

Grab a clipboard and take this map along on your treasure hunt. Focus on uncovering opportunities to save. When you find something, make notes about location; tools, materials, or expertise needed; or further research required. Feel free to add to or modify this list to suit your own needs.

Facility Name _____ Floor _____ Date _____ Team _____



Property Management and Maintenance Teams

- Note your EUI and ENERGY STAR score in Portfolio Manager.
- Ensure that your facility energy management plan and operations & maintenance plan are up to date, and that appropriate staff has reviewed the latest versions.



COMMON AREAS

Lighting

- In preparation for the Treasure Hunt, explore utility incentive programs for lighting upgrades and lamp replacements, for both common areas and particularly for upgrades in resident units.
- Identify where lights may have been left on unnecessarily in unoccupied spaces, such as activity rooms, offices, and vacant units. Record your observations.
- Observe exterior areas such as parking lot lights and decorative exterior lighting during the day to determine if lighting has been left on in the daylight. Record your observations.
- Identify and assess opportunities to use automated lighting controls:
 - Occupancy/motion sensors for low-traffic areas.
 - Timers or daylight sensors to dim or turn off exterior and parking lot lights during the day.
 - Timers to turn off decorative lighting.
 - Dimming controls in locations where there is natural lighting (e.g., near windows, skylights, and light tubes).
- Confirm that installed lighting controls are operating as intended.
- Identify where reflectors can be practically added to existing lighting.
- Consider working with a lighting expert to identify whether any areas are over-lit compared to requirements or design levels; consider opportunities for de-lamping.
- Identify and de-energize and/or remove ballasts that are not in use.

NOTES:



- Evaluate the opportunity to upgrade to more energy-efficient lighting options:
 - Replace T12 fluorescents with tubular LEDs (TLEDs), or if not feasible, T8 or T5 fluorescents.
 - Upgrade incandescent and CFL applications to LED (especially for task lighting or specialty applications).
 - Use LED exit signs in place of incandescent or CFL models.

NOTES:



Building Envelope

- Inspect doors and windows to identify gaps or cracks that can be repaired.
 - Note damaged or missing weather stripping.
- Inspect trash room and trash chute doors to identify gaps, cracks, and worn and/or leaky door seals/gaskets that can be repaired.
- Note air leaks that should be sealed with caulking or other sealant.
- Inspect insulation levels and identify inadequacies to be addressed (including loading docks and garage doors, if applicable).
- Assess opportunity to install vinyl curtains in loading areas, if applicable.
- Note any doors left open to the outside and other unheated or uncooled areas.
- Assess the opportunity to install solar film or other window coverings on east, west, or south exposures to reduce solar heat gain and heat loss.
- In warm climates, assess the opportunity to install a white roof covering when repairing or replacing the roof.



Equipment/Plug Loads (If Applicable)

- Identify any new office or common area equipment that will be needed soon; make plans to ensure they are ENERGY STAR certified where possible.
- Identify any office or amenity space equipment left on overnight (including fitness center equipment and other equipment left in sleep, idle, or screen saver mode); develop a plan to address them.
- Identify and discontinue the use of personal heaters and fans in offices. The use of such personal devices may indicate broader hot/cold issues that should be addressed at the system level.



- Ensure that power management settings are activated on leasing office and common area equipment such as computers, monitors, printers, and copiers.
- Ensure that large-screen TV monitors in common areas or leasing offices are turned off during unoccupied times.
- To reduce plug load, ensure that centralized, networked printers are being used, rather than personal printers in leasing offices, workstations, and office center spaces.
- Identify where power strips can be used to easily disconnect from a power source. Consider the use of advanced power strips.
- Check if vending machines are turned off or put in sleep mode at the end of the day. Consider installing motion/occupancy-based controls for vending machine lights.
- Look for opportunities to replace older vending machines with new ENERGY STAR certified vending machines.
- Identify any new common area laundry appliances that will be needed soon; make plans to ensure they are ENERGY STAR certified where possible.

NOTES:



HVAC

- Ensure that thermostats and outside air temperature sensors are properly calibrated/maintained.
- Ensure that thermostats are set to appropriate temperatures based on seasonal and local weather conditions.
- Ensure that thermostats are properly located to be representative of the room or zone for which the temperature is being controlled.
 - Ensure that electronics are located away from thermostats.
 - Identify where locking covers for thermostats and ventilation controls can be installed to prevent unauthorized adjustments.
- Confirm proper implementation of a temperature setback policy for heating/cooling during periods of low activity or occupancy, particularly for amenity spaces.
- Identify any potential obstructions that limit free airflow to registers.
- Ensure window shades are available to block excess heat gain; make a plan to educate staff and residents about when to use them in common areas and resident units.



- Ensure that HVAC system components are being maintained regularly, including:
 - Replace filters as needed according to local and seasonal conditions.
 - Inspect and clean evaporator and condenser coils.
 - Clean fan blades and adjust belts as needed.
 - Inspect water/steam pipes and ducts for leaks and/or inadequate insulation.
 - Evaluate furnace/boiler efficiency and clean/tune up as needed (including boiler water treatment and inspection of steam traps, as appropriate).
 - Check chiller and cooling tower components for fouling or corrosion; ensure proper water treatment is in place.
- Evaluate how chillers operate during the cold months and determine if chiller or pumps can be shut off.
- Identify and assess opportunities to use occupancy sensors to control HVAC in leasing office, personal offices, and amenity and common spaces.
- If applicable, check underground parking garage ventilation systems to confirm that carbon monoxide (CO) sensors are properly calibrated, and that fans are only operating when specified CO levels have been exceeded.
- Assess the opportunity to install CO monitoring/control for parking garage ventilation systems.
- Check insulation on hot water heaters, pipes, and storage tanks, if applicable.
- Consider tankless, on-demand water heaters for resident units and low-use areas.

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Advanced HVAC

The items listed below can be complex to assess and implement and may or may not represent energy-saving opportunities depending on the equipment and current operations at your property. Work with your engineering team or HVAC experts to evaluate whether these analyses might be applicable.

- Identify and make plans to address instances of unnecessary simultaneous heating and cooling.
- Perform testing and balancing of air and water systems.
- Monitor make-up air ventilation and ensure the proper functioning of dampers to achieve outside air requirements.



- Verify and calibrate operation of variable air volume (VAV) boxes, where applicable.
- Check for unusual noise or vibration from compressors and motors, as this may indicate a decrease in performance.
- Evaluate boiler efficiency and clean/tune up as needed.
- Assess opportunities to install hot water reheat coils in place of electric reheats, and to use waste heat where possible.
- Assess the opportunity to install and use air-side economizers, so that outside air can be used for “free cooling.”
- Identify and assess opportunities for heat recovery (e.g., heat pumps, variable refrigerant systems).
- Identify and assess opportunities for installing variable frequency drives (VFDs) and implementing controls for fan and pump motors, and VAV boxes in the ductwork – especially where variable loads are being served.

NOTES:

RESIDENT UNITS

Vacant and Model Units

- Evaluate whether model units are powered down each night and powered back up in the mornings, or are left on 24/7.
- Identify where lights have been left on.
- Identify units that are fully conditioned while unoccupied; reset thermostats to appropriate settings for unoccupied spaces.
- Evaluate opportunities for replacing inefficient lighting with LEDs.
- Inspect PTAC filters, if applicable, and note for cleaning or replacement as needed.
- Identify any potential obstructions from HVAC registers to ensure free, more efficient airflow.
- Evaluate opportunities for installing ENERGY STAR certified appliances to replace older, less efficient models.
- Evaluate opportunities for installing WaterSense® labeled showerheads and faucets.
- Evaluate opportunities for installing high-efficiency toilets when repairing or replacing toilets.
- Identify worn and/or leaky door seals/gaskets on refrigerators and freezers.
- Evaluate whether refrigerator coils are clean and free of obstructions.





Treasure Map FOR MULTIFAMILY PROPERTIES

ADDITIONAL NOTES:

