STATE OF TENNESSEE

WATER INTRUSION PLAN (WIP)

FOR

East Tennessee State University

Water Intrusion Planning
In the Event of Liquid Damage, Groundwater, and Sewer Contamination

A copy of the Water Intrusion Plan is kept on file in the East Tennessee State University (ETSU) Facilities Management Office located at 1340 Jack Vest Drive in Johnson City Tennessee, 37614.

All facilities management employees are aware of its location. All employees have been instructed to implement this plan in preparing for a water intrusion incident, and how to respond to a water intrusion event beginning with mitigating the water loss and knowing the process of notification of all parties concerned. A list of emergency phone numbers is located in the back of this Water Intrusion Plan (WIP). The next step is to follow the emergency notification procedures contained in this WIP. After contacts have been made, appropriate action will be taken according to specific guidelines in the Emergency Communication Plan.

PURPOSE:

The Treasury Department, Division of Claims and Risk Management (DCRM) in partnership with ETSU, provides a proactive approach to identify potential maintenance and repair problems caused by defective building subsystems such as broken plumbing lines or leaking air conditioning components. Problems found are assigned as high priority and a coordinated response with facilities services is required to minimize disruption of daily operations of the building and to limit damage and other environmental issues such as mold. Successful response to a water intrusion event will reduce the severity and duration of the leak/flood, which will result in speeding up the restoration process of the affected area in the building. Therefore, reducing the overall financial expenses and operational losses associated with a water intrusion event.

Furthermore, the purpose of this WIP is to provide guidance to management and employees when faced with handling a water intrusion event, which jeopardizes ETSU's building and contents. The WIP also provides guidance and a planned approach for preparing, preventing, and responding on how to handling such situations for the purpose of minimizing property damage and labilities resulting from a water loss or mold growth condition. Based upon the discovery of a water intrusion event, the facility services team shall respond according to the WIP guidelines to reduce or eliminate the immediate and ensuing property damage caused by water. As the general awareness of water intrusion issues continue to evolve, this document must be updated to maintain adequate response measures annually.

OBJECTIVES:

- Establish roles and responsibilities for key personnel;
- Develop an emergency notification call list;
- Prepare, prevent, and respond to moisture/water or mold growth conditions;
- Detect water losses and mold growth early to minimize property damage and liability claims; and

DEFINITIONS:

A. Flood—Water released in intrusive events that result in the presence of water in unwanted locations.

B. Clean Water—Water that originates from a source that does not pose substantial harm to humans such as broken water supply lines, tub or sink outflows, melting ice/snow, and rain storm water.

C. Gray Water—Water that contains a significant level of contamination and has the potential to cause discomfort or sickness is consumed and/or exposed to humans. Gray water carries micro-organisms and nutrients for micro-organisms and may contain chemicals (i.e. glycol), bio-contaminants (i.e. fungal, bacterial, viral, algae) and other forms of contamination.

D. Black Water—Water that contains pathogenic agents and is unsanitary such as sewage, flooding-containing silt and organic matter, water-contaminated with pesticides, heavy metals, or toxic organic substances.

E. Mold—any of various fungi that can cause disintegration of organic matter.

F. Mildew—A superficial coating of discoloration of organic material, caused by fungi, especially under damp conditions.

Sources of Water Damage:

This WIP has identified two major sources of water damage for buildings based upon the State of Tennessee's historical property claims data. These include:

- Building systems that supply, remove, or use water (such as HVAC equipment, sprinkler systems, drains, gutters, sewer lines, water lines, etc.); and

- Flood or storm water that enters the building envelope including exterior walls, doors, windows, and roofing systems.

Causes of Water Damage Losses:

This WIP has identified underlining causations of large water damage losses reported to the State of Tennessee:

- Water intrusion due to extreme weather events;
- Water supply lines burst during cold weather events (freezes);
- Roofing systems that were damaged by a storm, or were in poor condition prior to the loss;
- Blocked drains or overflowing containers;
- Delays in shutting off the water supply valves;
- Failure to properly drain dry pipe sprinkler systems condensate properly prior to and during cold weather; and
- Installation problems with dry pipe systems, which allowed water to accumulate in low points without drainage, or dry pipe was exposed to outside extreme weather due to poor design.

Identify Risk Exposures of Potential Water Damage Losses:

Effectively addressing water damage exposures should start with identifying highly vulnerable valued property (Building and Contents) and critical operational infrastructure that could be negatively impacted if a water event occurs at a specific location managed by your facility team. <u>As a facility manager you should consider the storing and location of, but not limited to, the following listed property:</u>

- Warehousing of specialized equipment, historical documents, archived documents, fine arts, books, research specimens/projects, food, property owned by a third party, criminal evidence, monies, etc.;
- Data centers, servers, transformers, electrical switch gear(s) or elevator controls, located below ground level/grade;
- Areas within your buildings that have ornate or expensive finishes, buildings that are historically registered, contents that have high replacement cost value or are consider rare;
- Below grade spaces with important equipment or operational processes that can be destroyed by intruding water;
- Buildings with multi-levels, consider the impact to lower level floors, if an upper level floor had a leak;
- Age of the building and age of the plumbing system (original, replaced, or upgraded). Determine if old supply lines (when replaced or upgraded) have been either disconnected, drained, or capped; and
- Determine if the water source is located above important equipment.

Assessing Risk Exposures of Potential Water Sources:

It is essential for the facility management team to conduct a water damage risk assessment of those areas that have critical infrastructure or high value equipment. This assessment should identify water sources and determine specific steps that may minimize the possibility of a water damage event. Identify water sources such as but not limited to:

- Water lines, drains, restroom facilities, other liquid piping, or temporary liquid containers, directly above high valued or critical infrastructure equipment or area;
- Determine if the high valued or critical infrastructure equipment can be moved to another area; if not,
- Determine if the water supply lines or water sources that can cause damage to the high valued or critical infrastructure equipment can be re-routed or if barriers can be used to redirect water intrusion if it occurs;
- Determine the integrity of water lines, especially those water lines older than 25 years;
- If signs of aging of lines need replaced, a request for rehabbing the lines should be submitted to your capital improvement office;
- If the rehabbing of the water lines costs exceed $100,000 approval shall be made by the State Building Commission;
- Identify the location of the shut off valves for all areas, ensure the shut off valve are easily accessible, functional, and clearly label for facility services team and emergency responders;
- Share the shut off valve locations with department heads, their staff, and emergency responders;
- Determine if floor penetrations above the area which could provide a path for a water flow can be sealed;
- Identify locations in the building that are unoccupied that have a potential of having a water intrusion incident. Once these locations are identified determine if a water detection device could be used to monitor moisture and send an alarm when levels are high;
- Have spill response kits with common repair tools and plumbing parts readily available for low to medium risk water intrusion events;
- Ensure all staff have been trained on how to notify facility management, Belfor, Sedgwick (State of Tennessee Property Adjusters), and the Division of Claims and Risk Management.

Freezing Weather Preparation of Buildings

There has been a significant increase in the number of water damage losses related to freezing weather. It is important to identify areas of the building that are difficult to heat or loose heat rapidly. The following tasks are recommended to prevent water damage during this type of weather event (Freeze):

- Evaluate all buildings to find and repair issues such as missing or disturbed insulation (or too little insulation), broken windows, doors or louvers, or damaged or missing caulking or weather stripping; See Appendix "A" for additional information about, ETSU's "Freeze Protection Action Items".
- Ensure regular servicing of HVAC Equipment using a qualified vendor or (certified HVAC) facility employee before the on-set of cold weather;
- Determine if the building needs additional temporary heating devices in select areas (if it can be done safely);
- Determine if ceiling tiles should temporarily be removed to allow heat to enter susceptible, concealed spaces as entry vestibules with sprinkler heads or piping.
- Ensure dry pipe and low points valves are drained; See Appendix "B" for additional information about ETSU's "Master Sprinkler Dry Pipe System" locations.
- A Preventative Maintenance Report, requiring completion of the Freeze Protection Action Items (Appendix A) will be generated during the first week October and transmitted to the Director of Facilities Services Main Campus, COM Director of Maintenance, and the Director of Housing Maintenance. The Freeze Protection Action Items are required to be completed by November 1st. The completed PM's are to be reviewed by the respective directors to ensure that the work is complete.
- During extreme cold weather, the Director of Environmental Health and Safety will implement emergency freeze protocols and associated firewatches as follows:
    - Drain sprinkler systems at Buc Ridge I, II, III, IV, and V.
    - Provide firewatch personnel for all sprinkler shutdowns and notify Washington County 911 Call Center.
    - Implement *Fire Protection Impairment Policy.*
    - A minimum of 48 hours of temperatures above freezing are necessary before restoring sprinkler systems.

Roof Inspections

Routine inspections of roofing should be conducted on an annually scheduled basis. Inspections should focus on roof covering, flashing, metal work, and sealants that together keep water from entering the building. The inspections should include but not limited to:

- Determine if the insulation under the roof cover has deteriorated;
- Determine if there is rot or structural damage to the roofing system;
- Determine if there is any mold growth and damage to the interior surfaces;
- Identify any ponding and water retention that over time degrade the roof cover and may even lead to possible collapse;

- Determine if the roof covering has dry or cracked surfaces, cracked or loose seams, blisters or depressions, broken or missing shingles or bare spots in roof systems with gravel ballasts;
- Remove accumulation of foreign objects or debris on top of roof systems;
- Ensure that roof drainage allows water to properly flow off the building through drains, scuppers, gutters, and downspouts. A blocked drain can allow water to accumulate during heavy rains, which may result in ponding or in severe cases, roof collapse;
- Ensure roof flashing and coping is properly anchoring the edge of the roof cover and is preventing water from gaining access below the roof cover and into the interior of the building;
- During heavy snow events, determine if snow removal is needed for the roofing system, which includes snow drifts around signs and roof mounted equipment.
- Ensure that all gutters and drainage systems are clear of debris

Valve Identification Plan

Ensure the domestic and fire prevention water control valves are known to non-facility personnel. This valve identification plan includes but is not limited to:

- Communicating the location and the functional operations of the water valves to all key employees assigned to the water intrusion response plan;
- Train key employees on how to operate the various types of valves;
- Ensure a highly visible identification tag is displayed on the water valve;
- Exercise and lubricate the water valves to assure proper operations annually;
- Label doors providing access to water control valves;
- Provide master keys to Power House, Housing Maintenance and ETSU Police Department personnel to access all valve locations;
- Determine when fire protection control valves can be safely shut off. This will require communicating and working with your local fire department on a plan to ensure fire is not present before shutting down the water supply valve; and
- Share the Valve Identification Plan with the ETSU Police Department to assist with their response to any incidents that involve life safety, fire, and fire suppression sprinkler systems (Please see appendix C entitled “Mechanical Room Inventory Locator” for locations of water control valves).

Flood and Surface Water Runoff

Assess the outside of all buildings to determine if water is entering a building caused from storm water runoff, or known flood exposures, such as rivers, streams or other bodies of water. For buildings that are not near a body of water or in a designated flood zone, there may still be a risk of surface water runoff. The following observations should be conducted to determine if any buildings can be exposed to flood waters and surface water runoff:

- Note any changes in the amount or direction that water is traveling towards, near, or away from all buildings such as changes in adjacent properties. Topography may unintentionally divert water towards a building, or sublevel spaces of the building after heavy rain event could have storm water seeping through floors and walls;

- Determine if any surface water runoff can be managed by proper grading and use of a drain tile system to divert water away from buildings;

- Determine if exterior drains need to be added or repaired, especially around areas such as roof tops, loading docks, outside stairwells, and other low-lying locations that water is ponding or allowing water to enter the envelope of the building;

- Ensure the facility team has a preventative maintenance schedule for all water handling equipment such as sump pumps, water heaters, and water reuse and collection systems;

- Ensure generators for emergency power is in place and/or operable through testing each month for critical pumps and dewatering systems;

- For building with no boiler systems, establish replacement schedules for tank type water heaters, which should be replaced approximately every 15 years;

- For buildings with no boiler systems, install safety pans piped to drains under newly installed water heaters or replacements of water heaters;

- For buildings that are near a body of water or in a designated flood zone, make certain the development and implementation of a flood preparation and mitigation plan is in place for the building(s). Go to www.ready.gov/floods for details.

Responding to Water Leaks and Overflows

- Publicize the reporting process, and make sure that leaks get immediate attention;

- Ensure all employees know how to report all leaks, overflows, or blocked drains to facility's management team to guarantee prompt corrective action and repair

- The facility management team shall assign a high priority for all water intrusion incidents to investigate and correct every reported incident;

- The Facility management team shall assess the leak and determine if Belfor should be notified immediately to respond for restoration and mitigation efforts; and

- If Belfor responds to a water intrusion incident, the Environmental Health & Safety team shall notify Sedgwick (Property Adjuster), and the Treasury Department, Division of Claims and Risk Management.

EMERGENCY COMMUNICATION PLAN
NOTIFICATION INSTRUCTIONS AND LIST OF CONTACTS

This section provides the notification instructions and list of individuals that will need to be contacted for each water intrusion event that occurs in each campus location of ETSU properties.

With any water intrusion event, it is important to limit the damage to persons and property. Qualified personnel from the Facilities Management Team should be the first persons to respond, assess, and mitigate the affected site. Once a water intrusion event has been discovered and found to require mitigation by an outside vendor, a notification shall go to Belfor to respond and provide resources to mitigate and restore the site. The second notification shall include Sedgwick and the Treasury Department Division of Claims and Risk Management for the purpose of filing an insurance claim and assigning an adjuster to assist with managing the claim and progress of the restoration of the affected site.

EMERGENCY NOTIFICATION PROCEDURE

The reporting person, i.e., custodian, maintenance person, employee, staff member, etc., will call Facilities Management at 439-7900. This number is manned 24 hours a day and backed-up by ETSU Police Department Dispatch. The emergency information is collected and routed to the four responsible charge personnel in the order given.

RESPONSIBLE CHARGE TELEPHONE AND CONTACT INFORMATION

Contact Name: Todd Elrod (Primary) and Bob Montgomery (Secondary)

Cell Phone: Todd Elrod-423-791-3592 and Bob Montgomery-423-791-0046

Main Campus Alternate contact: Mike Grim-423-863-7575

Housing contact: Chad Head-423-791-3341

Housing alternate contact: Bill Burchett-423-963-8026

College of Medicine (VA): Sid Smith-423-895-4691

College of Medicine alternate contact: Zane Gray-423-767-9681

PERSON RESPONSIBLE FOR MAINTAINING EMERGENCY CONTACT LIST

Name: Mike Grim

Title: Director of Environmental Health & Safety

Telephone: 423-439-7785 (office) and 423-863-7575 (cell)

EMERGENCY PHONE NUMBERS

ETSU Police Department: 423-439-4480

Fire: 423-439-4480

EMS: 423-439-4480

STATE INFORMATION EMPLOYEES INTERNAL CHAIN OF COMMAND

1. Jeremy Ross: Chief Operating Office
2. Laura Bailey: Associate Vice President of Capital Planning and Facilities Services
3. Bob Montgomery: Director of Facilities Operations

EXTERNAL CHAIN OF COMMAND

1. ETSU Public Safety Department – 423-439-4480
2. Johnson City Fire Chief – 423-975-2840
3. Washington County Emergency Services - 911

Water Intrusion Plan— Policy

ASSOCIATE VICE PRESIDENT OF CAPITAL PLANNING AND FACILITIES SERVICES

Name: Laura Bailey-423-439-7764

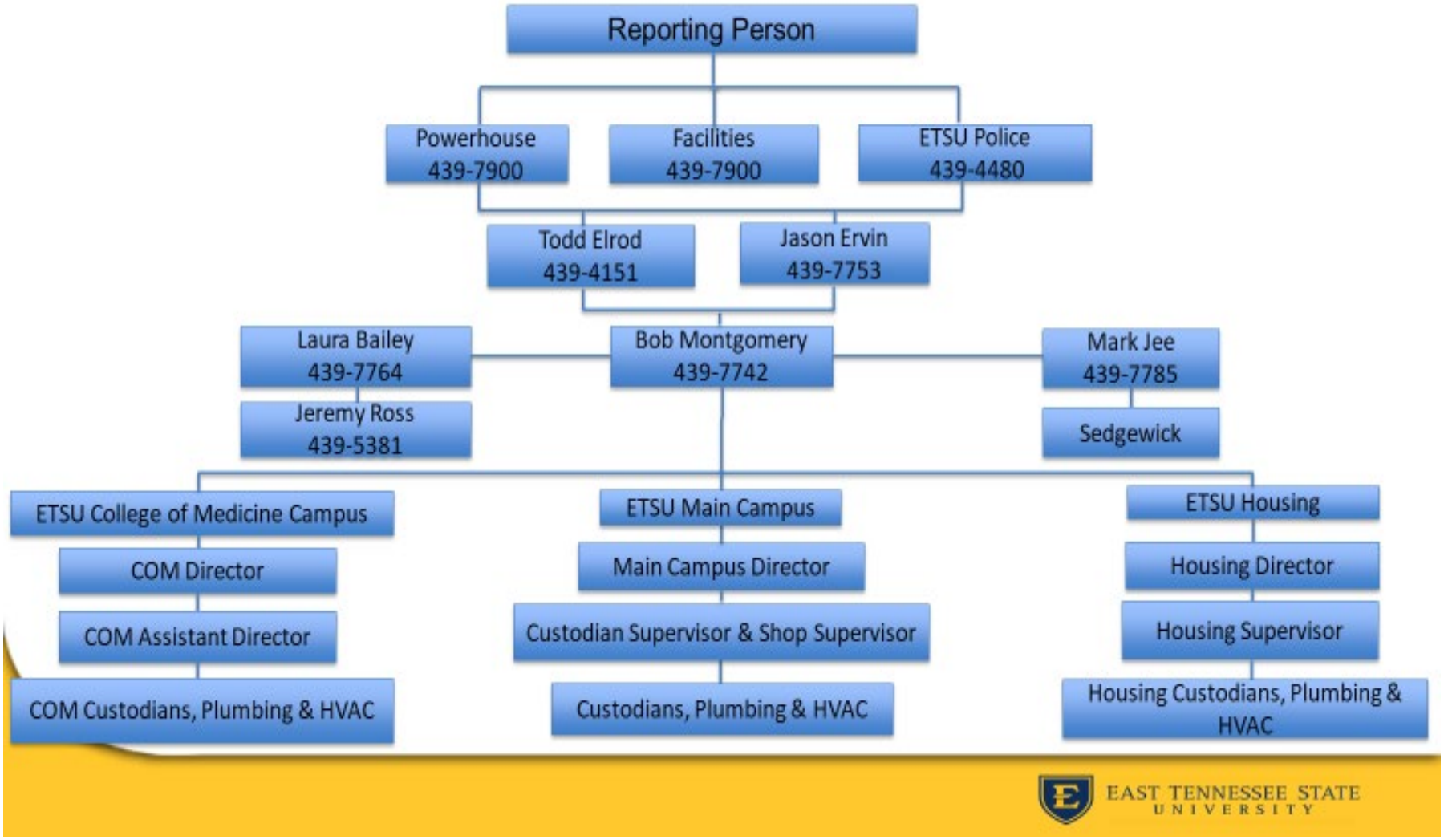
DIRECTOR OF FACILITY MAINTENANCE

Name: Bob Montgomery-423-791-0046

SUPERVISOR OF FACILITY MAINTENANCE

Name: Todd Elrod-423-791-3592

ETSU Water Intrusion Flowchart



WATER INTRUSION EMERGENCY ACTION PLAN CHECKLIST

1. Water Intrusion Emergency Action Plan Checklist	Check Observation (If applicable) Y/N or N/A	Action Step to Resolve or Improve Identified Problem	Personnel Assigned to Resolve or Improve Problem	Date Assigned	Date Completed
a. Is the emergency response to Water Damage included in the facilities emergency action plan?	**Yes**		Mark Jee	09-27-21	10-11-21
b. Have sources of water been identified in buildings containing finished spaces, critical equipment areas, electronic equipment, main telecommunication rooms, network server rooms etc.?	**Yes**	In progress	Todd	09-27-21	
c. Are water control valves clearly labeled with the areas served and listed in the emergency action plan or drawings available that show the location of shutoff valves (including valves above suspended/finished ceilings)?	**Yes**	In progress	Todd	09-27-21	
d. Does the valve list include curb box valves as the Point of Connection to the incoming city supply?	**Yes**	In progress	Todd	09-27-21	
e. For water valves in locked or not easily accessible spaces, are doors labeled and key control granted to any managers, supervisors or maintenance staff who are on-site 24-7 or are responsible for emergency response.	**Yes**	In progress	Todd	09-27-21	
f. Have specific procedures been developed addressing when water sprinkler systems may be shut off, as well as, sharing the location of the water shutoff valves with the local fire department?	**Yes**		Jee		10-11-21
g. Is there an employee available around the clock with authorization to shut off water, and immediately notify the professional cleanup and restoration company (Belfor)?	**Yes**		Todd		10-11-21
h. Has authorized staff been trained on the proper location and operation of different types of control valves?	**Yes**	In progress	Todd	09-27-21	
i. Does the emergency action plan include provisions for supplemental heat or other procedures to address known "cold spots" during severe cold weather?	**Yes**		Todd		10-11-21
2. Critical Infrastructure or High Value Equipment/Property	**Check Observation (If applicable) Y/N or N/A**	**Action Step to Resolve or Improve Identified Problem**	**Personnel Assigned to Resolve or Improve Problem**	**Date Assigned**	**Date Completed**

a.	Has a water damage risk assessment been completed on high value equipment/property or critical infrastructure? Examples, include main electrical switchgear, elevator control panels, Chillers and boilers, medical diagnostic or therapeutic equipment, fine arts, and other valuable property.	**Yes**	In progress	Todd/Jason	09-27-21	
b.	Do water lines, drains or floor penetration place this equipment/property at risk in the event of a leak?	**No**	To be determined	Todd		
c.	Can water lines be re-routed or can barriers be used to re-direct any water leak?	**No**	To be determined	Todd		
d.	If water lines cannot be re-routed, have steps been taken to determine the integrity of these lines?	**No**	To be determined	Todd		
e.	For unoccupied critical spaces, can water sensing devices be used to send an alarm to a constantly attended location?	**Yes**	Todd to get a cost on the Johnson Controls sensors	Todd		
f.	Has the staff been trained on how to safely respond to a water damage emergency in these areas?	**Yes**	OSHA toolbox prepared that addresses safety to prevent electrocution during water leaks	Jee		
g.	Are the critical equipment or valuable assets areas discussed with contractors before new construction, renovation or relocation projects begin?	**Yes**	Done in preconstruction meetings – Mark to ask for verbiage from Chuck	Jee		10-11-21
h.	Can elevators (high rise buildings) be programmed to remain at upper floors of the building during off-hours?	**N/A**		Jason		
3.	**Roof Inspection**	**Check Observation (If applicable) Y/N or N/A**	**Action Step to Resolve or Improve Identified Problem**	**Personnel Assigned to Resolve or Improve Problem**	**Date Assigned**	**Date Completed**
a.	Is the roof covering free from obvious signs of damage such as dry or cracked surfaces, cracked or loose seams, blisters, depressions, broken or missing shingles or bare spots in gravel ballast?	**Yes**	Accomplished through PM's and periodic inspections by management and EH&S (checking ladders, etc).	Burton		10-11-21
b.	Has loose debris such as leaves or tree limbs, construction material been removed/secured?	**Yes**	Accomplished through PM's and periodic inspections by management and EH&S (checking ladders, etc.).	Burton		10-11-21
c.	Are roof drains and scuppers open and free flowing?	**Yes**	Accomplished through PM's and periodic inspections by management and EH&S (checking ladders, etc).	Burton		10-11-21
d.	Is metal flashing and coping securely fastened? Loose, separated, or missing flashing, rust or other flashing deterioration should only be corrected by a qualified roofing contractor.	**Yes**	Accomplished through PM's and periodic inspections by management and EH&S (checking ladders, etc).	Burton		10-11-21

4. Plumbing/HVAC Maintenance	Check Observation (If applicable)	Action Step to Resolve or Improve Identified Problem	Personnel Assigned to Resolve or Improve Problem	Date Assigned	Date Completed
a. Is there adequate budget in place for necessary building, plumbing, and HVAC maintenance?	**No**	As resources allow	Bob		
b. Is plumbing and HVAC maintenance done on a preventive basis instead of as needed for older systems?	**Yes**	We are conducting PM's and building coordinators and custodial staff make inspections to assist in identification of problems.	Todd		
c. Are licensed plumbers and HVAC technicians used exclusively for plumbing and HVAC repairs and modification?	**No**	Not required	Todd		10-11-21
d. Are facility personnel aware of old plumbing, excessive corrosion, or presence of dissimilar metals?	**Yes**	These areas are replaced in Capital Maintenance Projects as funded	Todd		10-11-21
e. Are shutoff valves exercised, lubricated annually to ensure that they will close?	**No**	Not enough staff to do this	Todd		
f. Are small leaks investigated and promptly repaired?	**Yes**		Todd		10-11-21
g. Are the root causes of each leak analyzed to determine if it is preventable in the future? (After Action Review)	**Yes**	Verbal and work order after action reviews are done	Todd		10-11-21
h. Are filters being replaced on heating equipment as needed per inspections for the HVAC units?	**Yes**		Todd		10-11-21
i. Are all the HVAC belts and pulleys being replaced as needed?	**Yes**	Checked as per work orders or verbal requests submitted	Todd		10-11-21
j. Are all the HVAC condenser and evaporator coils receiving maintenance on a regular schedule?	**Yes**	Checked as per work orders or verbal requests submitted	Todd		10-11-21
k. Are all the HVAC refrigerant charges being inspected for leaks if the charge is low?	**Yes**	Refrigerant charges checked as per work orders or verbal requests submitted	Todd		10-11-21
l. Do all the HVAC drain lines and pans clear and inspected on a regular schedule?	**Yes**	Checked as per work orders or verbal requests submitted	Todd		10-11-21
m. Are all the HVAC electrical connections, ignition and burner assemblies, heat exchangers, air flow, fan and blower motors, and thermostats and other controls currently operational and working properly?	**Yes**	Checked as per work orders or verbal requests submitted	Todd		10-11-21

n. Are all HVAC system pressurizations being used to manage the direction in which air flows through an enclosure to control the pressure in air-conditioned buildings in hot, humid conditions? (This helps with controlling condensation in the enclosures to prevent mold growth).	**Yes**	Per design parameter of our HVAC systems, this is accomplished	Todd		10-11-21
5. Cold Weather Preparation	**Check Observation (If applicable) Y/N or N/A**	**Action Step to Resolve or Improve Identified Problem**	**Personnel Assigned to Resolve or Improve Problem**	**Date Assigned**	**Date Completed**
a. Have areas of the building that are difficult to heat or loose heat rapidly been identified, and cold weather response plans developed?	**Yes**	Todd has a master list of these locations & is published in the Fall	Todd		10-11-21
b. Have supplemental heating devices for these areas been evaluated to ensure they are appropriate for the area and minimize the risk of other safety concerns?	**Yes**	Covered in freeze protection action list	Todd		10-11-21
c. Is heating equipment serviced prior to the onset of cold weather?	**Yes**	Covered in freeze protection action list	Todd		10-11-21
d. Are low point drains for dry pipe sprinkler systems opened and checked for condensation before the onset of cold weather and periodically throughout the winter and cold months?	**Yes**	Covered in freeze protection action list	Jee		10-11-21
e. Is a walk around of the outside of all buildings conducted before the onset of winter to identify and correct problems with the building envelope (door or window seals, broken windows, open louvers, clogged or broken drains, etc.) and drainage from downspouts and scuppers?	**Yes**	Covered in freeze protection action list	Burton		10-11-21
f. In extreme snow or ice events, has a snow removal plan been developed for extreme snow loads on the roofing system, and adjacent areas around the envelope of the buildings?	Yes	The roofs were designed for this region in terms of snow load	Rick Lutz		
6. Employee Awareness	**Check Observation (If applicable) Y/N or N/A**	**Action Step to Resolve or Improve Identified Problem**	**Personnel Assigned to Resolve or Improve Problem**	**Date Assigned**	**Date Completed**

a. Is someone from management designated to track the weather and prepare for cold weather events for the building(s)?	**Yes**		Sean/Dan Jason/Todd		10-11-21
b. Are maintenance or janitorial employees aware of procedures to take when any dripping, leaking, or clogged drain is noticed?	**Yes**	They notify their supervision immediately and generate work orders for repair	Bob		10-11-21
c. Are security staff employees aware of procedures to take when any dripping, leakage, or clogged drain is noticed?	**Yes**	Public Safety notifies the powerhouse or Facilities Management immediately	Public Safety		10-11-21

Appendix A

Freeze Protection Action Items

Main Campus

1. Child Study Center: The sprinkler branch lines in the northwest corner office were covered with fiberglass insulation after the repairs. Ducted some heat into space as well – check if open. Also, check heat tape on back flow preventer.

2. Ross Hall: Close or cover the vent opening in the outside elevator control room and turn up the installed heater.

3. Nick's Hall: Check heater in this space and close up louvers.

4. Campus Rec – Intermural Field House – shut off domestic and drain

5. Reece - east restrooms

6. Soccer field restrooms & press box

7. Baseball restrooms

8. Softball Stadium restrooms

9. CPA – outside basement sewer line – check heat tape

10. CPA – sprinkler riser in back stairwell – check heater

11. 1110 Seminole

12. Lamb Hall Breezeway

13. 918 West Maple – check upstairs bathroom

14. Millennium Center – drain the sprinkler low point drain on the 1st floor of the parking garage next to the elevator

15. Valleybrook Farm: Make sure heaters are on in barn and storage areas.

Housing Facilities

16. Buc Ridge 3 & 4: Drain all low points, including the drum drips on the 4th floor.

17. Buc Ridge Phase 1 – check heat tape

18. Buc Ridge Phase 2 – check heat tape

19. Buc Ridge Security Building

20. Buc Ridge Clubhouse – check heat tape on domestic

VA Campus

21. VA 60

22. VA 178: Make sure attic is heated.

23. CEB air intake mech rm – close louvers

24. VA 178 -Sewer pump station – check heater

25. VA 212 – outside hot box – check heater and drain drum drips (2)

26. Johnson City Family Practice Trailer – check heat tape

27. Kingsport Family Practice – check drum drip under stair

28. VA 119 – Inspect pipe insulation on roof

During Extreme Cold Weather

1. Drain sprinkler systems at Buc Ridge I, II, III, IV, and V.
2. Provide firewatch personnel for all sprinkler shutdowns and notify Washington County 911 Call Center.
3. Implement *Fire Protection Impairment Policy.*
4. A minimum of 48 hours of temperatures above freezing are necessary before restoring sprinkler systems.

APPENDIX B

MASTER SPRINKLER DRY PIPE SYSTEM

Main Campus	Housing	COM	Satellite Campuses
CPA	Buc Ridge Phase 3	Va 212	Sevierville
Nick's Hall	Buc Ridge Phase 4	Va 6	Fossil Site
Little Bucs		Va 4	Kingsport Family Phys.
Parking Garage (East)		Va 1	
Football (Concessions)		Va 52	
Reece Museum		Va 2	
*Data Center			

*FM 200 Suppression System

Appendix C

ETSU Main Campus
Mechanical Room Location Listing

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room/Location	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
158	1110 SEMINOLE (DEPT OF EDUCATION)	Pkg. Unit	Pkg Units			Water Meter		NA	
159	1118 SEMINOLE (LOG CABIN)	Oil Heat/Window Units				Water Meter		NA	
160	1212 SEMINOLE	??				Water Meter		NA	
166	2213 N GREENWOOD	??				Water Meter		NA	
503	900 W MAPLE	Pkg. Unit				Basement		NA	
096	902 W MAPLE	BASEMENT				Basement		NA	
153	908 W. MAPLE	Basement	Split units			Basement		NA	
156	914 W. MAPLE	Basement	Split units			Basement		NA	
157	918 W. MAPLE	Basement	Split units			Basement		NA	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
002	ALEXANDER (UH)	Room 125	Roof			012		1st Floor Main Office	
062	ART ANNEX	N/A	104, 111			S.E. Corner Basement N Dossett Hall		Office Room 106	
006	BALL (ART)	Room B-14	B7-A, 128, 129	Mech Room B14		B14	108 (Outside Entrance)	Telecom Room 207-VRC 2nd Floor	
512	BASEBALL FIELD - THOMAS STADIUM	Split Units	114			114		NA	
168	BASEBALL FIELD CAMPUS REC		Split units			Janitor Closet 114		NA	
321	BORCHUCK PLAZA	Fountain Pump Equipment in Roger-Stout Mech Rm 003				Roger-Stout Mech Room 003		NA	
003	BROWN (SCIENCE)	Room 173	B008,B035, Mezz. M-3, Roof Penthouse	Stairwell 019, Main Mech 173		173		Telecom Room inside Rm. 118	
060	BURGIN DOSSETT	004, 006	011, 014B	003A, 003B,	012J	B16	002	Main Electric Room Basement	
014	BURLESON (ENGLISH)	115	Room Unit Ventilators	114		113		2nd Fl. Telecom. Rm next to Rm 204	
549	C. P. A.	145	008, 014, 231	147, 207		145	005	2nd Floor Office	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
011	CAMPUS CENTER BUILDING	BASEMENT 116	112, 309	Baement-015		Basement below 116		Main Entrance on East side of Bldg.	
513	CAMPUS REC FIELD COMPLEX	101		101		101		NA	
509	CHILD STUDY CENTER-2101 SIGNAL DR	Split Units				Front Parking lot next to road		Right of Main Entrance on Wall	
041	CHILL PLANT	All				East Basement Wall under steps		Left Wall at Front Entrance	
092	CULP	002, 003	MEZZ. 103A, A205, A206, PH1-RM 400, PH2-RM 401, PH3-RM 402, PH4-RM 403, PH5-RM 404	146	139,	002	140	Gr. Fl. In Generator/Elect. Rm.	
030	DATA CENTER	107	Pkg Units			103A		Main Entrance Lobby	
016	EARNEST HOUSE	008	Split units			Basement		Front Entrance Hallway	
400	ETSU PARKING GARAGE	Roof	112	111	111	F106, G124		Parking Garage Admin. Rm G111	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
600	FOOTBALL STADIUM	Roof						Football Stadium (bldg S & B) Telecom Rm S121/Football Stadium (Bldg. A) Rm A115 (First Aid Room)	
010	GILBREATH	109, 110	208, 215, ATTIC (309)	110		1st floor Women's Restroom	108	Ground Floor Mechanical Room	
556	GOLF COURSE, WARREN-GREEN	106	205			Mech. Room 106		NA	
303	HEAD END	PKG. UNIT				N/A		NA	
018	HUTCHESON (GEOGRAPHY)	PENTHOUSE STAIR 217 (209) STEAM SHUTOFF Room 013	026, 027	Basement B22		013	025 (OUTSIDE ENTRANCE)	West end Electrical Room, Basement	
40A	INCINERATOR	Powerhouse				N/A		NA	
552	INNOVATION LAB	132, 163	RTUs, PKG UNITs, SPLIT UNITs, WSHP's	132		132		Lobby in Main Building	
554	J. C. COMMUNITY HEALTH CENTER	G116, D110		D109		D110		Telecom. Rm A112	D112

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
019	LAMB (HEALTH)	B39, PENTHOUSE (SOUTH)	050, 056A, 259	067		B39	40, SOUTH PENTHOUSE	154 (TBD)	
015	LYLE HOUSE - (HILLRISE)	NONE	Window Units					Front Entrance Hallway	
005	MATHES (MUSIC)	Room 222, 335	020-A, 336	216	335			Telecom. Rm inside of room 20 on 1st floor	
007	MEMORIAL CENTER (DOME)	Rooms E402 and W402	E148A, E200, E220, W127A, W200, W231, E401, W402			E161 closet, W150		Room W315	
009	MEMORIAL HALL/BROOKS GYM	002A	Roof Pkg Units/Split Units	002A		Basement Mech. Room 002A		Room 219	
904	Millennium Center	140	240	145	123,	140	104, 147, 179	Audio Visual Rm inside of Rm 137B	
311	NATURAL HISTORY MUSEUM GRAY FOSSIL	112	Roof, WSHP above ceilings			112	118	Main Bldg. 2nd fl. Telecom Rm/Annex Bldg. 2nd Fl. Next to Telecom Rm	
133	NELL DOSSETT	008, ROOF	LG VRF	002				2nd Fl Inside Laundry Rm in Telecom Rm	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
020	NICKS HALL	B110B	B103, 129, 144, 190, 252, 304, 305, 334, 340, 435, 456, ROOF (435)	B016A, B016B	G109, 288, 333, 438	Basement B110B	B111, 100A	East Mechanical Room, Outside Entrance	
310	OBSERVATORY HARRY D POWELL	101					n/a	HVAC Closet	
167	PARKING GARAGE	ROOF	LG VRF			F106, G124		Parking Garage Food Services Rm F108	
068	PARKING SERVICES	N/A	Split Units					Lobby	
042	PHYSICAL PLANT	119	ROOF			Mech. Room 119, Janitor 118F		Front Entrance Hallway	
040	POWER HOUSE	ALL				West Side-North Wall, East Side-South wall.		NA	
200	RECYCLING CENTER		Split units			124		NA	
091	REECE MUSEUM	ATTIC (114)	LG VRF	006 (Outside Entrance)			010A	Office in Rear Main Floor	
021	ROGERS STOUT	003	ROOF, PENTHOUSE 442	004		003	115, Penthouse	Room 116	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
131	ROSS HALL	ROOF	LG VRF	106	213, 324,	106B	127 (Outside Entrance)	Ground Floor Telecom Rm 122	
012	SAM WILSON	140	101, 144, 201, 301, ROOF	136		101, 164		Ground Floor Room 114	
202	SHELBRIDGE (GUEST HOUSE)		Split units			front yard		NA	
201	SHELBRIDGE (MAIN)		Split units			basement		1st Floor Hall Closet	
320	SHERROD LIBRARY	218	111, 166, 217, 262, 321, 365, 436, 491	112		113		Ground Floor Reception Area	
095	SOCCER COMPLEX (SUMMERS TAYLOR)		Split Units			Storage 102		NA	
536	SOFTBALL FIELD					At meter at road		Concession Entrance	
545	TREE HOUSE					West wall front room		NA	
359	VALLEYBROOK FARM	125		125C	145	Meter vault at gate, Receiving 109 next to 110	110	Mechanical Room 212	
305	WAREHOUSE & CENTRAL RECEIVING	PKG. UNIT				124		North wall of Bldg. next to Rollup door	

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
008	WARF PICKEL (EDUCATION)	Room 110	103B, 315B,	Mech Room 110, 222		Main Mech 110	104, 532	West Mechanical Rm Outside Entrance	
306	WETS-FM	Room 110				110	n/a	NA	
017	WILSON WALLIS (INDUST EDUCATION)	101F	014, 015A	101F		101F	003	102 B Telecom Rm.	
129	YOAKLEY	B-005F	Window Units			Basement Crawlspace		Ground Floor, electrical room	

ETSU Housing
Mechanical Room Location Listing

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
090	920 W. Maple	Outside Individual Unit		Basement		Basement	N/A	N/A	N/A
110	DAVIS A	Ground Level behind Building B		Ground Level behind Building B		Ground Level behind Building B	N/A	Door Beside A111	Ground Level East End in the Middle
111	DAVIS B	Ground Level behind Building B		Ground Level behind Building B		Ground Level behind Building B	N/A	Door Beside A111	Ground Level East End in the Middle
112	DAVIS C	Ground Level behind Building B		Ground Level behind Building B		Ground Level behind Building B	N/A	Door Beside A111	Ground Level West End in the Middle
127	CARTER	Ground Level beside Apartment 4		Ground Level beside Apartment 4		Ground Level beside Apartment 4	3rd Floor beside Elevator	1st Floor next to the Lobby on the right-side	Ground-Level; middle of the South End
128	STONE	Ground Level beside the Laundry Room		Ground Level beside the Laundry Room		Ground Level Custodial Room Crawl Space	3rd Floor beside Elevator	Beside Room #207	Ground Level beside Laundry Room
130	POWELL	Basement		Basement		Pit in front of the Building	N/A	218	Basement

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
132	WEST	Basement		Basement		Basement	N/A	Basement	Basement
133	NELL DOSSETT	Basement		Basement		Basement	3rd Floor beside the Elevator	Basement	Basement
134	LUCILLE CLEMENT	B10		B03		B02	B04	412	B11
140	LUNTSFORD	1st Floor beside Room #109		1st Floor beside Room #109		1st Floor beside Room #109	5th Floor Beside Elevator	1st Floor Utility Room beside the Elevator	1st Floor Crawl Space
155	916 W. MAPLE	Outside Individual Units		Basement		Basement	N/A	N/A	N/A
353	Governors Hall	132		130		Outside Room on the Northeast Corner	136	236	Outside Room on the Northeast Corner
358	Centennial Hall	132		136		134	130	216	134
500	BUC RIDGE APARTMENT A	Outside Individual Units		Outside on the building facing East		Inside Ground Level Apartments	N/A	Outside Closet between A101 & A102	Outside Closet between A101 & A102
500	BUC RIDGE APARTMENT B	Outside Individual Units		Outside on the building facing East		Inside Ground Level Apartments	N/A	Outside Closet between B107 & B108	Outside Closet between B107 & B108

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
500	BUC RIDGE APARTMENT C	Outside Individual Units		Outside on Building D facing West		Inside Ground Level Apartments	N/A	Outside Closet between D113 & D114	Outside Closet between D113 & D114
500	BUC RIDGE APARTMENT D	Outside Individual Units		Outside on Building D facing West		Inside Ground Level Apartments	N/A	Outside Closet between D113 & D114	Outside Closet between D113 & D114
500	BUC RIDGE APARTMENT E	Outside Individual Units		Outside on Building E facing East		Inside Ground Level Apartments	N/A	Outside Closet between F121 & F122	Outside Closet between F121 & F122
500	BUC RIDGE APARTMENT F	Outside Individual Units		Outside on Building E facing East		Inside Ground Level Apartments	N/A	Outside Closet between F121 & F122	Outside Closet between F121 & F122
500	BUC RIDGE APARTMENT G	Outside Individual Units		Outside on Building H facing East		Inside Ground Level Apartments	N/A	Outside Closet between H129 & H130	Outside Closet between H129 & H130
500	BUC RIDGE APARTMENT H	Outside Individual Units		Outside on Building H facing East		Inside Ground Level Apartments	N/A	Outside Closet between H129 & H130	Outside Closet between H129 & H130

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
500	BUC RIDGE APARTMENT I	Outside Individual Units		Outside on Building J facing East		Inside Ground Level Apartments	N/A	Outside Closet between J137 & J138	Outside Closet between J137 & J138
500	Buc Ridge Apartment J	Outside Individual Units		Outside of Building J facing East		Inside Ground Level Apartments	N/A	Outside Closet between J137 & J138	Outside Closet between J137 & J138
500	Buc Ridge Apartment K	Outside Individual Units		Outside of Building on the front-side		Outside Closet at the East-end of the Building	N/A	Outside Closet at the front door	Outside Closet at the East-end of the Building
500	Buc Ridge Apartment L	Outside Individual Units		Outside of Building M facing East		Inside Ground Level Apartments	N/A	Outside Closet Building L B43 & B45	Outside Closet Building M B47 & B49
500	BUC RIDGE APARTMENT M	Outside Individual Units		Outside of Building M facing East		Inside Ground Level Apartments	N/A	Outside Closet Building L B43 & B45	Outside Closet Building M B47 & B49
500	BUC RIDGE APARTMENT N	Outside Individual Units		Outside of Building N facing West		Inside Ground Level Apartments	N/A	Outside Closet Building N B51 & B53	Outside Closet Building N B51 & B53
500	BUC RIDGE APARTMENT O	Outside Individual Units		Outside of Building N facing West		Inside Ground Level Apartments	N/A	Outside Closet Building N B51 & B53	Outside Closet Building N B51 & B53
500	BUC RIDGE APARTMENT P	Outside Individual Units		Middle Stairwell Ground Level Building P		Middle Stairwell Ground Level Building Q	3rd Floor beside Elevator car	202P	Middle Stairwell Ground Level Building Q

Building Number	Building Name	Main Mechanical Room Number	Additional Mechanical Room Numbers	Main Electrical Room	Additional Electrical Rooms	Domestic Water Shut Off Room	Elevator Mech. Room	Fire Alarm Panel Location	Sprinkler Risers
500	BUC RIDGE APARTMENT Q	Outside Individual Units		Middle Stairwell Ground Level Building P		Middle Stairwell Ground Level Building Q	3rd Floor beside Elevator car	202P	Middle Stairwell Ground Level Building Q
500	BUC RIDGE APARTMENT R	Outside Individual Units		Middle Stairwell Ground Level Building R		Middle Stairwell Ground Level Building S	4th Floor Beside Elevator car	Ground Level Electric Room Building R	Middle Stairwell Ground Level Building S
500	BUC RIDGE APARTMENT S	Outside Individual Units		Middle Stairwell Ground Level Building R		Middle Stairwell Ground Level Building S	4th Floor Beside Elevator car	Ground Level Electric Room Building R	Middle Stairwell Ground Level Building S
500	BUC RIDGE APARTMENT T	Outside Individual Units		Closet between Rooms 2106 & 2108		Custodial Closet 1st Floor	N/A	Beside Room 2107	Custodial Closet 1st Floor
500	BUC RIDGE APARTMENT U	Outside Individual Units		Closet between Rooms 2118 & 2120		Closet inside the Laundry Room	N/A	Closet inside the Laundry Room	Closet inside the Laundry Room