaning</td>
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<tr>
<td>Pest Management</td>
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<td>Emergency Plan</td>
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<tr>
<td>Exterior Site Maintenance</td>
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<tr>
<td>Routine Maintenance Plan</td>
<td>00</td>
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<tr>
<td>Location of Emergency Turn-offs</td>
<td>00</td>
</tr>
<tr>
<td>Building Policies</td>
<td>00</td>
</tr>
</tbody>
</table>

This document was developed by Building Engineering and Facility Operation Group on behalf of Families Green Communities.
Report plumbing/roof/toilet leaks to management as soon as possible (Phone number). A small leak can turn into a big problem quickly.
Customize it!

• Change text in red
• Notes section
• Table of contents
• Phone numbers

• Logo
  • Intro letter
WELCOME TO OUR COMMUNITY!

The purpose of this resident manual is to provide you with the tools, information and resources to help you create and maintain a green and healthy home, community, and lifestyle.

THIS MANUAL
- Provides guidance on maintaining and operating your home
- Offers tips and suggestions for creating and maintaining a healthy and green lifestyle
- Outlines building policies and procedures
- Provides maps of the building and nearby amenities, including public transportation access and bike trails
- And much more!

Please refer to your lease agreement for specifics on building policies and regulations.

Thank you and welcome home!

<INSERT SIGNATURE HERE>
First name
Title

[INSERT LOGO HERE]
Customize it!

BUILDING FEATURES

Low or non-toxic volatile organic compounds (VOCs) in all paints, coatings, sealants, adhesives, and flooring
- This means cleaner air for you! It is proven that these materials help reduce health problems associated with asthma and other chronic issues.

Plumbing fixtures that use less water than traditional fixtures
- These fixtures will reduce water consumption and help our state and country through drought struggles.

Lighting and heating equipment that improves comfort and controllability
- You will be thankful for easy-to-use and efficient fixtures and equipment that will improve your comfort at home and reduce harmful emissions.

Designed for resiliency to help withstand any unexpected weather events or loss of power.

Take out, add, change any pages that you want!
Getting input

ENTERPRISE RESIDENT MANUAL

A HOW TO ON TAILORING THE TEMPLATE TO YOUR PROJECT’S NEEDS

Kicking Off the Process:
In the transition from the design/construction of the building to the operations phase, information and details can slip through the cracks. Many times, the building’s features and systems are not used optimally due to lack of occupant knowledge/training or poor design assumptions of how building users will interact with the space. For these reasons, it’s ideal to invite building occupants into the design process and the development of the building manuals.

Throughout the design process, keep in mind how your stakeholders (e.g., maintenance ops, property management, resident services, development staff and residents) will be interacting with the space and what the needs of each of these stakeholders are. Ideally, you will have representatives from each of these stakeholder groups included throughout the design as part of the integrative design process. Recognizing and engaging the needs of each of these user groups will help inform the Resident Manual—both the information that management wants to share with residents and the information that residents need to receive inorder to positively relate with their home and community.

After construction begins, find a way to sit down with these same stakeholder groups and go through the manual page by page, discussing what information is useful, what is unwieldy, and what is missing for your particular building or community. Getting their feedback will make the manual as effective and useful as possible. It also provides a great opportunity to “tweak” these stakeholder groups on the intentions of the design, the features of the building, and how to optimize their use. The development of the manual requires an integrative process and someone to champion its development. This can be someone from the design team, the sustainability consultant, on-site management, and/or the developer.
Stakeholders:
- Project Design Team
- Maintenance Staff
- Property Management
- Resident Services
- Owner’s Development Team
- Energy Manager
- Neighboring businesses
- Residents
Magnets

For electrical, plumbing and other home-related issues:
CALL MAINTENANCE
000-000-0000

RECYCLABLE ITEMS
• xxx
• xxx
• xxx

What can you do right now to SAVE ENERGY?
1. xxx
2. xxx
3. xxx
Signage

PICK UP DOG WASTE
Help make XXX beautiful!

PICK UP TRASH
Reduce resource waste, keep pests away, and help make XXX beautiful.

USE THE STAIRS
Two flights of stairs climbed per day can lead to six pounds of weight loss over one year and reduces your risk for heart attack.
Instituting a manual is great!... but it’s just the start.
Establishing a culture of sustainability requires further engagement.

- Orientation (c8.4)
- Green Team / Gardening Team
- Incorporate into LRC meetings
- Welcome Neighbor program & packet (incl. radon test, light bulbs, aerators, recycling can, etc.)
- Newsletters and/or bill inserts
- Green Liaison (staff or resident)
- Workshops
- Competitions
Walk the Talk.

- Internal programs and policies
- Waste Reduction
- Transportation Management
- Integrated Pest Management
- Green Cleaning
- Green O&M manual

1. Indoor Air Quality Management

The Case for Clean Indoor Air

Indoor air is often underestimated because it is usually not visible.

The problem is indoor air pollution, which can contribute to public health issues. Indoor air pollutants come from many sources, including materials and furnishings (such as paints, adhesives, flooring and carpeting, cabinetry, and finishes), cleaning products and aerosols; indoor smoke; combustion from fuel-burned appliances and equipment; water leak and moisture; and or outside factors. Outdoor air pollutants include particulate matter, ozone, nitrogen oxides, and sulfur dioxide. These pollutants can become concentrated inside buildings.

Indoor air quality (IAQ) is associated with a wide variety of health problems, from respiratory and allergic reactions to asthma, allergic and non-allergic respiratory problems, to heart diseases and chronic headache.

IAQ problems are usually caused by activities or material changes, but the most important factor is the type of material and its release. When an indoor material contains volatile organic compounds (VOCs), it can cause indoor air pollution. VOCs can also be released by indoor equipment such as air conditioners, refrigerators, and appliances.

Preventing IAQ problems involves proper source control (i.e., pollution prevention) and by keeping all building materials clean and dry to minimize the number of concentrated pollutants in the air and then reducing exposure to these substances.
More Resources

• Enterprise Green Communities

• NYCHA’s Resident Guide “The Power is in Your Hands”.

• Connecticut Dept. of Environmental Protection, “A Green Home is a Healthy Home.”

• Energy Star Best Practices Information
  https://www.energystar.gov/products/appliances
Thanks for participating!

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New Tools:
Engaging Residents and Operations Staff in Sustainability

Manual & Maintenance Schedules
Manuals provide the backbone of a property’s maintenance program, reducing re-work, streamlining operations, and providing valuable assistance with staff on-boarding and training. These workbooks are aligned with the key principles of the 2015 Criteria and are designed to ensure that design and construction intentions are codified into operations and maintenance guidelines.

Customizable Templates, developed March 2016:
- O&M Manual Template
- Appendix of O&M Checklists
Enterprise Green Communities 2015
Operation & Maintenance Manual Template

Created by: Andrea Mancino, Project Manager
Alice Suh, Project Engineer

Webinar Speakers: Andrea Mancino, Project Engineer
Mark Pando, Energy Engineer
Agenda

• Importance of O&M
• Purpose of the template
• Overview of the template
• In-depth look (screen share):
  - Structure
  - Functionality
  - Customizability
• Helpful hints and tips
Tackling O&M as an Organization

• What does it mean to be in these buildings?
• How can we see into them, how do we inspect?
• How do we communicate between staff and management?
• How do we determine what purpose the building delivers?
• How do we make sure equipment delivers on that purpose?
• How do we ensure equipment delivers throughout its expected life?
Key O&M Tools: Providing Answers

- **Inspection Checklists**
  - How do I complete each inspection?
  - Who completes each inspection?

- **Preventative Maintenance Schedule**
  - What inspections should be completed?
  - When do I complete inspections?

- **Equipment Standards**
  - What equipment should I purchase?

- **Tracking & Reporting Systems**
  - What inspections/repairs were completed?
  - Do the same issues keep happening?
Why is O&M Important?

Identify Safety Issues
Why is O&M Important?

Find Energy/Water Waste
Why is O&M Important?

Extend Equipment Life
Why is O&M Important?

Ensure Equipment is Functioning Properly
O&M at the Building Level

• Effective operation requires a playbook
• Operations goals
• Clearly defined staff roles
• Defined operations setpoints & schedules
• Defined maintenance tasks
EGC O&M Template

- Expectations
- Standards
- Roles
- Goals
- Work Orders
- Maintenance Checklists
- Responsibilities
- Processes
Purpose of Template

- Serves as a starting point for creating manual.
- Helps foster creation of processes not in place.
- Conveys portfolio-wide AND building specific information.
- Provides inspection checklists for maintenance staff.
- Includes best practices as sample text within the tool.
- Allows for easy customization.
Template Overview

**O&M Manual Template**
Contains:
• Key components
• Sample text
• User guidance
• Easy printing/PDF’ing

**Appendix of O&M Checklists**
Contains:
• Checklists
• Worksheets and references
SCREENSHARE NOW
Helpful Hints

• Collaboration is key!
• Keep it fresh! – update annually
• Ask staff what works, what doesn’t?
• Dedicate a “champion”
Thank you!

Questions?
www.enterprisecommunity.org/Green

Tools & Services

GREEN COMMUNITIES CRITERIA
Our clear, cost-effective framework for all affordable housing. >>

CHARRETTE TOOLS
Customizable resources to aid your integrative design plans. >>

RESIDENT ENGAGEMENT
Mobilize residents to help maximize energy-saving efforts. >>

OPERATIONS & MAINTENANCE
Green efforts continue after construction ends! >>

RESEARCH & EVALUATION
Discover new research and practical insights in green building and affordable housing. >>

ONLINE EVENT ARCHIVE
Download one of over 30 webinars we’ve hosted with leaders and experts in green affordable housing. >>

CONSTRUCTION SPECS TEMPLATES
Editable specs in MasterSpec format that correspond to the 2015 Criteria. >>

TOOLS FOR RESILIENCE
Tools to help housing organizations prepare for and respond to disasters. >>

RETROFIT TOOLKIT
Upgrade existing multi-family buildings with energy-efficient features and systems. >>

TECHNICAL ASSISTANCE DATABASE
Experts ready to address your affordable housing technical needs. >>
THANK YOU

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