Inspection Report

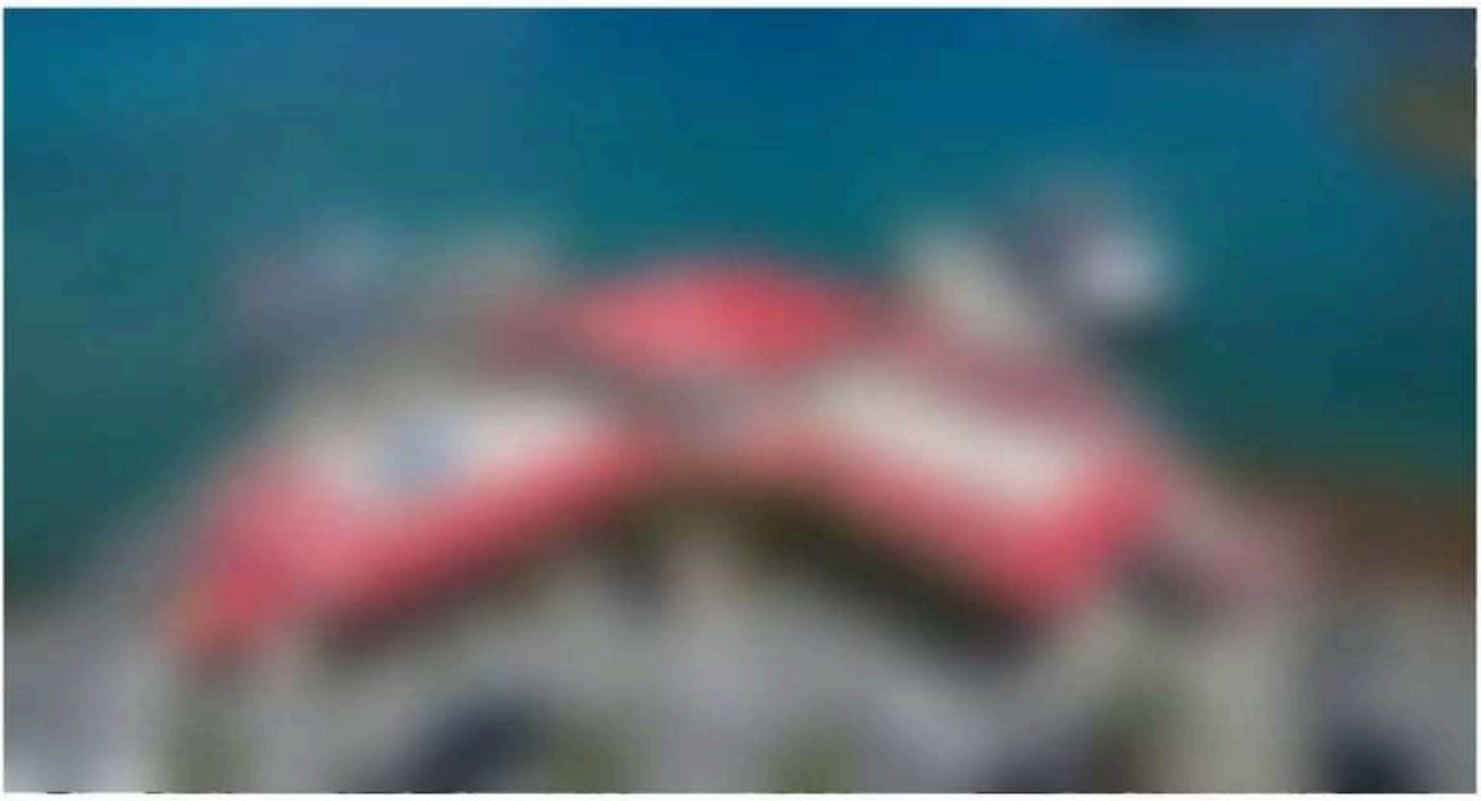
Provided by:

Preven-Tech

Inspector: Darrel Abbey

Property Address

[redacted]



Any photos included in this report are representative and not exhaustive.

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Any photos included in this report are representative and not exhaustive.

Report Information

Inspection Information

Confidentiality Notice

This confidential report was produced for the exclusive use and is the property of the client named below and contains copyrighted material. Other persons or entities must obtain expressed permission from the client named below for possession, or any use of this report.

Client Name	[redacted]
Inspector(s)	Darrel Abbey. Licensed in the State of Florida to conduct inspections (license #HI 8461). FABI Registered Professional Inspector #RPI-0829.
Inspection Date	07/01/2026 - 07/03/2026
Weather Conditions	It was mostly sunny at the time of the inspection.

1.1) Photo Representation Information

Report Photo Documentation Notice

Photos included in this report are intended to document representative examples of the conditions and types of damage described throughout the report. Not every area, instance, or occurrence of a specific deficiency will be individually photographed or shown.

The absence of a photo for a specific area should not be interpreted as an indication that the area is excluded from the findings, corrective scope, cost estimate, remediation plan, or recommended repairs.

Our quote, cost estimate, corrective scope of work, and remediation plan will be based on the full extent of the deficiencies identified during the inspection and described in the report, including all applicable areas requiring correction, whether or not each individual occurrence is separately documented with a photograph.

1 Exterior

Structure & Components

Wall Cladding Type

Wall Cladding Type: Stucco over Concrete
Stucco cladding was observed as the primary type of wall claddimg around the exterior of the [redacted] In [redacted] it is common for stucco to be applied directly over concrete masonry units (CMU) — a method that offers both structural integrity and thermal mass benefits.

About Stucco Cladding:
When properly installed, sealed, and maintained, stucco provides a durable and visually appealing finish that helps protect the structure from environmental exposure. Stucco systems are often:

Painted or Elastomerically Sealed: Designed to form a continuous envelope that adds water-resistance.

Breathable but Not Waterproof: Stucco itself is not inherently waterproof; its moisture-handling capacity depends on installation quality and upkeep.

Vulnerable to Moisture Intrusion: Even minor surface flaws — such as hairline cracks, sealant gaps, or failed transitions — can allow water to penetrate behind the finish coat and potentially cause hidden structural damage and conditions conducive to mold growth.

Climate Considerations in [redacted]
The hot, humid, and storm-prone environment accelerates the weathering of exterior cladding. In this region, wind-driven rain, UV degradation, and moisture vapor transmission place additional stress on stucco finishes, making proactive maintenance essential.

Typical Lifespan:
With proper installation and upkeep, a stucco system applied over concrete can last 60 to 80 years or more. However, lifespan varies based on material quality, exposure conditions, and the consistency of maintenance.

Maintenance Recommendations:
To preserve performance and appearance, consider the following tasks as part of your routine building maintenance plan:
•Inspect and seal any visible cracks with a flexible, stucco-compatible sealant.
•Repaint or recoat every 5–10 years using breathable, water-resistant coatings such as elastomeric paint.
•Maintain caulking and flashing around penetrations, windows, doors, and wall-to-roof interfaces to block water entry.

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1.1) Wall Cladding Damage

R

Significant damage and deterioration were observed in areas of the exterior stucco wall cladding system. The damage appears substantial enough to compromise the exterior building envelope and may allow wind-driven rain, surface water, and humid exterior air to penetrate behind the wall cladding assembly. In a hot, humid, coastal environment such as the [redacted] these types of exterior envelope deficiencies can contribute to concealed moisture accumulation, material deterioration, microbial growth, and possible damage to underlying wall framing or structural components.

Possible Causes:
•Age-related deterioration of the exterior wall cladding system
•Impact damage, cracking, spalling, separation, or failed stucco bonding

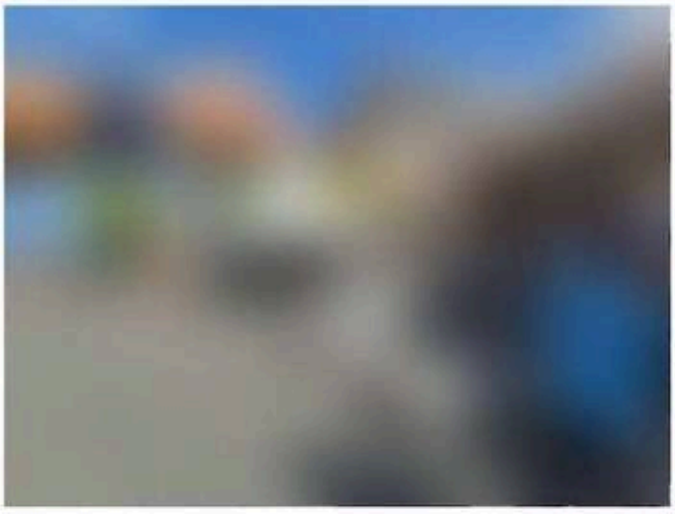
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•Improper original installation or inadequate exterior wall preparation
•Failed sealants, flashing, joints, or transitions allowing water behind the stucco
•Repeated exposure to wind-driven rain, salt air, humidity, and thermal movement
•Previous moisture intrusion causing expansion, delamination, or deterioration behind the cladding

Why This Matters:
•Damaged stucco can allow moisture to bypass the exterior weather-resistant surface of the building
•Water intrusion behind the cladding may remain concealed for extended periods before becoming visible inside the building
•Trapped moisture within wall assemblies can damage sheathing, framing, insulation, fasteners, finishes, and other concealed components
•Damp or wet building materials can support mold growth when organic material, moisture, and suitable temperatures are present
•Mold remediation may not be successful long-term if exterior moisture intrusion sources are not corrected first
•Continued moisture exposure can result in progressive deterioration, recurring staining, indoor air quality concerns, and future remediation failures

Required Corrective Action / Planned Repairs:
As part of the corrective action scope, the exterior wall cladding system should receive a comprehensive review to identify all areas of cracking, delamination, spalling, separation, deterioration, failed sealants, and other conditions that may compromise the waterproof integrity of the exterior envelope. Damaged or compromised stucco areas should be properly repaired, sealed, patched, refinished, and waterproofed as necessary to restore the protective function of the exterior wall system. Any concealed wall components exposed during the repair process should be evaluated for moisture damage, deterioration, and microbial contamination before the wall assembly is closed or refinished. These repairs are necessary to reduce the risk of continued moisture intrusion, concealed structural damage, recurring mold growth, and failure of the subsequent remediation work.



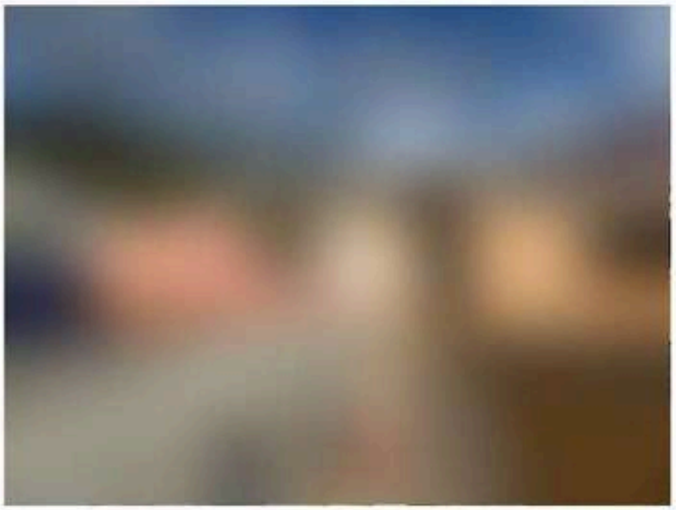


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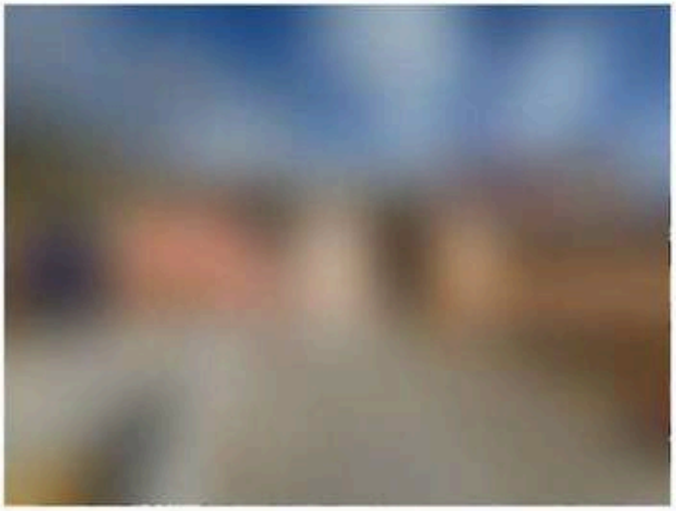






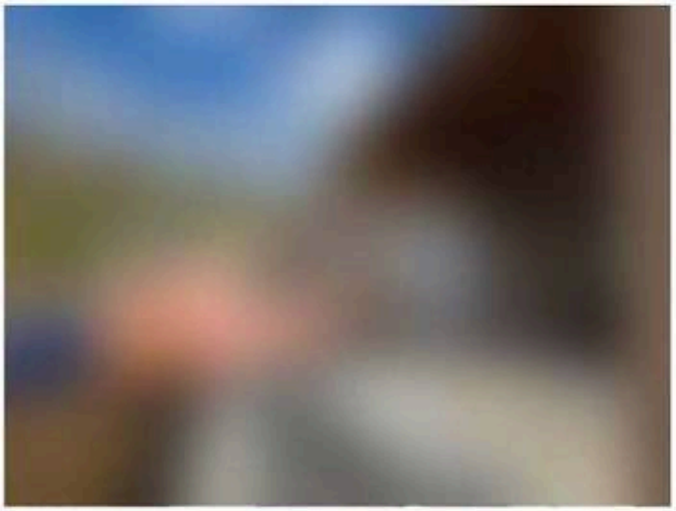




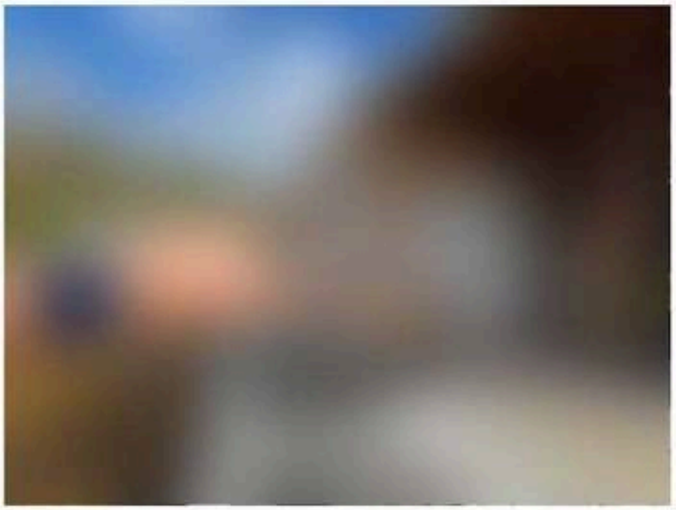


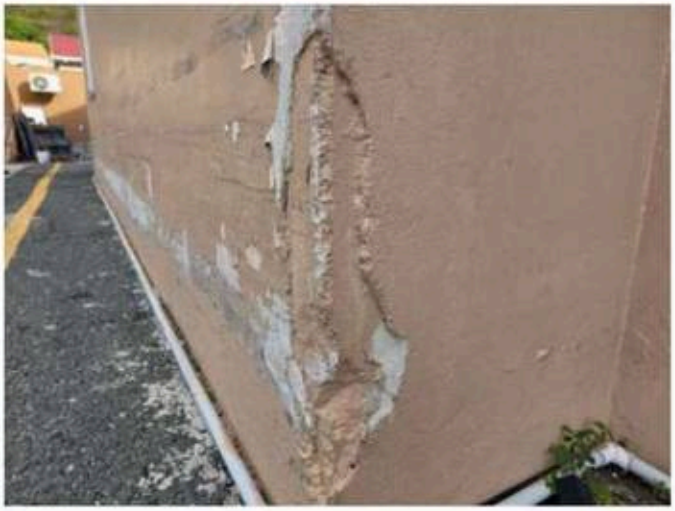
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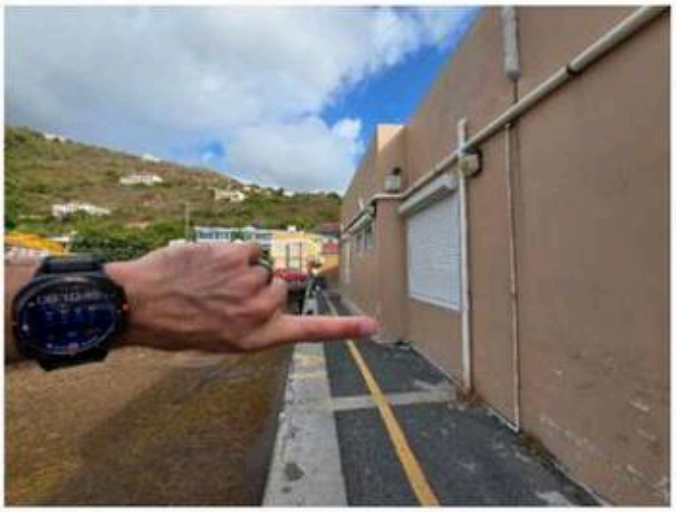
















1.2) Wall Cladding Moisture Infiltration R

Paint delamination and coating failure were observed at multiple exterior wall areas. The failure patterns indicate that moisture may be getting behind the outer paint/coating layer and traveling downward between the exterior wall surface and the waterproofing/paint system. This condition suggests that the exterior wall cladding or coating system may no longer be effectively preventing moisture intrusion.

Possible Causes:
•Moisture penetration behind the exterior paint or waterproof coating system
•Failed, deteriorated, or improperly applied exterior wall coating
•Unsealed cracks, gaps, wall penetrations, or transitions allowing water entry
•Roof, parapet, window, door, flashing, or exterior opening leaks allowing water to enter the wall system
•Moisture migration through the concrete or masonry wall assembly

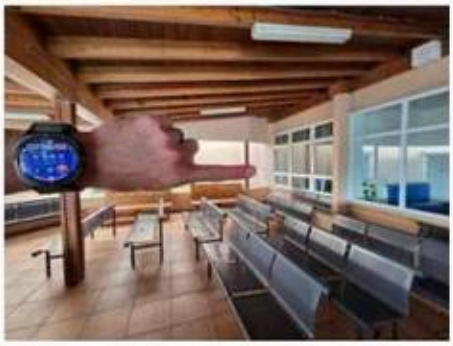
Why This Matters:
•Moisture trapped behind exterior coatings can continue to spread behind the finished surface
•Moisture may permeate through concrete or masonry wall components and affect interior finishes
•Interior moisture intrusion can damage drywall, framing, finishes, and building materials
•Persistent elevated moisture conditions can create an environment conducive to mold and organic growth
•Repainting over the affected areas without correcting the moisture source will likely result in recurring coating failure

Recommendations:
•Have the affected exterior wall areas further evaluated by a qualified waterproofing contractor, building envelope specialist, or appropriate repair professional
•Identify the source or sources of moisture penetration before repainting or recoating the exterior walls
•Inspect wall penetrations, cracks, sealant joints, window and door openings, flashing details, roof/wall transitions, and other vulnerable areas
•Correct all moisture entry points and allow affected materials to properly dry before performing finish repairs
•Once the moisture source has been identified and corrected, properly prepare, repaint, and waterproof the affected exterior wall cladding areas
•Interior areas behind or adjacent to the affected exterior wall sections should also be monitored or further evaluated for hidden moisture damage and possible mold growth conditions

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Lot Grading & Drainage

Lot Grading & Drainage – Information & Education

The lot's grading and drainage design play a critical role in protecting the building from moisture intrusion, structural damage, and soil erosion. Proper site drainage ensures water flows away from the foundation, prevents ponding or standing water near the structure, and manages roof runoff efficiently through guttering and downspout extensions. In [redacted] high rainfall and storm-prone climate, effective stormwater management is especially important for long-term property preservation.

Common Characteristics & Best Practices

•Grading should slope away from the buildings foundation—typically at least 6 inches of fall within the first 10 feet.
•Roof runoff should be directed away from the foundation via properly installed and maintained gutters, downspouts, and extensions or splash blocks.
•Low spots or depressions near the home can collect water, increasing the risk of foundation settlement, mold growth, and mosquito breeding.
•Stormwater management features such as swales, French drains, or catch basins may be used to control heavy rain runoff.
•Paved surfaces should be graded to direct water toward approved drainage areas rather than toward the home.

Why This Matters

•Standing water near the structure can lead to foundation movement, structural damage, pest activity, and mold growth.
•Poor drainage can cause accelerated deterioration of driveways, walkways, and landscaping.
•Effective grading and roof water management reduce the likelihood of costly repairs due to moisture intrusion.

Preventive Maintenance Recommendations:

Have a qualified landscaping or drainage contractor perform an annual review of lot grading and stormwater management. This review should include but not be limited to:
•Evaluating soil slope around the perimeter of the home.
•Ensuring roof runoff is properly captured and discharged away from the structure.
•Identifying and correcting low-lying areas prone to ponding.
•Assessing the function of any installed stormwater control systems.

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Waterproofing

Caulking, Weather-Stripping & Water-Proofing

Exterior Waterproofing, Sealants, Caulking & Building Envelope Notice

The [redacted] is located in a coastal, high-humidity, wind-driven rain environment where exterior waterproofing, sealants, caulking, weather-stripping, and building envelope details are critical to maintaining acceptable interior moisture conditions. These components serve as the first line of defense against exterior air, humidity, rainwater, and moisture intrusion.

During the inspection, widespread and recurring deficiencies were observed at exterior openings, wall penetrations, sealant joints, waterproof coatings, window/door perimeters, and other vulnerable building envelope locations. These conditions do not appear to be isolated or limited to one specific area. Instead, the overall pattern suggests that the exterior waterproofing and air-sealing system is no longer performing reliably as a complete protective barrier.

Because this building has active mold concerns, elevated humidity conditions, and multiple confirmed moisture-related deficiencies, exterior waterproofing failures are especially significant. When warm humid exterior air or rainwater enters the building envelope, moisture can migrate into wall cavities, above drop ceilings, behind finishes, and into interior building materials. This can cause staining, deterioration, elevated moisture readings, paint/coating failure, concealed damage, and conditions conducive to mold and organic growth.

Why Exterior Waterproofing Is Critical:
•Exterior sealants, caulking, weather-stripping, and waterproof coatings help prevent rainwater and humid exterior air from entering the building
•Failed sealants around windows, doors, penetrations, and wall transitions can allow moisture to bypass the exterior wall system
•Openings into ceiling cavities can introduce humid air directly above drop ceilings, where mold growth can develop on ceiling tiles and other porous materials
•Exterior moisture intrusion can travel through concrete, masonry, and wall assemblies before becoming visible inside the building
•Interior mold remediation will not remain effective if exterior moisture and humidity sources are not corrected

Why Spot Repairs Are Not Recommended:
•Deficiencies were observed in multiple areas and appear to be widespread rather than isolated
•Individual caulking repairs may not correct hidden or adjacent failure points within the same wall system
•Older or deteriorated sealants may continue to fail in nearby areas after isolated repairs are completed
•Repainting or recoating over failed waterproofing without correcting the underlying moisture entry points will likely result in recurring damage
•A piecemeal repair approach may leave uncorrected moisture pathways that continue contributing to mold growth conditions

Corrective Scope:
•A complete review and correction of exterior waterproofing, sealants, caulking, weather-stripping, wall penetrations, and exterior opening details is recommended
•Exterior windows, doors, wall penetrations, cracks, joints, transitions, and vulnerable building envelope areas should be properly sealed and waterproofed
•Failed, missing, deteriorated, or improperly installed sealants should be removed and replaced with appropriately rated exterior-grade materials
•Exterior wall coatings and waterproofing systems should be repaired or renewed where failure, delamination, cracking, or moisture migration is present
•Door and opening weather-stripping should be corrected where needed to reduce air exchange between conditioned and non-conditioned areas
•Repairs should be completed using materials appropriate for coastal exposure, exterior weather conditions, UV exposure, wind-driven rain, and the specific surfaces being sealed
•Corrective work should be performed as part of a comprehensive building envelope restoration approach rather than isolated spot repairs

The purpose of the recommended exterior waterproofing scope is to correct the moisture entry conditions contributing to interior humidity, water damage, and mold growth. Proper mold remediation requires not only removing contaminated or damaged materials, but also correcting the exterior moisture sources that allowed the conditions to develop. Without a comprehensive exterior waterproofing correction, the building will remain vulnerable to recurring moisture intrusion, elevated humidity, and future mold growth.



1.3) Window & Door Sealants

R

Widespread failure of the exterior waterproofing details was observed at the window and door openings throughout the building. The sealant joints, perimeter transitions, exterior finishes, and related waterproofing details at many of these openings appear to be deteriorated, failed, incomplete, or otherwise no longer performing as intended. These

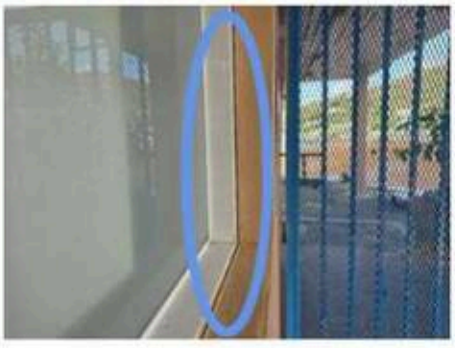
conditions are allowing moisture to penetrate the exterior building envelope and appear to be a major contributing factor to the widespread interior water damage and mold-supporting moisture conditions observed within the building. Interior water damage associated with these exterior openings will be referenced in greater detail later in this report under the Interior Observations section.

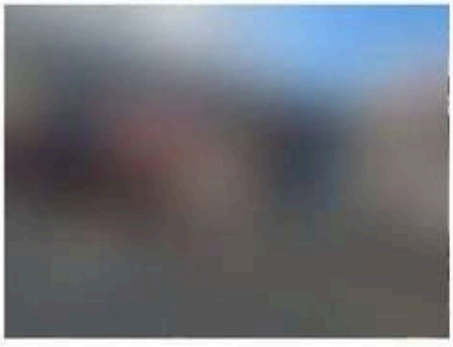
Possible Causes:
•Failed or deteriorated exterior sealant joints around windows and doors
•Improper or incomplete original waterproofing/flashing installation
•Cracking, separation, or deterioration at stucco-to-frame transitions
•Wind-driven rain entering through unsealed or poorly sealed perimeter openings
•Long-term exposure to sun, salt air, humidity, and thermal movement
•Lack of routine exterior maintenance at window and door waterproofing joints
•Previous water intrusion causing progressive deterioration around the openings

Why This Matters:
•Windows and doors are among the most vulnerable points in the exterior building envelope
•Failed waterproofing at these openings can allow wind-driven rain and humid exterior air to enter the wall assembly and interior spaces
•Water intrusion at openings can spread into surrounding drywall, framing, trim, flooring, insulation, and concealed wall cavities
•Repeated wetting of interior materials can support mold growth, staining, deterioration, odors, and indoor air quality concerns
•Mold remediation is unlikely to remain successful if the exterior window and door water intrusion sources are not corrected first
•Continued leakage may result in recurring interior damage, concealed structural deterioration, and repeated microbial amplification after remediation

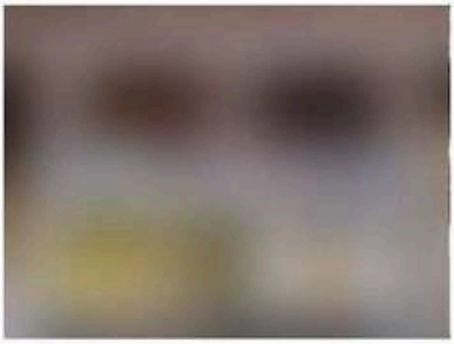
Required Corrective Action / Planned Repairs:
As part of the corrective action scope, the exterior waterproofing details at all window and door openings should be fully reviewed, repaired, and restored. This should include removal and replacement of failed sealants, correction of compromised stucco-to-frame transitions, repair of deteriorated perimeter materials, evaluation of flashing details where accessible, and proper sealing/waterproofing of all vulnerable exterior openings. The goal of this work is to restore the water-resistive integrity of the building envelope, stop ongoing water intrusion, protect surrounding wall assemblies, and prevent recurring moisture conditions that could compromise the success of the mold remediation work. Any concealed materials exposed during repair should be evaluated for moisture damage, deterioration, and microbial contamination before the areas are closed or refinished.







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1.4) Exterior Wall Penetrations

R

Multiple exterior wall penetrations were observed that were not properly sealed, waterproofed, or finished. These penetrations create vulnerable openings in the exterior building envelope and can allow wind-driven rain, surface moisture, and hot humid exterior air to enter the wall assembly and/or interior areas of the building. In a coastal Caribbean environment, even relatively small unsealed penetrations can become significant moisture pathways over time and can contribute to concealed dampness, interior water damage, condensation, material deterioration, and mold-supporting conditions.

Possible Causes:
•Incomplete sealing around electrical, plumbing, mechanical, communication, or utility penetrations
•Failed or deteriorated sealant at exterior wall openings
•Improper original installation or incomplete waterproofing detailing
•Prior repair or utility work that was not properly sealed afterward
•Movement, shrinkage, UV exposure, salt air, and weathering causing sealant failure
•Gaps, cracks, or openings where exterior components pass through the wall assembly

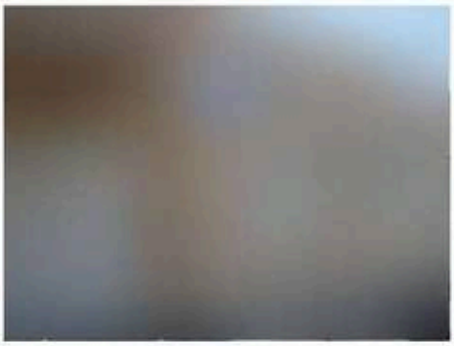
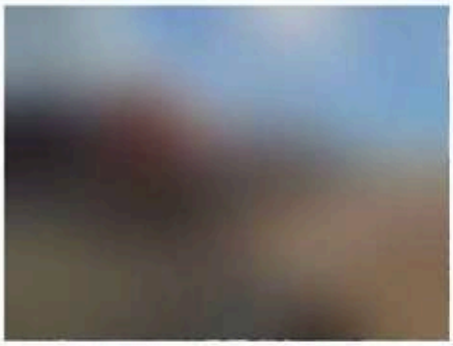
Why This Matters:
•Exterior wall penetrations are common leak points when not properly sealed and maintained
•Unsealed openings can allow wind-driven rain and humid exterior air to bypass the exterior weather barrier
•Moisture entering through penetrations can travel inside wall cavities before becoming visible at the interior
•Concealed moisture can damage drywall, framing, sheathing, insulation, fasteners, finishes, and other building materials
•Humid exterior air entering cooler interior or cavity spaces can increase condensation potential
•Damp materials and elevated humidity can support mold growth and recurring microbial contamination
•Mold remediation may not remain successful if these exterior moisture and air-infiltration pathways are not corrected

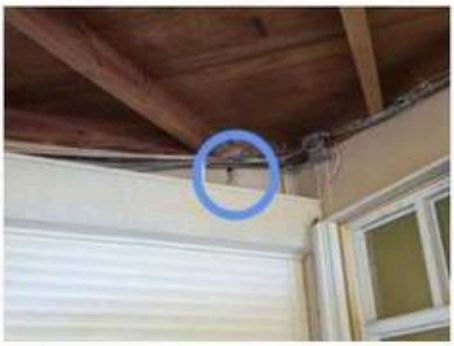
Required Corrective Action / Planned Repairs:
As part of the corrective action scope, all exterior wall penetrations should be reviewed throughout the building to identify locations where sealants, flashing, waterproofing, sleeves, escutcheons, or other protective details are missing, failed, deteriorated, or incomplete. All compromised penetrations should be properly sealed, repaired, and waterproofed using appropriate exterior-grade materials and methods compatible with the wall cladding system and the specific penetration type. The goal of this work is to restore the continuity of the exterior building envelope, reduce uncontrolled exterior air infiltration, prevent additional moisture intrusion, and reduce the risk of recurring mold-supporting conditions after remediation is completed.

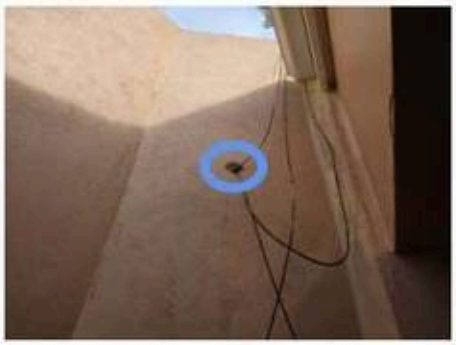
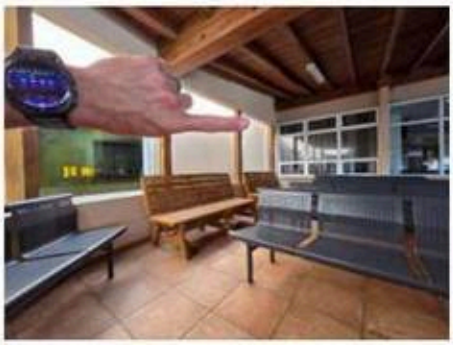
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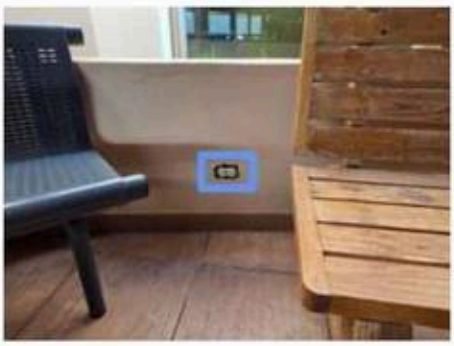
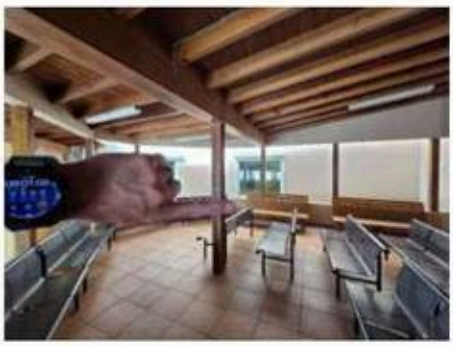




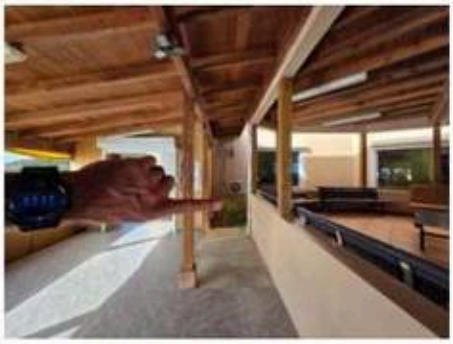


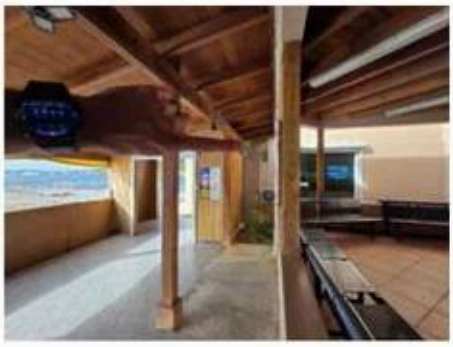
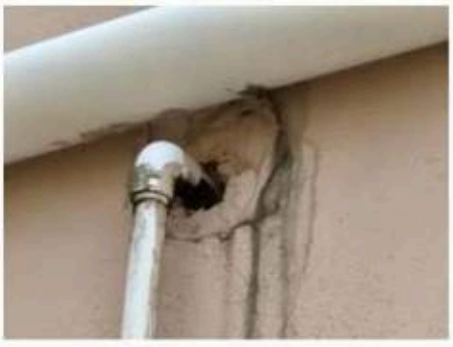




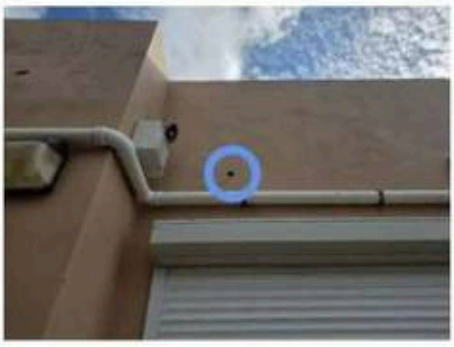
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1.5) Exterior Envelope Waterproofing R

Cracks and damage were observed in the exterior stucco wall cladding around the building. These openings can allow rainwater, wind-driven moisture, and humid exterior air to penetrate the exterior building envelope. When moisture enters through cracks in the stucco system, it can migrate behind the exterior finish, affect the concrete or masonry wall assembly, contribute to interior moisture damage, and create conditions conducive to mold and organic growth.

Possible Causes:
•Age-related cracking or deterioration of the stucco finish
•Thermal expansion and contraction from changing weather conditions
•Building movement, settlement, or vibration

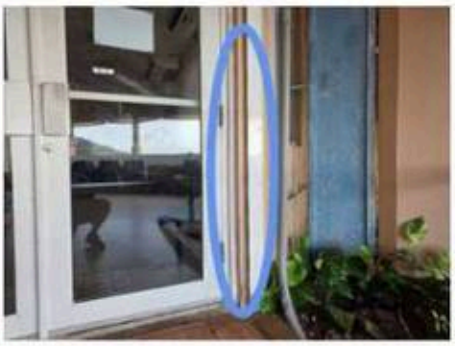
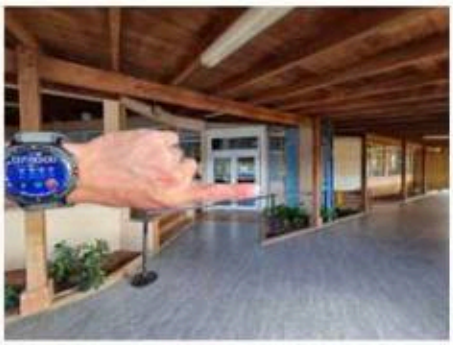
•Previous impact damage or repairs
•Failed exterior coatings, sealants, or waterproofing protection

Why This Matters:
•Stucco is durable, but it is not inherently waterproof when cracks or openings are present
•Cracks can allow water to bypass the exterior wall finish and enter the building envelope
•Moisture behind stucco can lead to staining, coating failure, wall deterioration, and hidden damage
•Exterior moisture intrusion can migrate into interior finishes and concealed wall areas
•Mold remediation efforts may not remain effective if exterior moisture entry points remain uncorrected

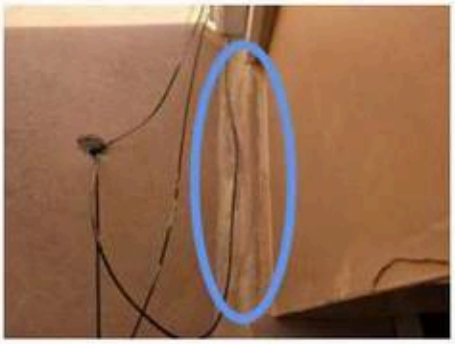
Corrective Scope:
•The entire exterior perimeter of the building will be reviewed for cracks, openings, and damage in the stucco wall cladding
•Identified stucco cracks and openings will be sealed as necessary to help restore the waterproof integrity of the exterior building envelope
•Cracks will be sealed using an appropriate elastomeric, exterior-rated, stucco-compatible sealant
•Elastomeric sealant will be used because it remains flexible after curing and can better accommodate normal expansion and contraction caused by weather and temperature changes
•Areas with more significant stucco damage, separation, or deterioration will be repaired as necessary prior to final waterproofing or coating work
•Corrective measures will be completed as necessary to reduce moisture intrusion, protect the wall assembly, and reduce the likelihood of recurring moisture damage and mold growth





S = Serviceable | M = Monitor | R = Repair | SF = Safety | NI = Not Inspected | I = Information


1.6) Window & Door Glazing

R

Cracking or damage was observed in the exterior glazing at one or more windows and/or doors around the building. Damaged glazing may include cracked glass, failed glazing seals, deteriorated glazing materials, or damaged window/door glass components. These conditions can present a safety concern and may also allow rainwater, wind-driven moisture, and humid exterior air to penetrate the exterior building envelope.

Possible Causes:
•Impact damage to window or door glass
•Age-related deterioration of glazing seals or glazing materials
•Thermal expansion and contraction from exterior weather exposure
•Building movement, vibration, or settlement
•Previous improper repair, installation, or maintenance

Why This Matters:
•Cracked glass can be a safety concern for occupants, staff, and visitors
•Damaged glazing can allow moisture to enter the window or door assembly
•Moisture intrusion at exterior openings can damage surrounding wall materials and interior finishes
•Water entry around windows and doors can contribute to elevated indoor humidity and mold-supporting conditions
•Glazing damage may worsen over time if not corrected

Corrective Scope:
•Exterior window and door glazing will be reviewed as part of the corrective work
•Cracked, damaged, loose, or otherwise compromised glazing components will be identified
•Damaged glass or glazing materials will be repaired or replaced as necessary
•Exterior glazing seals, perimeter joints, and adjacent waterproofing details will be corrected where needed
•Repairs will be completed using appropriate exterior-rated glazing, sealant, or replacement materials suitable for the specific window or door assembly
•Corrective measures will be completed as necessary to improve safety, reduce moisture intrusion, and help restore the waterproof integrity of the exterior building envelope





1.7) Chronic Moisture Staining

R

Staining was observed around one or more window and/or door seals, frames, thresholds, or exterior opening areas. The staining patterns appear indicative of chronic standing water, ponding water, or repeated moisture exposure at these locations. Even when properly sealed and waterproofed, window and door openings are not designed to hold standing water or remain exposed to chronic wet conditions. These areas should be detailed to shed water away from the opening rather than allow moisture to collect against seals, frames, glazing, thresholds, or adjacent wall materials.

Possible Causes:
•Poor drainage or water-shedding conditions around window and door openings
•Water collecting at exterior frames, sills, thresholds, or perimeter sealant joints
•Flat or improperly sloped surfaces allowing water to pond near openings
•Failed, deteriorated, or overwhelmed exterior sealants and waterproofing details
•Wind-driven rain repeatedly collecting at vulnerable exterior opening areas
•Building design or maintenance conditions allowing chronic moisture exposure

Why This Matters:
•Window and door seals are intended to resist normal weather exposure, not prolonged standing water
•Chronic moisture exposure can deteriorate sealants, glazing seals, frames, thresholds, and surrounding wall materials
•Ponding water can eventually bypass otherwise functional waterproofing details
•Repeated wetting can lead to staining, corrosion, deterioration, interior moisture intrusion, and hidden damage
•Persistent moisture conditions can create an environment conducive to mold and organic growth
•Cosmetic cleaning or repainting will not correct the issue if water continues to collect in these areas

Corrective Scope:
•Affected window and door opening areas will be reviewed to identify locations where water is collecting or failing to properly shed away from the building
•Stained, deteriorated, or moisture-affected seals, frames, thresholds, and perimeter joints will be further evaluated during corrective work
•Exterior sealants and waterproofing details will be repaired or replaced as necessary
•Where possible, conditions contributing to standing or ponding water should be corrected to promote proper drainage and water shedding away from exterior openings
•Damaged or compromised sealants, glazing details, coatings, or adjacent wall materials will be corrected as necessary
•Corrective measures will be completed as necessary to reduce chronic moisture exposure, protect the exterior envelope, and reduce the likelihood of recurring moisture damage and mold growth







1.8) Exterior Paint

R

Widespread and extensive exterior paint/coating damage was observed around the building, including missing paint, delaminated paint, peeling/flaking paint, deteriorated coating areas, and incomplete or failed paint application. These conditions indicate that the exterior paint/coating system is no longer performing as a consistent protective barrier for the building envelope.

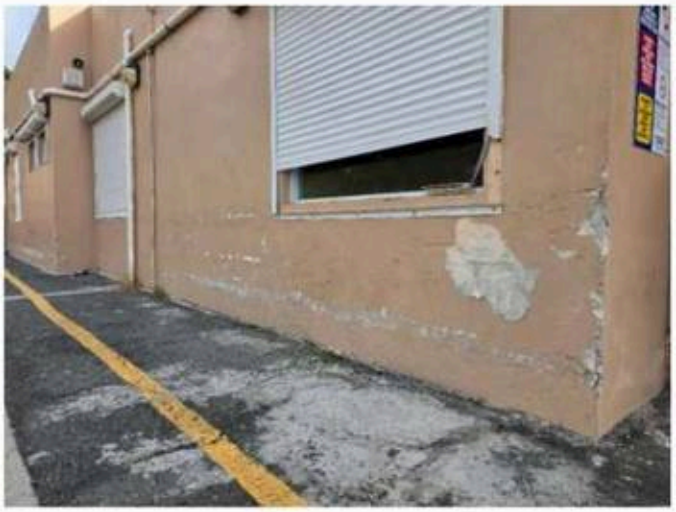
Possible Causes:

•Age-related paint and coating deterioration
•Moisture migration behind the exterior paint/coating system
•Improper surface preparation before previous painting or coating application
•Failed, deteriorated, or incomplete waterproof coating installation
•UV exposure, salt air, wind-driven rain, and coastal weathering
•Cracking, gaps, sealant failures, or wall cladding deficiencies allowing moisture to bypass the exterior finish

Why This Matters:
•Exterior paint and waterproof coatings are the first line of defense against moisture intrusion
•The paint/coating system helps protect the stucco, concrete, masonry, and wall assembly from rainwater, humid exterior air, and weather exposure
•Missing, delaminated, or failed paint can allow moisture to penetrate behind the outer protective layer
•Moisture trapped behind coatings can migrate into the wall structure and eventually affect interior finishes
•Failed exterior coatings can contribute to staining, wall deterioration, corrosion of embedded metal components, interior moisture damage, and mold-supporting conditions
•Repainting over damaged or moisture-affected surfaces without correcting the underlying cladding and moisture-entry issues will likely result in recurring paint failure

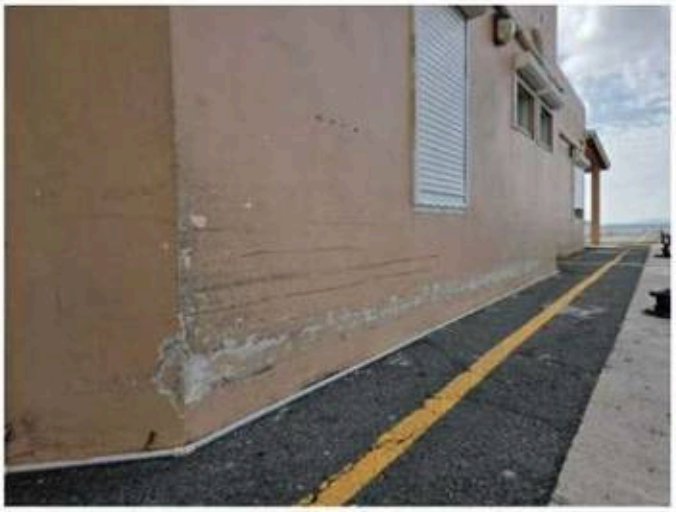
Corrective Scope:
•All identified wall cladding, stucco, sealant, crack, penetration, window, door, and waterproofing deficiencies should be corrected before repainting
•The exterior surfaces should be properly cleaned, scraped, prepared, and repaired prior to coating application
•Loose, peeling, delaminated, or failed paint/coating materials should be removed as necessary
•Damaged stucco, cracks, gaps, openings, and moisture-entry points should be sealed or repaired using appropriate exterior-rated materials
•After all exterior wall cladding deficiencies have been corrected, the building should be repainted or recoated using an appropriate exterior-grade coating system suitable for stucco/concrete surfaces, coastal exposure, UV exposure, and wind-driven rain conditions
•The final coating system should be applied according to manufacturer specifications to help restore the waterproof integrity and long-term weather protection of the exterior building envelope





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2 HVAC - Air Conditioning

Air Conditioning Systems

2.1) HVAC Systems

I

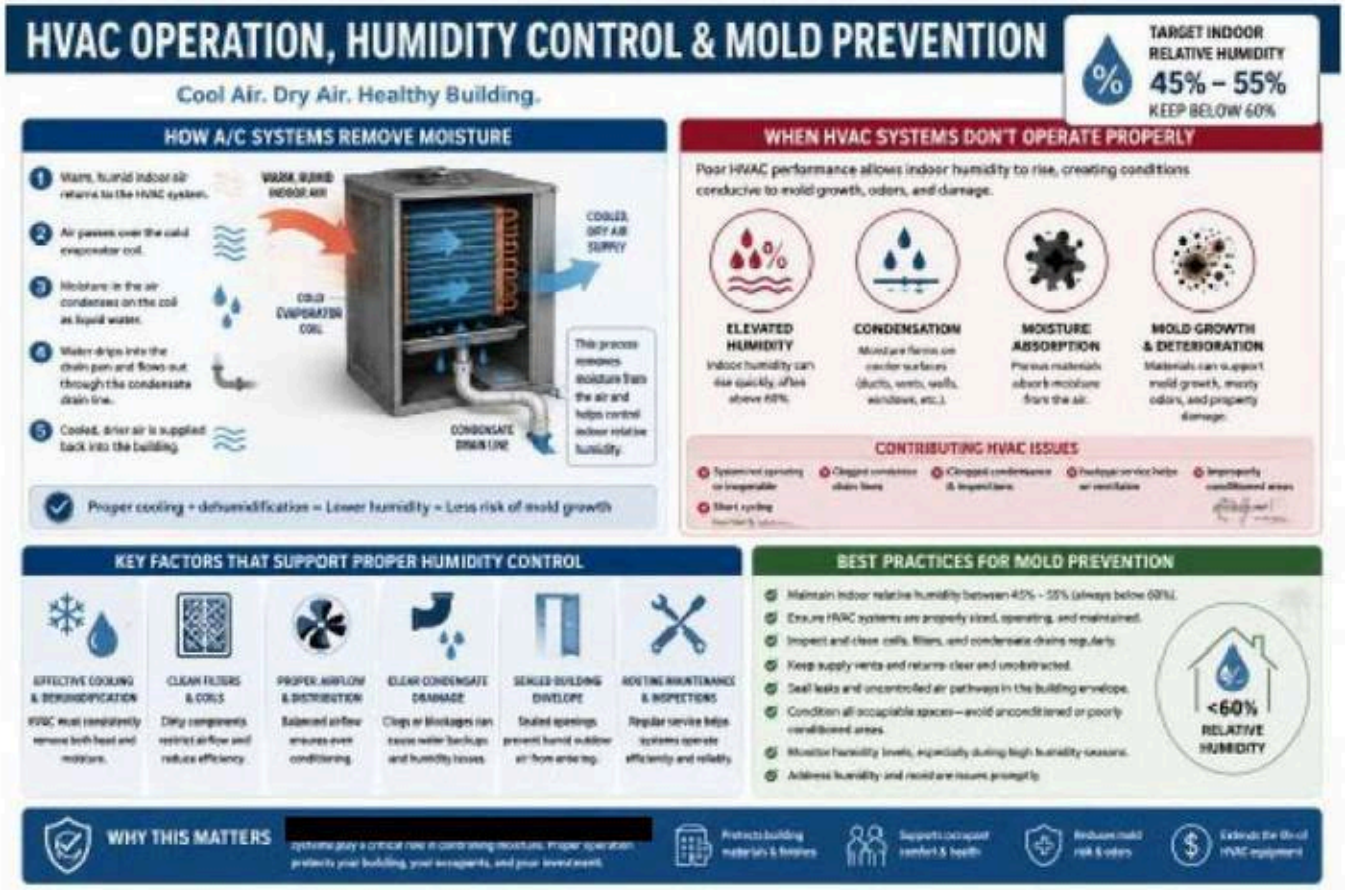
HVAC Operation, Humidity Control, and Mold Prevention

HVAC systems do more than simply cool the air. A properly functioning air conditioning system also removes moisture from the indoor environment. As warm, humid air passes across the cold evaporator coil inside the HVAC system, moisture in the air condenses into liquid water. That water is then collected and discharged through the condensate drainage system. This process lowers the indoor relative humidity and helps keep building materials, finishes, contents, and concealed cavities dry enough to reduce the likelihood of mold growth.

In hot, humid, coastal environments such as the [redacted] proper HVAC operation is especially important. Outdoor air naturally contains high moisture levels, and any interruption in cooling, dehumidification, or air circulation can allow indoor humidity to rise quickly. When relative humidity remains elevated for extended periods, especially above approximately 60%, porous and semi-porous materials such as drywall, ceiling tiles, wood, dust accumulation, insulation, paper-faced materials, furnishings, and stored contents can absorb moisture from the air. Once these materials remain damp, they can support mold growth even without a visible plumbing leak or roof leak.

When an HVAC system is not operating correctly, is poorly maintained, has clogged condensate drainage, has inadequate airflow, is short cycling, is improperly balanced, or is completely inoperable, the affected area may no longer receive proper cooling or moisture removal. This can lead to elevated humidity, condensation on cooler surfaces, musty odors, occupant discomfort, deterioration of interior finishes, and recurring mold-supporting conditions.

Multiple HVAC systems at the [redacted] were observed to have operational issues, maintenance concerns, or were not functioning at the time of the inspection. Additionally, some areas of the building appear to be improperly conditioned or not conditioned at all. These conditions are considered significant contributors to the moisture imbalance and mold growth observed within the building. The specific HVAC-related deficiencies observed during the inspection are detailed individually in the following sections of this report.



2.2) HVAC Systems - Domestic Lounge HVAC Unit

R

One of the two HVAC systems serving the Domestic Lounge was not operational at the time of the inspection. This condition is contributing to uneven conditioning of the space and is placing additional demand on the remaining operational HVAC system. When one system is not functioning, the active system may be unable to properly maintain temperature, humidity, air circulation, and moisture control throughout the entire area. In a hot and humid coastal environment, inadequate HVAC performance can contribute to elevated indoor humidity, condensation potential, occupant discomfort, and conditions that support mold growth.

Possible Causes:
•Mechanical failure of the HVAC system
•Electrical, control, thermostat, or communication issue
•Refrigerant, compressor, blower, or condensate management problem
•Deferred maintenance or service-related issue
•System shutdown due to prior malfunction or safety control activation

Why This Matters:
•The Domestic Lounge is designed to be conditioned by two HVAC systems working together
•Loss of one system can create uneven cooling, poor airflow distribution, and areas of elevated humidity
•The remaining operational system may be forced to run longer and harder than intended
•Added strain on the active unit can accelerate wear, reduce efficiency, and increase the risk of additional failure
•Inadequate dehumidification can allow humid air to remain inside the building and condense on cooler surfaces
•Elevated humidity and condensation can contribute to recurring mold growth, odors, material deterioration, and poor indoor air quality
•Mold remediation may not remain successful if HVAC operation and humidity control are not corrected and

maintained

Required Corrective Action / Planned Repairs:
As part of the corrective action scope, the non-operational HVAC system serving the Domestic Lounge should be fully evaluated, repaired, and placed back into proper service. The HVAC systems serving this area should be reviewed as a complete system to confirm proper operation, balanced conditioning, airflow distribution, condensate drainage, and humidity control. Restoring both systems to proper operation is necessary to reduce uneven conditioning, prevent overloading of the remaining unit, improve indoor environmental control, and reduce the risk of recurring moisture and mold-related conditions within the Domestic Lounge.





2.3) HVAC Systems - Break Room HVAC

R

The HVAC system serving the break room was not operational at the time of the inspection. Proper air conditioning and humidity control are essential for maintaining acceptable indoor environmental conditions and reducing the likelihood of mold growth. When an interior space is not properly conditioned, indoor relative humidity can rise quickly, especially in warm/humid climates or buildings with existing moisture concerns.

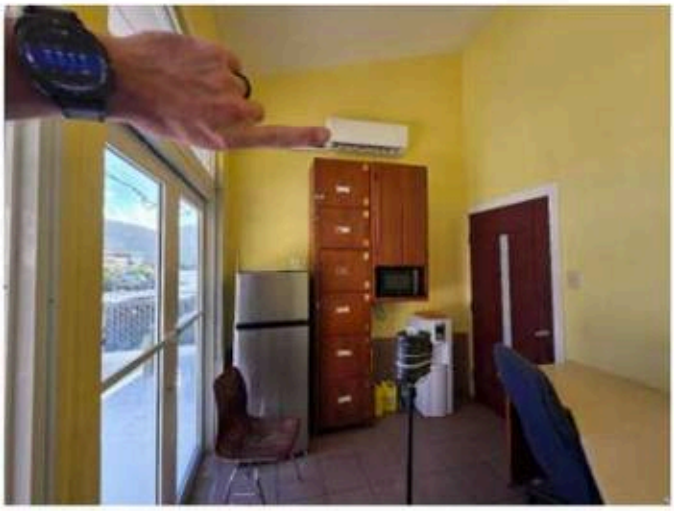
Possible Causes:
•HVAC system malfunction or equipment failure
•Electrical, thermostat, control, or power supply issue
•Refrigerant, condensate, or mechanical system defect
•System intentionally turned off or not being properly operated
•Deferred maintenance or inadequate HVAC service

Why This Matters:
•Lack of active air conditioning can allow indoor humidity levels to rise above acceptable thresholds
•Elevated indoor humidity can create conditions conducive to mold and organic growth
•Poor humidity control can worsen existing moisture damage and mold conditions
•Occupant comfort, indoor air quality, and building material conditions may be negatively affected
•Mold remediation efforts may not remain effective if the space is not properly conditioned after corrective work is completed

Corrective Scope:
•The HVAC system serving the break room should be evaluated and repaired as soon as possible
•The cause of the system failure should be identified and corrected by a qualified HVAC contractor or mechanical professional
•Once repaired, the system should be operated consistently to maintain indoor relative humidity below the

recommended threshold
•Indoor humidity levels should be monitored after repairs to confirm the space is being properly conditioned
•Any mold-impacted or moisture-damaged materials in the break room should be addressed as part of the overall remediation scope





2.4) HVAC Systems - Customs Storage Closet HVAC R

The HVAC system serving the Customs Storage Closet was not operational at the time of the inspection. This area was one of the most severe areas observed in the building for visible mold growth and appears likely to be one of the primary mold amplification sources affecting the surrounding indoor environment. Without proper air conditioning, dehumidification, and air circulation, the space is unable to control temperature, relative humidity, or moisture accumulation. These conditions allow mold growth to worsen and increase the likelihood that mold spores, fragments, odors, and contaminated dust may spread from this area into adjacent spaces and other portions of the building.

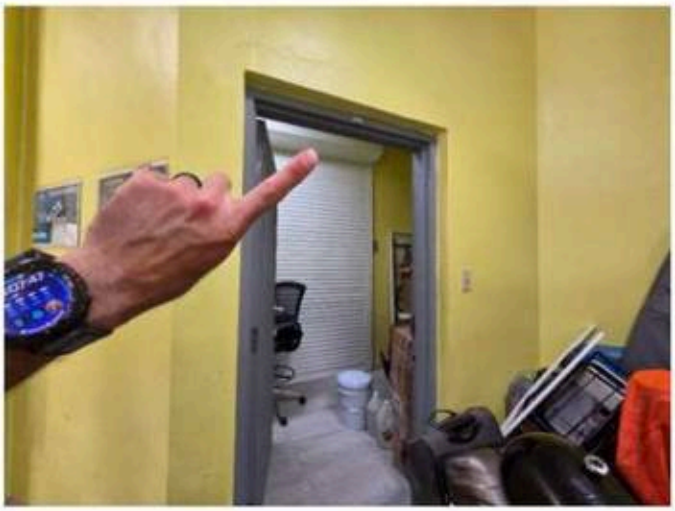
Possible Causes:
•Mechanical, electrical, thermostat, control, or equipment failure of the HVAC system
•Deferred HVAC maintenance or system shutdown due to prior malfunction
•Lack of proper cooling, dehumidification, and air circulation within the storage closet
•Elevated indoor humidity due to the inoperable HVAC system
•Active moisture intrusion or moisture accumulation within the area
•Mold growth that has progressed due to prolonged damp conditions and poor environmental control

Why This Matters:
•This area contains some of the most significant mold growth observed during the inspection
•A non-operational HVAC system prevents the space from being properly cooled, dried, and conditioned
•Elevated humidity and stagnant air can accelerate mold growth on walls, ceilings, stored contents, dust, and other materials
•Active moisture conditions in this area are further exacerbating the mold growth and must be corrected for remediation to be successful
•Severe mold growth in an enclosed storage area can become a reservoir for mold spores and contaminated particulates
•Mold contamination from this area may spread to other portions of the building through air movement, occupant activity, pressure differences, or disturbance of contaminated materials
•Mold remediation is unlikely to remain successful if the HVAC system and active moisture condition are not corrected

Required Corrective Action / Planned Repairs:
As part of the corrective action scope, the HVAC system serving the Customs Storage Closet should be evaluated,

repaired, and returned to proper operation to restore cooling, dehumidification, and air circulation within the space. The active moisture condition in this area must also be identified and corrected prior to or in conjunction with remediation. Once the moisture source and HVAC deficiencies are addressed, this area should be included as a priority remediation zone due to the severity of mold growth observed and the likelihood that it is contributing to mold contamination in surrounding areas. The related active moisture issue observed in this space is noted separately below.





2.5) HVAC Systems - Issue 5

R

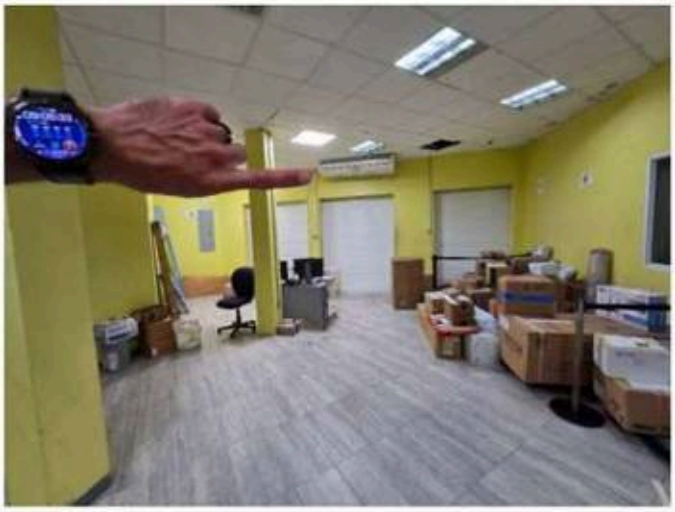
Two HVAC systems serving the Customs area were observed to be connected to a single electrical circuit breaker. When both units are operated at the same time, the shared breaker reportedly trips. This indicates that the existing electrical configuration is not properly supporting the simultaneous operation of both HVAC systems.

Possible Causes:
•Both HVAC units connected to the same electrical circuit
•Circuit breaker overloaded when both systems operate concurrently
•Electrical circuit not properly sized for the combined load of both HVAC systems
•Original installation or later modification that did not provide independent circuits for each unit
•Potential electrical design or installation deficiency

Why This Matters:
•HVAC systems must be able to operate reliably to maintain proper cooling and humidity control
•Breaker tripping can result in loss of air conditioning and elevated indoor humidity
•Elevated indoor relative humidity can create conditions conducive to mold and organic growth
•Repeated breaker tripping can indicate an overloaded electrical circuit and should not be ignored
•Mold remediation and prevention efforts may not remain effective if the HVAC systems cannot operate as needed

Corrective Scope:
•The electrical configuration serving the two Customs area HVAC systems will be evaluated by a qualified electrician
•An additional electrical circuit will be installed as necessary so each HVAC unit is served by its own independent circuit breaker
•Circuit sizing, breaker sizing, wiring, and equipment electrical requirements will be verified before final installation
•The HVAC systems will be tested after electrical corrections are completed to confirm both units can operate concurrently without tripping the breaker
•Once corrected, both systems should be operated as needed to maintain indoor temperature and relative humidity below the recommended threshold



2.6) Condensation & Water Damage R

Water damage was observed in association with condensation forming on HVAC refrigerant line piping. Moisture appears to be forming on the refrigerant line and seeping through or past the existing Rubatex insulation, allowing water to drip or migrate onto surrounding building materials. This indicates that the existing refrigerant line insulation is missing, deteriorated, improperly sealed, or no longer performing as intended.

Possible Causes:
•Condensation forming on cold HVAC refrigerant lines
•Missing, damaged, deteriorated, or compressed Rubatex insulation
•Gaps, openings, or poorly sealed seams in the refrigerant line insulation
•Warm humid air contacting cold refrigerant piping
•Insulation that is saturated or no longer providing an effective vapor barrier

Why This Matters:
•Condensation from refrigerant lines can cause ongoing moisture damage to surrounding materials
•Wet insulation can continue to hold moisture and allow condensation to recur
•Repeated dripping or moisture migration can damage ceiling tiles, drywall, framing, and finishes
•Persistent moisture conditions can create an environment conducive to mold and organic growth
•Replacing damaged materials without correcting the insulation issue will likely result in recurring moisture damage

Corrective Scope:

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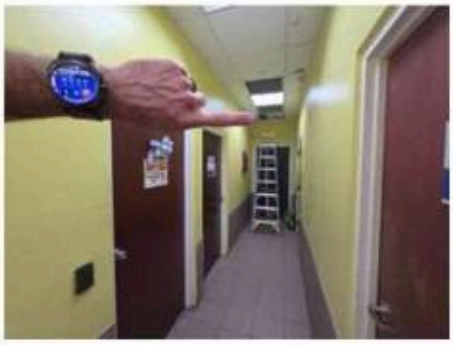
•All HVAC refrigerant line sets will be reviewed for missing, damaged, deteriorated, saturated, or improperly sealed insulation
•Existing Rubatex insulation will be repaired or replaced anywhere deficiencies are identified
•Refrigerant line insulation seams, joints, and transitions will be properly sealed to help prevent humid air from contacting cold piping
•Moisture-damaged or mold-impacted surrounding materials will be addressed as part of the remediation scope
•Corrective measures will be completed as necessary to prevent continued condensation, dripping, and recurring moisture damage

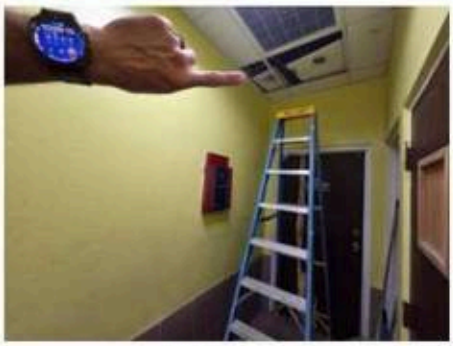










2.7) Condensation & Water Damage - Issue 2

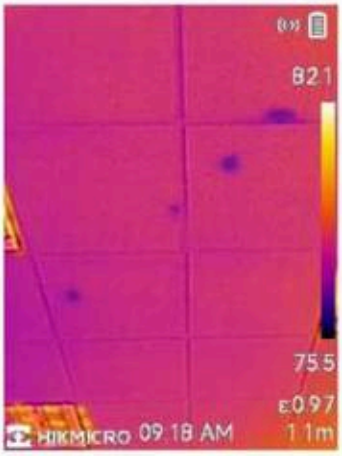
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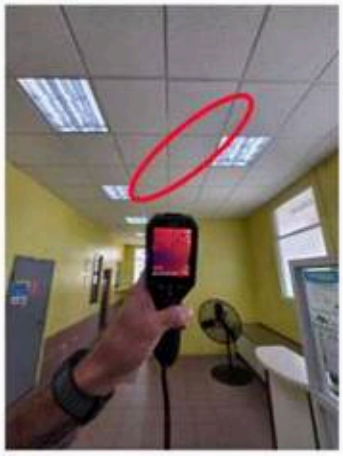
A thermal imaging camera review identified multiple active moisture conditions above the drop ceiling. Several areas appeared to have moisture actively dripping onto the suspended ceiling tile materials below. These moisture conditions are likely associated with condensation or active dripping from mechanical piping located above the ceiling system.

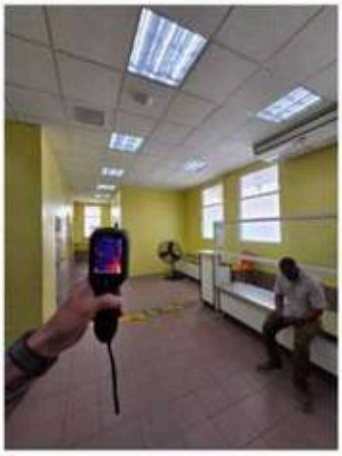
Possible Causes:
•Improperly insulated HVAC condensate drain piping
•Condensation forming on cold AC refrigerant lines
•Missing, damaged, or deteriorated pipe insulation
•Cold mechanical piping exposed to warm, humid air above the drop ceiling
•Active condensate drainage issue or localized mechanical system defect

Why This Matters:
•Active dripping can continue to damage ceiling tiles and surrounding building materials
•Moisture-damaged ceiling tiles are highly susceptible to mold and organic growth
•Moisture above drop ceilings can spread to adjacent concealed areas if not corrected
•Repeated wetting can affect indoor air quality and create recurring mold growth conditions
•Replacing ceiling tiles without correcting the moisture source will likely result in continued damage

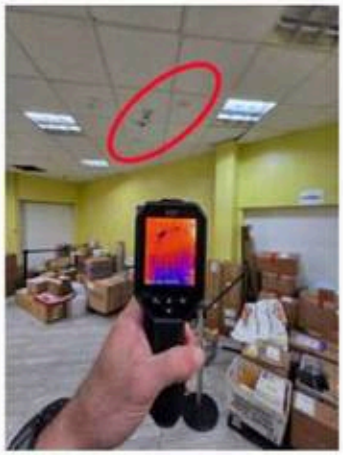
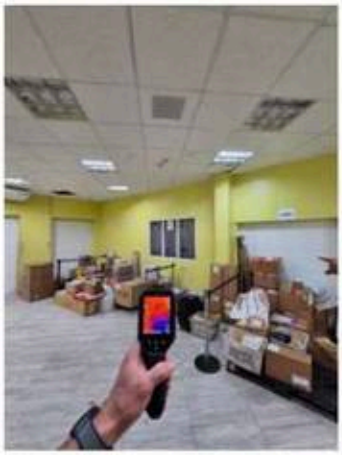
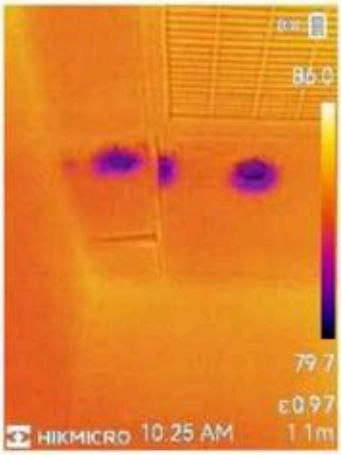
Corrective Scope:
•The affected ceiling areas and overhead mechanical piping will be further inspected during corrective work
•The source of each active moisture condition will be verified
•Improperly insulated condensate drain lines, refrigerant lines, or other cold piping will be corrected as necessary
•Missing, damaged, or deteriorated pipe insulation will be repaired or replaced where needed
•Moisture-damaged and mold-impacted ceiling tile materials will be removed and replaced as part of the remediation process
•Adjacent ceiling cavities and surrounding materials will be inspected for additional hidden moisture damage or mold growth
•Corrective measures will be completed as necessary to prevent continued dripping, moisture exposure, and recurring mold growth

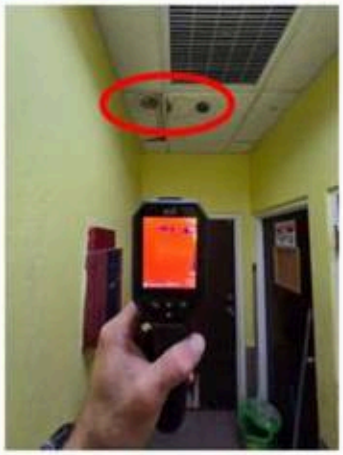
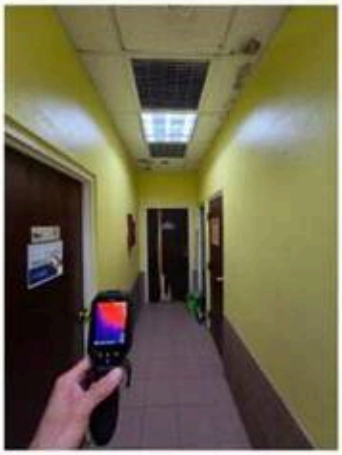
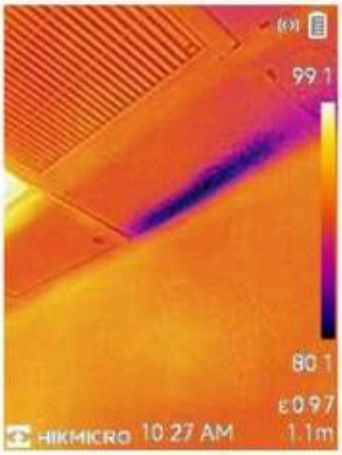


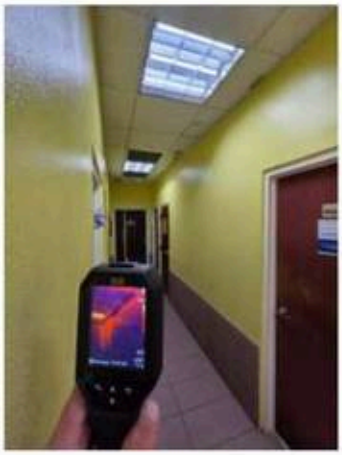






2.8) Refrigerant Line Insulation

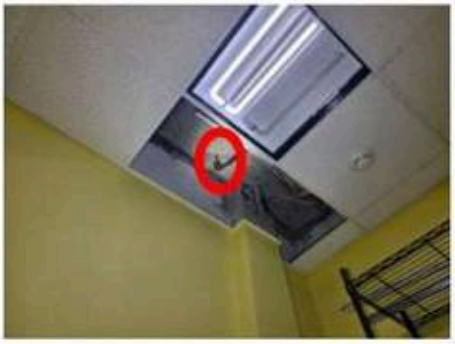
R

Multiple areas of missing, damaged, deteriorated, or improperly installed refrigerant line insulation were observed. These conditions can allow warm humid air to contact cold HVAC piping, resulting in condensation, water damage, and conditions conducive to mold growth.

Possible Causes:
•Missing or damaged refrigerant line insulation
•Deteriorated, compressed, or saturated Rubatex insulation
•Open seams, gaps, or poorly sealed insulation joints
•Improperly insulated condensate drain piping
•Cold HVAC piping exposed to warm humid air within ceiling cavities or mechanical areas

Why This Matters:
•Condensation can form on cold HVAC refrigerant lines and condensate drain piping when insulation is missing or damaged
•Water can drip onto ceiling tiles, drywall, insulation, framing, and other surrounding building materials
•Repeated moisture exposure can cause staining, deterioration, and hidden damage
•Persistent elevated moisture conditions can create an environment conducive to mold and organic growth
•Replacing damaged ceiling or wall materials without correcting the insulation deficiencies will likely result in recurring moisture damage

Corrective Scope:
•The refrigerant line sets and condensate drain installations for all HVAC systems throughout the building will be reviewed
•Missing, damaged, deteriorated, compressed, saturated, or improperly sealed insulation will be identified
•Refrigerant line insulation will be repaired or replaced wherever necessary
•Condensate drain piping insulation will be corrected wherever necessary to prevent condensation
•Insulation seams, joints, and transitions will be properly sealed to help prevent humid air from contacting cold piping
•Moisture-damaged or mold-impacted surrounding materials will be addressed as part of the overall remediation scope
•Corrective measures will be completed as necessary to reduce the likelihood of continued condensation, water damage, and recurring mold growth


2.9) Condensate Drain Line Insulation R

None of the condensate drain lines observed above the drop ceiling appeared to be insulated at the time of the inspection. The uninsulated condensate drain piping was actively forming condensation on the exterior surface of the pipes, which was dripping onto the suspended ceiling tile materials below. Mold/organic growth was observed on affected ceiling materials as a result of the ongoing moisture exposure.

Possible Causes:
•Uninsulated HVAC condensate drain piping above the drop ceiling
•Cold condensate drain lines exposed to warm humid air within the ceiling cavity
•Elevated humidity conditions above the drop ceiling
•Lack of vapor barrier protection around condensate drain piping
•Inadequate mechanical installation details for humidity-controlled environments

Why This Matters:
•Condensation can continuously form on uninsulated condensate drain lines when exposed to warm humid air
•Active dripping can damage ceiling tiles and surrounding building materials
•Wet ceiling tile materials are highly susceptible to mold and organic growth
•Moisture above drop ceilings can spread to adjacent concealed areas if not corrected
•Mold remediation efforts may not remain effective if the source of condensation is not corrected

Corrective Scope:
•All accessible condensate drain lines serving the building's HVAC systems will be reviewed

•Uninsulated condensate drain piping will be identified in accessible areas
•Condensate drain lines will be insulated as necessary to help prevent future condensation formation
•Insulation seams, joints, and transitions will be properly sealed to reduce humid air contact with cold piping surfaces
•Moisture-damaged and mold-impacted ceiling tile materials will be addressed as part of the overall remediation scope
•Corrective measures will be completed as necessary to reduce the likelihood of future moisture damage and subsequent mold growth






2.10) Customs Storage Closet Drain Line Condensation

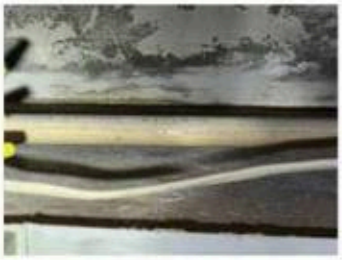
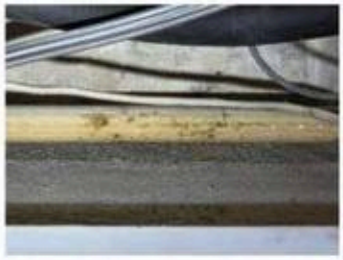
R

An active moisture condition was observed above the drop ceiling in the Customs storage closet area. Water was present on the underside of a pipe above the ceiling tiles and was actively dripping onto the suspended ceiling tile materials below. Mold/organic growth was also observed on or near the affected ceiling materials as a result of the ongoing moisture exposure.

Possible Causes:
•Condensation forming on the exterior surface of the pipe
•Uninsulated or improperly insulated HVAC condensate drain piping
•Cold piping exposed to warm, humid air above the drop ceiling
•Active plumbing leak or drainage defect
•Elevated humidity and limited air circulation within the concealed ceiling cavity

Why This Matters:
•Active moisture conditions can continue to damage ceiling tiles and surrounding building materials
•Wet ceiling tile materials are highly susceptible to mold and organic growth
•Moisture above drop ceilings can spread to adjacent concealed areas if not corrected
•Mold growth in ceiling cavities can impact indoor air quality and occupant health
•Replacing stained or damaged ceiling tiles without correcting the moisture source will likely result in recurring damage and mold growth

Corrective Scope:
•The type and function of the affected pipe will be verified during corrective work
•The source of the moisture condition will be confirmed before final repairs are completed
•If the moisture is determined to be the result of condensation, the affected pipe will be properly insulated to prevent warm humid air from contacting the cold pipe surface
•If an active leak, drainage defect, or condensate issue is identified, the condition will be corrected as necessary
•Moisture-damaged and mold-impacted ceiling tile materials will be removed and replaced as part of the remediation process
•Adjacent ceiling cavities and surrounding materials will be inspected for additional hidden moisture damage or mold growth
•Corrective measures will be completed as necessary to prevent continued moisture exposure and reduce the likelihood of recurring mold growth



3 Plumbing System

Plumbing System Components

3.1) Plumbing Leaks

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An active plumbing leak was observed at the urinal in the men's bathroom located in the International Arrivals area. Active moisture conditions in interior building areas should be corrected promptly, especially in a building with known humidity and mold concerns.

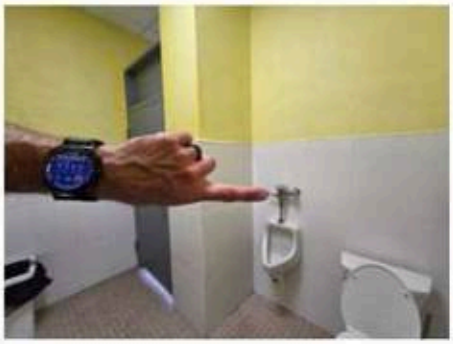
Possible Causes:
•Leaking urinal flush valve, supply connection, or plumbing fitting
•Failed gasket, seal, or connection at the urinal fixture
•Drainage connection leak behind or below the fixture
•Loose, deteriorated, or improperly sealed plumbing components
•Previous repair or installation deficiency

Why This Matters:
•Active plumbing leaks can continue to damage surrounding wall, floor, and finish materials
•Moisture may migrate into concealed wall cavities or flooring assemblies
•Persistent moisture exposure can create conditions conducive to mold and organic growth
•Plumbing leaks can worsen indoor humidity and moisture conditions if not corrected
•Mold remediation efforts may not remain effective if active moisture sources remain present

Corrective Scope:
•The urinal plumbing leak will be further reviewed during corrective work
•The source of the leak will be identified and corrected as necessary
•Affected surrounding materials will be reviewed for moisture damage and mold/organic growth
•Moisture-damaged or mold-impacted materials will be addressed as part of the overall remediation scope where necessary
•Corrective measures will be completed as necessary to eliminate the active moisture source and reduce the likelihood of recurring mold growth







4 Interior Observations

Interiors

4.1) Humidity Control

I

Indoor Humidity Control and Mold Prevention

One of the most important factors in preventing mold growth inside an air-conditioned building is controlling the relative humidity of the indoor air. Mold requires moisture to grow. While obvious water leaks and flooding are major sources of moisture, elevated indoor humidity can also provide enough moisture to support mold growth, especially in hot, humid, coastal environments such as the [redacted]

Relative humidity refers to the amount of moisture vapor present in the air compared to how much moisture the air can hold at that temperature. When indoor humidity remains elevated, porous and semi-porous materials such as drywall, ceiling tiles, insulation, wood, paper-faced materials, furnishings, stored contents, dust, and organic debris can absorb moisture from the air. These materials may become damp enough to support mold growth even when there is no visible standing water or active leak.

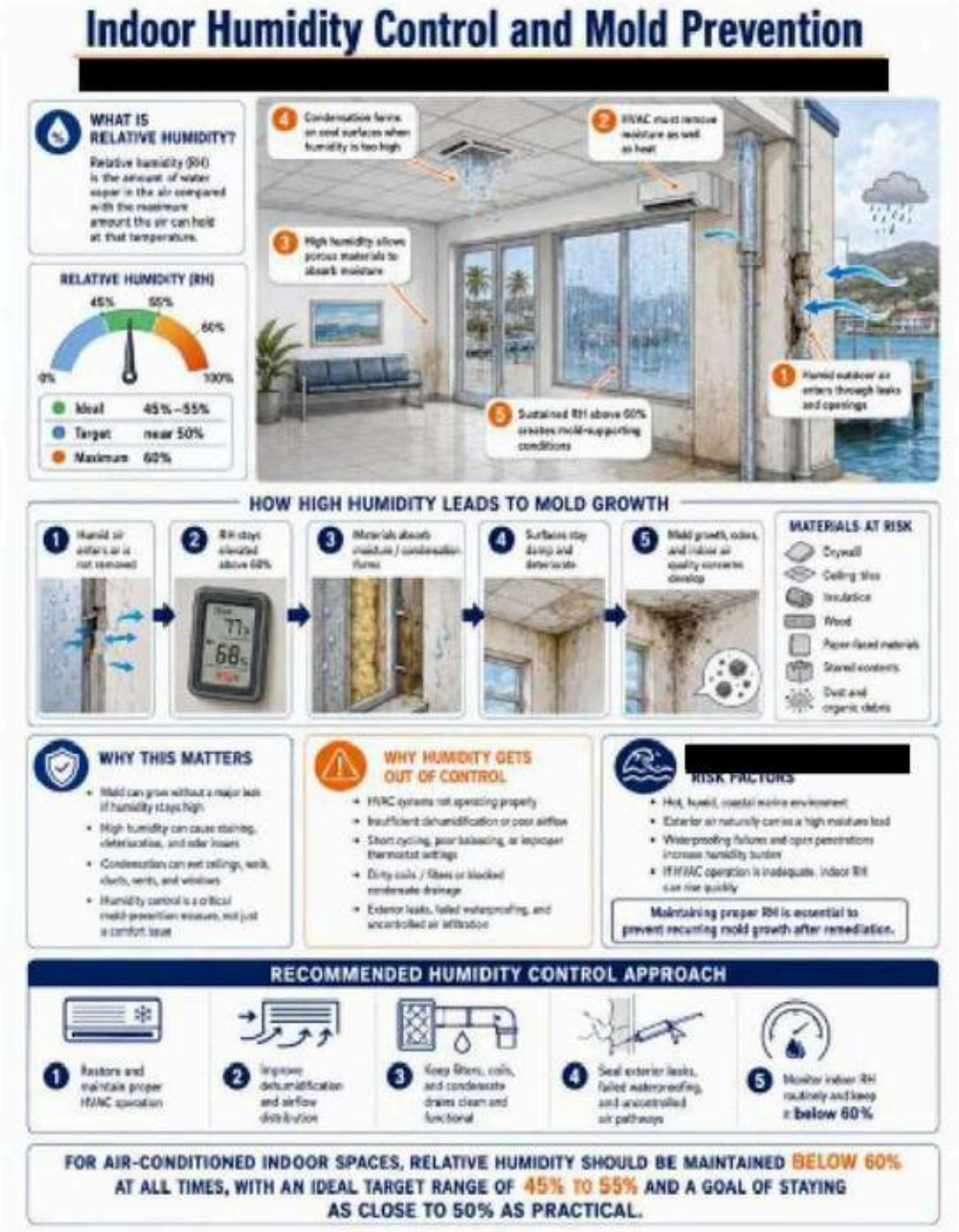
High humidity also increases the likelihood of condensation. When warm, humid air contacts cooler air-conditioned surfaces, such as supply vents, ducts, ceilings, walls, metal framing, windows, or other cold building components, the moisture vapor in the air can condense into liquid water. This can create localized wetting, staining, deterioration, and mold-supporting surface conditions.

For air-conditioned indoor spaces, relative humidity should generally be maintained below 60% at all times, with an ideal target range of approximately 45% to 55% in this type of hot and humid commercial environment. Where possible, maintaining humidity closer to 50% provides better protection against mold growth, odors, dust mite activity, material deterioration, and indoor air quality concerns. Sustained humidity above 60% should be considered a moisture-control deficiency and should trigger corrective action.

Proper humidity control depends on several factors working together, including properly functioning HVAC systems, adequate dehumidification, proper airflow, correct thermostat operation, clean filters and coils, unobstructed condensate drainage, properly sealed exterior openings, controlled outdoor air infiltration, and routine maintenance. If HVAC systems are not operating correctly, are undersized, oversized, short cycling, poorly balanced, or completely inoperable, the affected spaces may not be able to maintain proper humidity control.

At the [redacted] humidity control is especially important because the building is located in a warm, humid, marine environment where exterior air naturally contains high moisture levels. When this humid outdoor air enters the building through leaks, failed waterproofing, open penetrations, damaged exterior finishes, or poorly conditioned areas, the HVAC systems must remove that added moisture load. If the HVAC systems are not functioning properly, indoor humidity can rise quickly and create conditions that support mold growth.

Maintaining proper indoor humidity is therefore not just a comfort issue. It is a critical mold-prevention measure. Correcting water intrusion sources, restoring HVAC operation, improving dehumidification, sealing uncontrolled air pathways, and monitoring indoor humidity levels are necessary steps to reduce the risk of recurring mold growth after remediation is completed.



4.2) Humidity Control - Issue 2

R

The roll-up door near the main entry of the terminal building is reportedly left open during high-traffic periods to allow faster occupant entry into the building. While this may improve short-term traffic flow, it creates a significant humidity-control problem by allowing large volumes of hot, humid exterior air to enter the building. In a hot and humid coastal environment, uncontrolled exterior air infiltration makes it extremely difficult for the HVAC systems to maintain indoor humidity below mold-supporting levels. This condition is considered a contributing factor to elevated indoor humidity and increased risk of mold growth within the building.

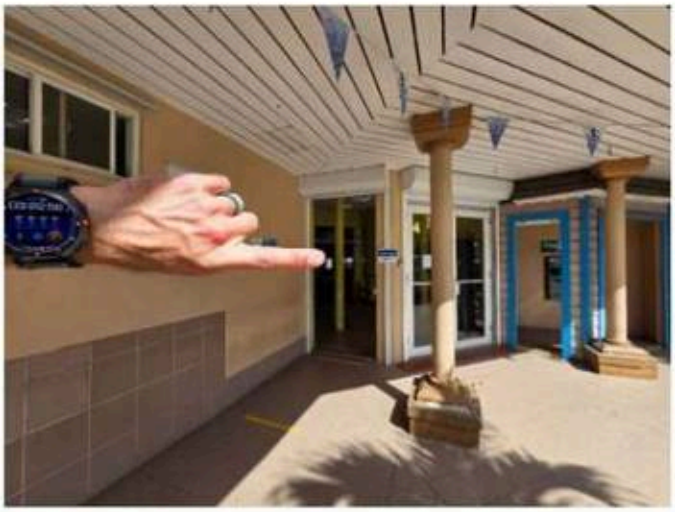
Possible Causes:
•Roll-up door being left open for extended periods during high-traffic times
•Lack of controlled entry vestibule or air-separation system at this opening

•Large volume of hot, humid exterior air entering directly into the conditioned building
•Staircase and upper PCU landing area lacking active local air conditioning
•Limited or no air circulation in the staircase and upper landing area
•Warm humid air rising naturally toward the upper portions of the building

Why This Matters:
•Open exterior doors allow conditioned air to escape and hot, humid outdoor air to enter
•The HVAC systems must work harder to cool and dehumidify the added moisture load
•If the incoming humidity load exceeds the HVAC system's ability to remove moisture, indoor relative humidity can remain elevated
•Elevated humidity can be absorbed by drywall, ceiling materials, wood, dust, contents, and other mold-supporting materials
•The location of this roll-up door is particularly problematic because it is near the staircase leading to the upstairs PCU landing area
•Hot, humid air entering through the open door can rise into the staircase and upper landing area
•Because the staircase and upper PCU landing do not have active local air conditioning or adequate air circulation, this area can become extremely hot, humid, and stagnant
•Hot, humid, stagnant air can contribute to condensation, musty odors, material deterioration, and mold growth
•Mold remediation may not remain successful if uncontrolled exterior air infiltration continues after remediation is completed

Required Corrective Action / Planned Operational Changes:
A decision should be made regarding whether the roll-up door near the main entry can remain closed during normal building operation. The preferred corrective approach is to keep this roll-up door closed and direct occupant entry through the standard self-closing double entry doors, which provide better control of conditioned air loss and exterior humidity intrusion. If operational needs require the roll-up door to remain open during high-traffic periods, then additional air-control measures should be installed, such as a properly designed air curtain, vestibule, high-speed door, or other approved system to reduce the amount of hot, humid exterior air entering the building. Additional review should also be performed for the staircase and upstairs PCU landing area to determine whether supplemental air conditioning, dehumidification, or mechanical air circulation is needed to maintain acceptable temperature and humidity levels in that area.





4.3) Humidity Control - Issue 3 R

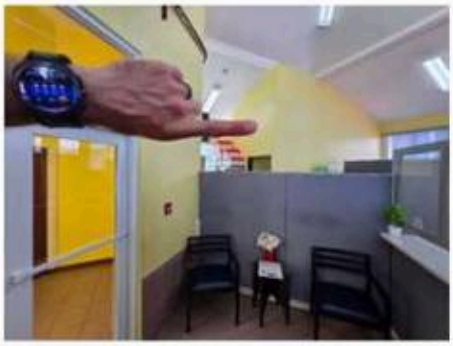
The bathroom hallway area of the upstairs PCU was observed to have no direct local air conditioning supply. Elevated humidity was noted in this area, which appears to be related to limited conditioned air delivery, poor air circulation, and reduced humidity control.

Possible Causes:
•No dedicated air conditioning supply serving the bathroom hallway area
•Limited air movement between the main PCU area and the bathroom hallway
•Warm humid air collecting in an area with little or no active conditioning
•Inadequate ventilation or circulation within the bathroom hallway area
•Building layout limiting the distribution of conditioned air into the hallway and bathroom area

Why This Matters:
•Areas without adequate air conditioning can experience elevated humidity levels
•Elevated humidity can create conditions conducive to mold and organic growth
•Poor air circulation can allow heat and moisture to accumulate in isolated areas
•Bathroom and hallway areas are more vulnerable to humidity-related concerns due to plumbing fixtures and intermittent moisture exposure
•Mold remediation efforts may not remain effective if humidity control is not improved in this area

Corrective Scope:
•The bathroom hallway area of the upstairs PCU should be improved to provide better humidity control and air circulation
•Ideally, direct air conditioning should be installed to properly condition this area
•If installing direct air conditioning is cost prohibitive, a ventilation or circulation system should be installed to help move conditioned air from the main PCU area into the bathroom hallway area
•A circulation fan, transfer grille, or similar air movement device may be installed in the wall area above the hallway entry door to improve airflow into the bathrooms and adjacent hallway
•The final correction method should be selected based on HVAC design, building layout, and the ability to maintain acceptable relative humidity levels
•After improvements are completed, humidity levels should be monitored to confirm the area remains properly controlled and does not continue to support mold growth conditions





4.4) Humidity Control - Issue 4 R

The downstairs bathroom areas were observed to be non-conditioned spaces with exterior ventilation openings. Because these areas are not actively air conditioned or humidity controlled, indoor relative humidity levels are expected to remain above the threshold where mold and organic growth can develop. Porous and cellulose-based building materials, such as standard ceiling tiles, paper-faced drywall, and similar absorbent finish materials, are more likely to support mold growth when exposed to elevated humidity conditions.

Possible Causes:
•Bathroom areas are not served by active air conditioning
•Exterior ventilation openings allow warm humid air to enter the space
•Limited humidity control within the bathroom areas
•Porous or cellulose-based materials installed in a high-humidity environment
•Bathroom doors not fully sealing between conditioned and non-conditioned areas

Why This Matters:

•Non-conditioned bathroom areas can remain chronically humid
•Elevated humidity can create conditions conducive to mold and organic growth
•Standard ceiling tiles and paper-faced materials can absorb moisture from humid air
•Mold spores are more likely to grow on porous, organic, or cellulose-based materials when humidity remains elevated
•Air exchange between the non-conditioned bathrooms and adjacent conditioned areas can negatively affect humidity control in the surrounding interior spaces

Corrective Scope:
•Building materials in these non-conditioned bathroom areas should ideally be replaced with mold-resistant, moisture-resistant, non-cellulose, or inorganic materials where feasible
•Suitable material types may include vinyl-faced or fiberglass-faced ceiling panels, cementitious backer board, fiberglass-reinforced panels, tile, metal, PVC, composite trim, or other non-porous/non-organic materials designed for high-humidity environments
•These materials are more resistant to mold growth because they do not readily absorb moisture and do not provide the same organic food source as paper-faced drywall, standard ceiling tiles, wood-based products, or other cellulose-containing materials
•Bathroom doors separating the non-conditioned bathrooms from conditioned interior areas will be reviewed for proper closure and sealing
•Weatherstripping will be installed as necessary to help seal the doors when closed
•Door self-closers will be adjusted as necessary to help ensure the bathroom doors close fully and seal properly against the weatherstripping
•Corrective measures will be completed as necessary to limit air exchange between conditioned and non-conditioned spaces and reduce the likelihood of humidity-related mold growth

4.5) Humidity Control - Issue 5 R

The bathroom in the Customs cashier's office appears to have originally been designed as a non-conditioned space with open ventilation to the exterior. At some point, it appears that a decision was made to include this area within the conditioned building space, and plexiglass panels were installed over the exterior ventilation openings. However, the current plexiglass installation is not effectively sealing the openings from exterior air and moisture. Holes were also observed drilled through the plexiglass, which defeats the purpose of attempting to seal off the exterior ventilation openings.

Possible Causes:
•Original bathroom design included open exterior ventilation
•Later modification attempted to convert the bathroom into conditioned space
•Plexiglass panels were installed as a temporary or incomplete enclosure method
•Holes drilled through the plexiglass allow exterior air and humidity to enter
•Plexiglass panels are not properly sealed, flashed, or integrated into the exterior building envelope

Why This Matters:
•Exterior air openings can allow warm humid air to enter a conditioned space
•Air leakage can make it difficult to maintain proper indoor humidity levels
•Moisture and humidity intrusion can create conditions conducive to mold and organic growth
•Improperly sealed exterior openings can also allow wind-driven rain or exterior moisture to enter the wall or bathroom area
•Mold remediation efforts may not remain effective if exterior air and moisture pathways remain uncorrected

Corrective Scope:
•The existing plexiglass installation should be reviewed as part of the corrective work
•Holes, gaps, and unsealed edges should be corrected to prevent exterior air and moisture intrusion
•The exterior ventilation openings should be permanently sealed or properly modified if the bathroom is intended to remain part of the conditioned space
•Any enclosure system used should be properly sealed, weather-resistant, and integrated into the exterior wall assembly
•A more durable exterior-rated panel, louver closure, window infill, or properly flashed wall infill system may be needed

instead of the current plexiglass installation
•Corrective measures will be completed as necessary to limit exterior air exchange, reduce moisture intrusion, and help maintain acceptable humidity control within the conditioned space






4.6) Ceiling Conditions

R

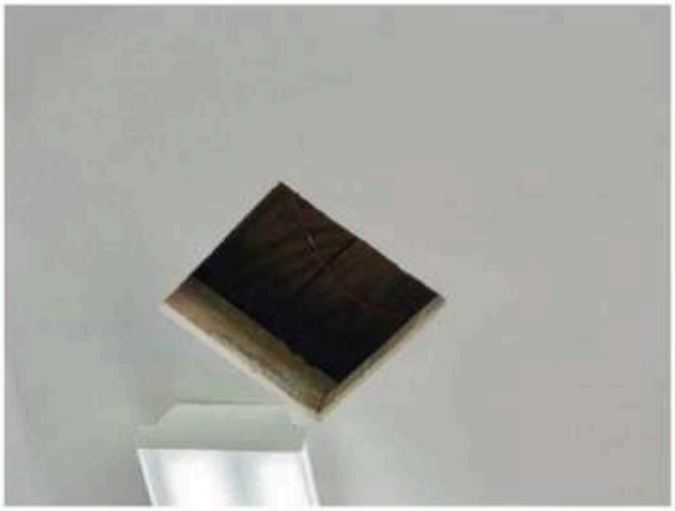
An open hole was observed in the drywall within the PCU above Miss [redacted] office. No functional purpose for this opening was apparent at the time of the inspection. Openings between attic/cavity areas and conditioned interior spaces can allow hot, humid, unfiltered attic air to mix with cooled interior air. In a humid coastal environment, this can contribute to elevated indoor humidity, condensation potential, dust/debris migration, odor transfer, reduced HVAC efficiency, and mold-supporting moisture conditions.

Possible Causes:
•Previous access opening that was not properly repaired
•Abandoned utility, wiring, mechanical, or maintenance opening
•Incomplete prior repair or construction work
•Unsealed penetration between conditioned and unconditioned areas

Why This Matters:
•Attic and cavity areas are typically hotter, more humid, and less clean than conditioned interior spaces
•Air leakage from attic/cavity spaces can introduce humid air, dust, insulation particles, odors, and contaminants into occupied areas

•When hot, humid air contacts cooler conditioned surfaces, condensation may form
•Condensation and elevated humidity can contribute to staining, material deterioration, and mold growth
•Openings in the building envelope can also reduce HVAC efficiency and make it more difficult to maintain proper humidity control
•Mold remediation may not remain successful if uncontrolled air pathways between unconditioned and conditioned spaces are not sealed

Required Corrective Action / Planned Repairs:
As part of the corrective action scope, the open drywall penetration within the PCU above Miss [redacted] office should be properly sealed and finished to restore separation between the attic/cavity area and the conditioned interior space. The repair should be completed using appropriate materials and methods to close the opening, reduce uncontrolled air movement, improve humidity control, and help prevent attic air from mixing with interior conditioned air.





4.7) Domestic Lounge Condensation R

Excessive condensation was observed forming on the window and door glass along the exterior perimeter areas. This condition is primarily likely the result of the air conditioning being set too cold in combination with thin, single-pane glass at the exterior windows and doors. The domestic lounge area is also served by two HVAC units; however, only one unit was operating at the time of the inspection. This appears to be concentrating cold air around the exterior perimeter where the windows and doors are located, increasing the likelihood of condensation formation on the glass surfaces.

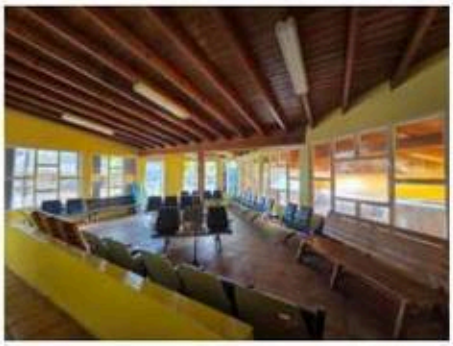
Possible Causes:
•Air conditioning temperature set too low for the building conditions
•Thin single-pane window and door glass with limited thermal resistance
•Cold conditioned air concentrated near exterior perimeter glass
•Only one of the two HVAC units operating in the domestic lounge area
•Warm humid exterior or interior air contacting cold glass surfaces
•Inadequate air distribution and balancing within the space

Why This Matters:
•Excessive condensation can drip or collect on surrounding building materials
•Repeated moisture exposure can damage window and door frames, wall finishes, flooring, and adjacent materials
•Persistent condensation can create conditions conducive to mold and organic growth
•Condensation may continue to occur if HVAC operation, temperature settings, and air distribution are not corrected
•Mold remediation efforts may not remain effective if excessive condensation remains an ongoing moisture source

Corrective Scope:

•HVAC operation in the domestic lounge area will be reviewed as part of the corrective work
•Both HVAC units should be placed into proper operation to improve air distribution and reduce concentrated cold air at the exterior perimeter
•Thermostat settings should be adjusted to provide occupant comfort and humidity removal without overcooling the space
•Interior relative humidity should be monitored to confirm the HVAC systems are maintaining acceptable humidity levels
•Window and door glass, frames, and adjacent materials will be reviewed for moisture damage and mold/organic growth where necessary
•Corrective measures will be completed as necessary to reduce excessive condensation, prevent recurring moisture exposure, and reduce the likelihood of subsequent mold growth





4.8) Water Damage Near Exterior Openings

R

Numerous instances of widespread staining and moisture damage were observed around exterior openings, including windows and doors. These conditions appear to be associated with failure, deterioration, or deficiency of the exterior waterproofing, sealant, flashing, or perimeter opening details. Moisture intrusion around exterior openings can allow water to enter the wall assembly and migrate into interior building materials.

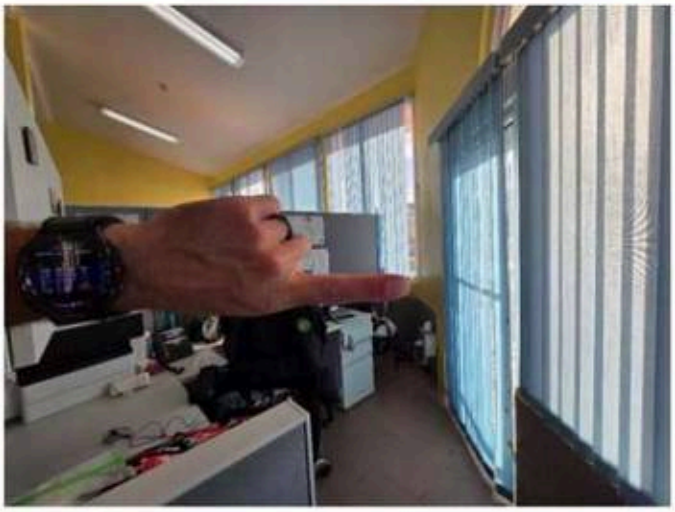
Possible Causes:
•Failed or deteriorated exterior sealants around windows and doors
•Deficient waterproofing or flashing at exterior openings
•Gaps, cracks, or separation at window and door perimeters
•Wind-driven rain entering through vulnerable exterior wall transitions
•Long-term moisture intrusion through the exterior building envelope

Why This Matters:
•Moisture intrusion around exterior openings can damage interior finishes and wall materials
•Water can migrate into concealed wall cavities and surrounding building components
•Repeated moisture exposure can cause staining, deterioration, and hidden damage
•Elevated moisture conditions can create an environment conducive to mold and organic growth
•Interior repairs and mold remediation may not remain effective if exterior moisture entry points are not corrected

Corrective Scope:
•All exterior window and door openings will be reviewed as part of the corrective scope
•Failed, deteriorated, missing, or deficient sealants will be identified and corrected where necessary
•Exterior openings will be sealed and waterproofed using appropriately rated exterior-grade sealants and waterproofing materials
•Perimeter joints, transitions, cracks, gaps, and vulnerable opening details will be addressed as necessary
•Moisture-damaged and mold-impacted interior materials will be reviewed and addressed as part of the overall remediation scope where applicable
•Corrective measures will be completed as necessary to reduce moisture intrusion, protect the wall assembly, and

reduce the likelihood of recurring mold growth





S = Serviceable | M = Monitor | R = Repair | SF = Safety | NI = Not Inspected | I = Information

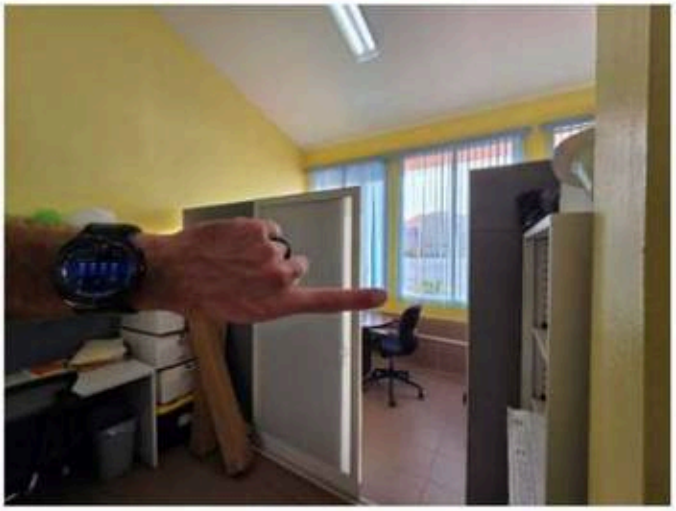




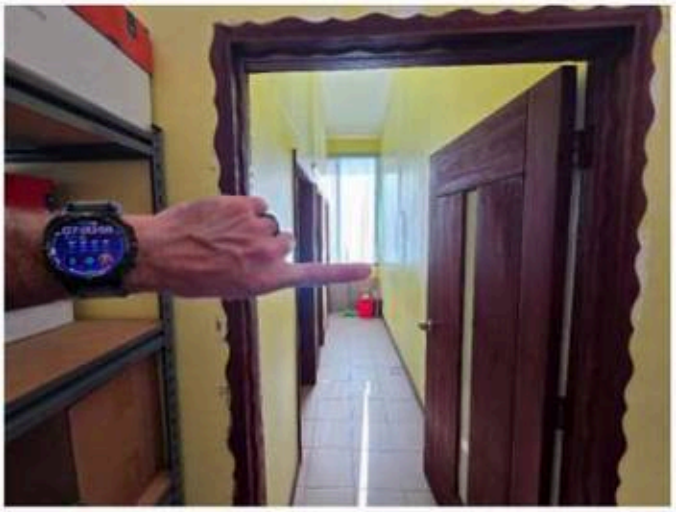












4.9) Water Damage Near Exterior Openings - Issue 2

R

More extensive water intrusion damage was observed around the windows and doors in [redacted] office in the upstairs PCU area. The extent of moisture damage appears to have progressed beyond surface staining or finish deterioration. Spalling of the wall structure was observed, which appears to be associated with corrosion of embedded reinforcing steel/rebar within the concrete or masonry wall assembly.

Possible Causes:
•Long-term water intrusion around exterior windows and doors
•Failed exterior sealants, flashing, waterproofing, or perimeter wall details
•Moisture migration into the concrete or masonry wall assembly
•Corrosion of embedded reinforcing steel/rebar due to repeated moisture exposure
•Expansion of corroded metal components causing surrounding wall materials to crack, separate, or spall

Why This Matters:
•Rebar corrosion and wall spalling indicate advanced moisture-related deterioration
•Corroded embedded steel can expand and force surrounding concrete or masonry materials to break apart
•This condition may affect the durability, integrity, and long-term performance of the wall assembly
•Continued water intrusion can accelerate deterioration and expand the affected areas
•Moisture intrusion into interior areas can damage finishes and create conditions conducive to mold and organic growth
•Cosmetic repairs alone will not correct the underlying moisture intrusion or embedded corrosion concern

Corrective Scope:
•The window, door, and surrounding wall areas will be further reviewed during corrective work
•The source of water intrusion will be identified and corrected as necessary
•Failed or deficient exterior sealants, flashing, waterproofing details, and wall penetrations will be repaired as needed
•Spalled, deteriorated, or moisture-damaged wall materials will be addressed as part of the corrective scope
•Corroded embedded reinforcing steel/rebar conditions should be reviewed by a qualified structural engineer or appropriate repair professional where structural concern exists
•Repairs should include proper preparation, corrosion treatment where applicable, restoration of damaged wall materials, and final waterproofing to help prevent recurrence
•Interior mold-impacted or moisture-damaged materials will be addressed as part of the overall remediation scope where necessary





4.10) Water Damage Near Exterior Openings - Issue 3 R

Substantial moisture damage was observed around one or more exterior window and/or door openings. In some areas, the damage appears significant enough to have caused decay, deterioration, or compromised conditions at adjacent building materials, including wood window/door framing components, surrounding stucco, concrete, and related exterior opening materials. These conditions indicate that moisture intrusion has been ongoing long enough to affect more than just the surface finishes or exterior sealants.

Possible Causes:
•Chronic water intrusion around exterior window and door openings
•Failed or deteriorated exterior sealants, flashing, glazing, or waterproofing details
•Standing or ponding water around window and door frames or thresholds
•Moisture migration into concealed framing or wall materials
•Long-term exposure to wind-driven rain and exterior humidity
•Previous incomplete or ineffective repairs around exterior openings

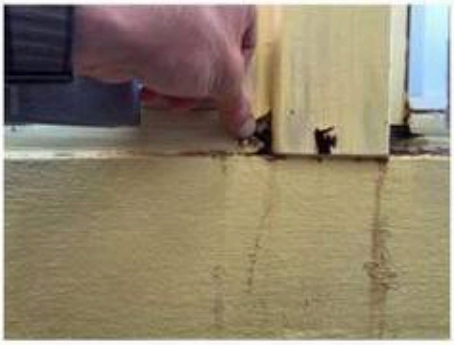
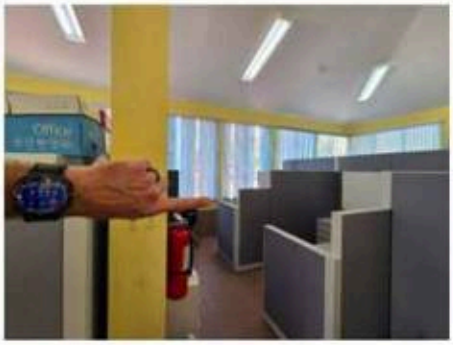
Why This Matters:
•Deteriorated wood framing or surrounding wall materials can compromise the performance of the window or door assembly
•Damaged stucco, concrete, or framing materials may prevent proper sealing and waterproofing from being achieved
•Simply applying new caulking over deteriorated materials will not provide a reliable long-term correction
•Moisture-damaged materials can continue to deteriorate and may support mold and organic growth
•Hidden damage may exist behind or adjacent to the window and door assemblies
•Proper waterproofing may not be possible until damaged surrounding materials are repaired or replaced

Corrective Scope:
•All affected window and door openings will be reviewed to determine the extent of moisture damage and material deterioration
•Areas with substantial deterioration of adjacent framing, stucco, concrete, or surrounding wall materials will require more invasive repair
•Where damage is significant, affected windows and/or doors may need to be temporarily removed to allow proper access to damaged materials
•Deteriorated wood framing, damaged stucco, compromised concrete, and other moisture-damaged materials will be repaired or replaced as necessary
•After damaged materials are corrected, the window and/or door assemblies will be reinstalled, sealed, flashed, and waterproofed using appropriate exterior-rated materials
•Final repairs will be completed as necessary to restore the waterproof integrity of the exterior opening and reduce the

likelihood of recurring moisture intrusion, material deterioration, and mold growth





4.11) Active Moisture Condition

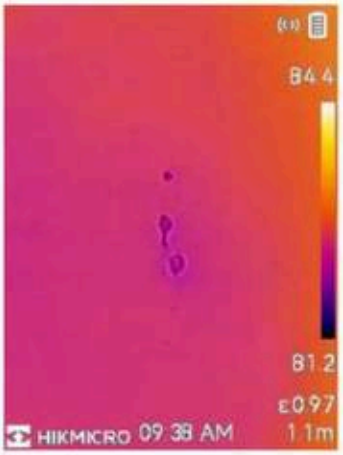
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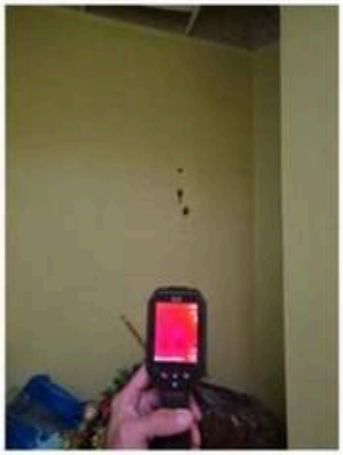
An active moisture intrusion condition was discovered in the storage closet area of the Customs space. The exact source and cause of the moisture intrusion could not be confirmed at the time of the inspection. Further investigation is needed to determine whether the moisture is associated with plumbing, HVAC/condensate piping, exterior water intrusion, roof leakage, concealed piping, or another source.

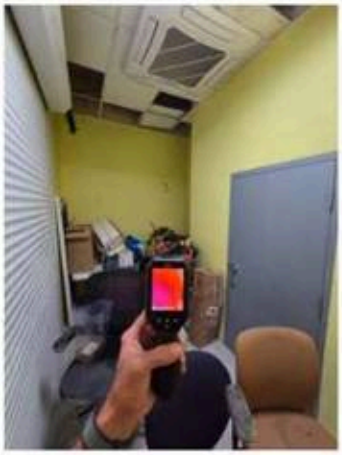
Possible Causes:
•Concealed plumbing leak
•HVAC condensate drain line or refrigerant line condensation issue
•Exterior wall or building envelope moisture intrusion
•Roof, flashing, or overhead water intrusion
•Moisture migration from an adjacent or concealed building area
•Elevated humidity and condensation within the ceiling or wall cavity

Why This Matters:
•Active moisture conditions can continue to damage surrounding building materials
•Moisture may spread into adjacent concealed wall, ceiling, or storage areas
•Wet building materials can create conditions conducive to mold and organic growth
•Mold remediation efforts may not remain effective if the active moisture source is not identified and corrected
•Repairs performed before identifying the source may not prevent recurrence

Corrective Scope:
•Further investigation will be performed to identify the source and cause of the active moisture intrusion
•Accessible surrounding areas will be reviewed for moisture damage, hidden moisture, and mold/organic growth
•The affected area will be evaluated to determine whether the condition is related to plumbing, HVAC/condensate piping, exterior intrusion, roof leakage, or another source
•Once the source has been identified, an updated corrective scope of work will be provided as necessary
•Corrective measures will be completed as necessary to eliminate the moisture source, address affected materials, and reduce the likelihood of recurring mold growth







4.12) Water Damaged Materials

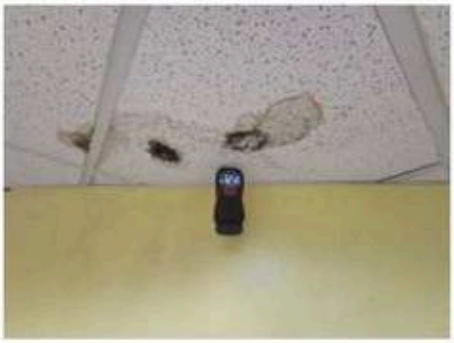
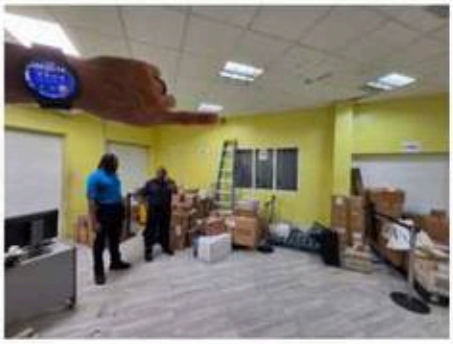
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Water-damaged materials were observed in multiple areas, and elevated moisture readings were confirmed when the affected materials were probed with a moisture meter. These readings indicate that the materials were actively holding moisture at the time of the inspection.

Possible Causes:
•Active or previous moisture intrusion
•Plumbing, HVAC, condensate, or roof-related moisture sources
•Exterior wall, window, door, or building envelope leakage
•Condensation forming on cold mechanical piping or surrounding surfaces
•Moisture trapped within porous or absorbent building materials

Why This Matters:
•Materials with elevated moisture readings can continue to deteriorate if not corrected
•Wet or moisture-damaged materials can create conditions conducive to mold and organic growth
•Moisture may spread into adjacent concealed wall, ceiling, or flooring assemblies
•Cosmetic repairs or repainting will not correct the condition if wet materials remain in place
•Mold remediation efforts may not remain effective if active moisture sources and damaged materials are not properly addressed

Corrective Scope:
•The source of moisture for each affected area will be identified and corrected as necessary
•Moisture-affected materials will be further evaluated to determine the extent of damage
•Water-damaged materials with confirmed elevated moisture readings will be removed and replaced where necessary
•Adjacent materials will be inspected for hidden moisture damage and mold/organic growth
•Affected areas will be dried, cleaned, repaired, and restored as part of the overall corrective and remediation scope
•Corrective measures will be completed as necessary to eliminate active moisture conditions and reduce the likelihood of recurring mold growth

4.13) Exterior Wall Penetrations

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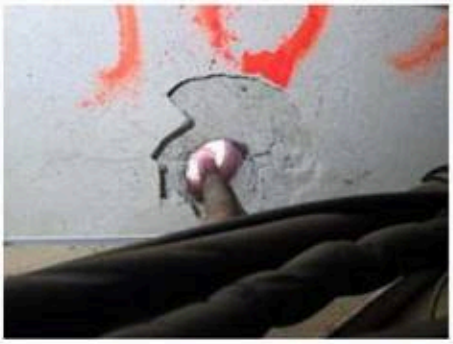
Open, improperly sealed, or unsealed penetrations were observed extending from the exterior of the building through the exterior wall assembly into the area above the suspended/drop tile ceiling system. These openings can allow exterior air, humidity, wind-driven rain, insects, and other contaminants to enter the concealed ceiling cavity and adjacent interior areas.

Possible Causes:
•Exterior wall penetrations not properly sealed after installation of piping, wiring, conduit, or mechanical components
•Failed, deteriorated, or missing exterior sealant around wall penetrations
•Improperly completed repairs or modifications through the exterior wall assembly
•Gaps around utility, plumbing, electrical, HVAC, or communication line penetrations
•Lack of proper exterior-rated sealant, flashing, or waterproofing at wall penetrations

Why This Matters:
•Exterior air leakage can increase humidity levels above the drop ceiling
•Elevated humidity can create conditions conducive to mold and organic growth
•Moisture intrusion can damage ceiling tiles, insulation, wall materials, and concealed building components
•Open penetrations can allow wind-driven rain or exterior moisture to enter the building envelope
•Mold remediation efforts may not remain effective if exterior air and moisture pathways remain uncorrected

Corrective Scope:
•Accessible exterior wall penetrations above the drop ceiling areas will be reviewed as part of the corrective work
•Open, improperly sealed, or deficient penetrations will be identified and corrected where accessible
•Penetrations will be sealed using appropriate exterior-rated sealants, waterproofing materials, or compatible closure methods based on the size, location, and type of penetration
•Any penetrations requiring fire-rated, weather-rated, or specialty sealing methods should be corrected using materials appropriate for that specific application
•Surrounding ceiling cavities and adjacent materials will be reviewed for moisture damage and mold/organic growth where necessary
•Corrective measures will be completed as necessary to limit exterior air leakage, reduce moisture intrusion, and reduce the likelihood of recurring mold growth

S = Serviceable | M = Monitor | R = Repair | SF = Safety | NI = Not Inspected | I = Information







[redacted]

Corrective Measures Scope of Work
Mold Remediation Plan
Preventative Measures Plan

Prepared for: [redacted]

Project Location: [redacted]

1	2	3
Correct moisture sources	**Remediate mold-impacted materials**	**Prevent recurrence with HVAC, filtration, UV and air purification strategies**

Purpose of this plan

This document converts the inspection and mold testing findings into an organized action plan. It is intended to identify the corrective measures needed to stop moisture intrusion, outline the remediation process for mold-impacted materials, and establish preventative measures to reduce the likelihood of recurring mold growth after remediation is complete.

Prepared by	Preven-Tech
Prepared for	[redacted]
Prepared date	July 3, 2026
Project type	Moisture correction, mold remediation, and indoor air quality prevention planning

Document Sections

1. **Corrective Measures Scope of Work** - actions required to identify and correct active moisture sources, exterior envelope defects, HVAC issues, plumbing leaks, condensation conditions, and damaged materials.
2. **Mold Remediation Plan** - removal, cleaning, containment, drying, disposal, documentation, and clearance approach for mold-impacted and water-damaged materials.
3. **Preventative Measures Plan** - long-term strategy for humidity control, air purification, UV-C integration, H2O2/advanced oxidation systems where appropriate, monitoring, and maintenance.
4. **Reference Guidance** - key standards and guidance used to frame the plan.
5. **Supporting Educational Visuals** - optional infographic pages that may be merged into the inspection report or client presentation package.

Important sequencing note

Moisture sources must be identified and corrected before final mold remediation clearance and before permanent finish restoration. Remediation without moisture correction is not a durable solution and will increase the likelihood of recurring mold growth.

1. Executive Summary

The [redacted] has multiple moisture-related conditions that are contributing to elevated indoor humidity, water damage, and mold growth. The observed issues include exterior waterproofing failures, unsealed exterior penetrations, HVAC operational deficiencies, uninsulated condensate drain piping, refrigerant line insulation failures, active plumbing leaks, active moisture intrusion of unknown origin, non-conditioned or poorly conditioned areas, and water-damaged building materials with elevated moisture readings.

These deficiencies are not isolated to one single system. The overall pattern indicates a building-wide moisture management failure involving three primary categories: exterior moisture intrusion, mechanical/HVAC humidity control deficiencies, and water-damaged or mold-impacted interior materials. The recommended approach is therefore organized as a three-part plan: correct the sources, remediate the mold-impacted materials, and install preventative systems and maintenance procedures to help prevent recurrence.

Priority	Category	Primary Objective	Examples
Priority 1	Stop Active Moisture	Correct active leaks, condensation, air infiltration, HVAC failures, and exterior moisture pathways.	Exterior openings, plumbing leaks, condensate lines, refrigerant lines, HVAC electrical issues, unsealed penetrations, active wet materials.
Priority 2	Remediate Mold & Water Damage	Remove or clean mold-impacted and water-damaged materials using controlled remediation procedures.	Ceiling tiles, drywall, insulation, porous materials, impacted contents, concealed cavities, contaminated dust/debris.
Priority 3	Prevent Recurrence	Improve long-term humidity control, filtration, air purification, monitoring, maintenance, and operational controls.	HVAC operation, dehumidification, HEPA filtration, UV-C, H2O2/advanced oxidation if approved, humidity sensors, maintenance schedules.

2. Corrective Measures Scope of Work

Scope intent

The corrective measures scope is intended to eliminate or reduce the moisture sources that caused or contributed to mold growth. This includes exterior water intrusion, uncontrolled humid air entry, HVAC condensation, HVAC non-operation, plumbing leakage, and damaged materials that remain wet.

2.1 Project Mobilization, Protection, and Verification

- Review inspection findings, mold testing results, photographs, moisture readings, and site observations before starting corrective work.
- Coordinate work areas, access requirements, security procedures, occupant protection, utility shutoffs, and after-hours work limitations with the facility representative.
- Establish work sequencing so active moisture sources are corrected before final restoration and before post-remediation verification.
- Perform additional moisture mapping and visual inspection as needed to confirm the extent of affected materials.
- Document pre-work conditions, corrective actions, hidden conditions, and any additional scope items discovered during work.

2.2 Exterior Building Envelope and Waterproofing Corrections

The exterior building envelope should be treated as a building-wide corrective item rather than a series of isolated spot repairs. Widespread failures were observed or suspected at exterior openings, sealants, penetrations, stucco/cladding surfaces, coating systems, transitions, and areas where water intrusion has affected interior building materials.

Exterior Item	Corrective Scope
Exterior waterproofing restoration	Perform a complete review and correction of exterior waterproofing, exterior sealants, caulking, wall penetrations, window/door perimeters, transitions, and vulnerable opening details.
Windows and doors	Review all exterior window and door openings. Remove failed or deteriorated sealants where needed and reseal using appropriately rated exterior-grade sealants compatible with the surrounding substrates and coastal exposure.
Open exterior penetrations	Seal open, improperly sealed, or unsealed penetrations from the exterior wall into concealed ceiling areas using appropriate exterior-rated, weather-resistant, and application-specific sealing methods.
Stucco/concrete cladding	Repair cracks, coating delamination, paint failures, and damaged stucco/concrete areas where moisture has entered behind the exterior coating or finish system.
Paint/coating failure	Do not repaint or recoat failed areas until the moisture source has been corrected and affected materials have dried. Prepare, waterproof, prime, and repaint/recoat with compatible exterior coating systems as needed.
Spalling/corrosion concerns	Where wall spalling and suspected embedded metal/rebar corrosion are present, remove unsound materials, treat corrosion where appropriate, restore the wall material, and consult a structural engineer if the extent of deterioration suggests structural concern.
Plexiglass/modified openings	Review modified exterior ventilation openings, including plexiglass infill at the Customs cashier office bathroom. Correct holes, gaps, and ineffective weather barriers. Replace temporary or deficient materials with durable exterior-rated closure methods where required.
Doors/weather-stripping	Install or adjust weather-stripping and door self-closers where doors separate conditioned spaces from non-conditioned spaces or exterior/humid-air areas.

Exterior Item	Corrective Scope
Roll-up door/high-traffic openings	Where high-traffic exterior doors must remain open, evaluate operational controls and air curtain installation to reduce uncontrolled humid air entry into conditioned areas.

2.3 HVAC, Mechanical, Condensate, and Refrigerant Line Corrections

HVAC reliability and dehumidification are critical to mold prevention at this facility. Mechanical corrections should focus on restoring proper operation, preventing condensation, controlling humidity, balancing airflow, and protecting concealed ceiling cavities from dripping mechanical piping.

Mechanical Item	Corrective Scope
Non-operational HVAC systems	Repair and return non-operational HVAC systems to service, including the break room system and any other units observed inoperable or unable to maintain proper cooling and humidity control.
Customs area electrical issue	Correct the electrical configuration for the two Customs area HVAC systems so each unit has an independent properly sized circuit/breaker, allowing both units to operate concurrently without tripping the breaker.
Condensate drain insulation	Review all accessible condensate drain lines serving the building's HVAC systems. Insulate uninsulated condensate drain lines and seal insulation seams/joints to prevent exterior pipe condensation.
Refrigerant line insulation	Review all accessible refrigerant line sets. Replace missing, damaged, deteriorated, saturated, compressed, or improperly sealed Rubatex or equivalent insulation as required.
Active dripping above ceilings	Investigate all locations where thermal imaging or visual inspection identified moisture actively dripping onto drop ceiling tiles. Verify whether each source is condensate piping, refrigerant lines, plumbing, roof/exterior intrusion, or another source.
Pipe above Customs storage closet	Verify the type and function of the pipe above the Customs storage closet ceiling. If condensation is confirmed, insulate the pipe appropriately. If a leak or drainage defect is identified, repair it as required.
Domestic lounge condensation	Operate both HVAC units serving the domestic lounge and adjust temperature settings to provide comfort and dehumidification without overcooling perimeter glass and causing excessive condensation.
PCU upstairs bathroom hallway	Improve humidity control in the upstairs PCU bathroom hallway. Install direct air conditioning if feasible or install a circulation/transfer system above the entry door to move conditioned air from the main PCU area into the hallway/bathroom area.
Downstairs bathrooms	Recognize downstairs bathrooms as non-conditioned/high-humidity areas unless modified. Use moisture-resistant/non-cellulose materials where feasible and seal doors to limit air exchange with conditioned spaces.
HVAC maintenance items	Clean filters, coils, drain pans, and condensate lines; verify thermostat function; confirm airflow; check balancing; inspect insulation; and confirm each unit can maintain acceptable temperature and humidity.

2.4 Plumbing Corrections

- Repair the active plumbing leak observed at the urinal in the men's bathroom in the International Arrivals area.
- Inspect adjacent wall, floor, and fixture materials for hidden moisture damage and mold/organic growth after the leak is corrected.
- Verify all plumbing corrections are complete before replacing impacted materials or closing wall/ceiling cavities.
- Any additional active plumbing leaks discovered during remediation should be corrected and documented before final restoration.

2.5 Water-Damaged Materials with Elevated Moisture Readings

- Materials showing elevated moisture readings when probed with a moisture meter should be treated as actively moisture-affected until dried, removed, or otherwise verified acceptable.
- Once the moisture source for each affected area has been identified and corrected, water-damaged materials should be removed and replaced where necessary.
- Porous or semi-porous materials that are mold-impacted, deteriorated, or unable to be effectively cleaned should be removed as part of the remediation scope.
- Adjacent wall, ceiling, and concealed cavity areas should be inspected for hidden moisture damage before close-up or finish restoration.
- Replacement materials in recurring high-humidity or non-conditioned areas should be moisture-resistant, mold-resistant, non-cellulose, inorganic, or otherwise appropriate for humid environments where feasible.

2.6 Corrective Measures Completion Criteria

- Active moisture sources have been identified and corrected or formally documented for follow-up scope.
- Accessible condensate drain lines and refrigerant line sets have been reviewed and insulated/repaired where necessary.
- HVAC systems required for humidity control have been returned to operation or documented for mechanical/electrical repair.
- Exterior wall penetrations, openings, sealants, waterproofing defects, and visible moisture entry pathways have been corrected where accessible.
- Wet or water-damaged materials have been removed, dried, or scheduled for replacement based on condition and material type.
- Indoor relative humidity can be maintained below 60%, with an ideal operational target range of approximately 45% to 55% where practical.

3. Mold Remediation Plan

Remediation objective

The objective of remediation is to remove mold-impacted materials and settled contamination, protect occupants and workers during the process, dry affected areas, and verify that the remediated areas are clean, dry, and ready for rebuilding or final restoration.

3.1 Standards-Based Approach

Mold remediation should be performed using recognized professional remediation practices, including containment, source control, controlled demolition, HEPA filtration, detailed cleaning, drying, documentation, and post-remediation verification. The plan is intended to align with the general principles of ANSI/IICRC S520 professional mold remediation and EPA guidance for mold remediation in schools and commercial buildings.

3.2 Pre-Remediation Requirements

- Confirm that known active moisture sources in each work area have been corrected or isolated before final remediation cleaning and clearance.
- Define remediation work areas based on visible mold, moisture readings, mold testing results, interior damage, and concealed cavity findings.
- Coordinate occupant access restrictions, work hours, signage, security, and temporary relocation or separation of occupied areas as needed.
- Remove or protect contents, furniture, stored items, electronics, documents, and equipment in affected spaces.
- Establish waste handling, decontamination routes, staging areas, and cleaning protocols before demolition begins.

3.3 Containment and Engineering Controls

- Install containment barriers using polyethylene sheeting or equivalent temporary barriers to isolate affected work areas from adjacent occupied or clean areas.
- Use critical barriers over doors, openings, vents, ceiling grid penetrations, and other pathways where contamination could migrate.
- Operate HEPA-filtered negative air machines/air scrubbers where containment and removal activities create a risk of aerosolizing spores, dust, or debris.
- Where feasible, exhaust negative air to the exterior without creating additional moisture intrusion or pressure imbalance concerns.
- Seal or protect HVAC supply and return openings in active remediation areas to prevent contamination of ductwork and other building areas.
- Maintain containment integrity throughout demolition, cleaning, drying, and final cleaning activities.

3.4 Personal Protective Equipment and Worker Safety

- Workers should use appropriate PPE based on work area conditions and exposure potential, including respiratory protection, gloves, eye protection, and disposable protective clothing where needed.
- Respiratory protection should be selected and used in accordance with applicable safety requirements and site-specific exposure conditions.
- Workers should follow decontamination procedures before exiting containment areas.
- UV-C, H2O2/advanced oxidation, disinfectant/antimicrobial, electrical, ladder, and ceiling-access hazards should be controlled by trained personnel only.

3.5 Removal of Mold-Impacted and Water-Damaged Materials

- Remove mold-impacted suspended ceiling tiles, water-damaged ceiling tiles, and ceiling materials affected by active dripping or elevated moisture.
- Remove mold-impacted or water-damaged drywall, paper-faced materials, insulation, wood-based materials, and other porous components where cleaning is not practical or appropriate.
- Extend removal to include materials that are visibly contaminated, deteriorated, actively wet, or confirmed with elevated moisture readings where drying and cleaning are not sufficient.
- Open wall and ceiling cavities as needed to evaluate hidden moisture damage and mold growth when conditions indicate concealed contamination may be present.
- Bag or wrap removed materials before transport through clean or occupied areas, using sealed disposal containers or double-bagging methods where appropriate.
- Dispose of removed materials in accordance with applicable local requirements and project procedures.

3.6 Cleaning and Decontamination

- HEPA vacuum exposed surfaces within containment after demolition and debris removal.
- Clean non-porous and semi-porous materials using appropriate damp wiping, detergent cleaning, and HEPA vacuuming methods.
- Use antimicrobial or disinfectant products only where appropriate for the material, condition, label instructions, and project objective. Chemical treatment is not a substitute for removal of damaged materials or correction of moisture sources.
- Clean ceiling grids, framing, structural surfaces, piping, equipment surfaces, and other remaining components that were exposed to mold-impacted dust or debris.
- Perform final detailed cleaning of the containment area after demolition and gross cleaning are complete.
- Clean or replace HVAC filters serving affected areas after remediation activities and mechanical repairs as appropriate.

3.7 Drying and Moisture Verification

- Dry remaining materials to acceptable moisture levels before rebuild or final finish restoration.
- Use dehumidification, air movement, HVAC operation, and controlled ventilation as appropriate to reduce moisture levels without spreading contamination.
- Maintain indoor relative humidity below 60% during and after remediation, with a target range of approximately 45% to 55% where practical for the facility.
- Verify moisture content with moisture meters and document readings before closing cavities or replacing finish materials.
- Do not reinstall ceiling tiles, drywall, insulation, or porous finish materials in areas where active condensation or leakage remains unresolved.

3.8 Post-Remediation Verification / Clearance

Post-remediation verification should confirm that remediated areas are clean, dry, and free of visible mold growth, dust/debris from remediation, and unresolved moisture conditions. PRV should be performed after final cleaning and before substantial rebuild where practical.

- Visual inspection confirms no visible mold growth, excessive dust, debris, or moisture-damaged materials remain in the remediated areas.
- Moisture readings confirm affected materials are dry or within acceptable range for the material and surrounding conditions.
- Indoor relative humidity is below 60% at the time of verification and the HVAC/dehumidification systems are operating as intended.
- Air sampling or surface sampling may be performed as appropriate to verify remediation effectiveness, with comparison to outdoor/control samples where applicable.

- If PRV criteria are not met, the area should be re-cleaned, further dried, or further investigated before final clearance is issued.

3.9 Rebuild and Final Restoration

- Rebuild should not begin until moisture sources are corrected and the affected area has passed visual and moisture verification requirements.
- Use moisture-resistant, mold-resistant, non-cellulose, inorganic, or high-humidity-rated materials in bathrooms, non-conditioned spaces, ceiling systems, and areas with recurring moisture exposure where feasible.
- Reinstall suspended ceiling tiles only after overhead piping insulation, condensate drainage, refrigerant line insulation, roof/exterior intrusion, and other overhead moisture sources have been corrected.
- Final finish restoration should include materials and coatings appropriate for the building's coastal, humid, and high-traffic environment.

4. Preventative Measures Plan

Prevention philosophy

Long-term mold prevention depends on controlling moisture. Air purification, UV-C, and H2O2/advanced oxidation can be useful supplemental tools, but they cannot replace source correction, HVAC dehumidification, proper filtration, exterior waterproofing, and routine maintenance.

4.1 Humidity Control Targets

- Maintain indoor relative humidity below 60% at all times in air-conditioned spaces.
- Target approximately 45% to 55% relative humidity where practical for hot, humid commercial areas of the facility.
- Investigate sustained humidity above 60% as a moisture-control deficiency requiring corrective action.
- Avoid thermostat settings that overcool perimeter glass, metal components, ceilings, ducts, or exterior walls and cause condensation.
- Maintain continuous or scheduled HVAC/dehumidification operation sufficient to prevent humidity rebound during unoccupied periods.

4.2 HVAC Operation and Maintenance Plan

Frequency	Recommended Action
Daily / Operational	Keep conditioned-space doors closed; avoid extended open exterior doors; monitor thermostats and humidity readings; report active dripping, musty odors, or HVAC failures immediately.
Weekly	Review humidity logs or dashboard readings; check for visible condensation at vents, windows, ceiling tiles, refrigerant lines, and condensate piping.
Monthly	Inspect filters, condensate drains, drain pans, obvious ceiling staining, and accessible pipe insulation. Replace filters based on condition and manufacturer recommendations.
Quarterly	Professional HVAC service: coils, filters, condensate lines, refrigerant line insulation, drain pans, airflow, thermostat operation, electrical components, and system performance.
Semi-Annual	Comprehensive building envelope review before and after peak storm/rain seasons, including sealants, door weather-stripping, windows, penetrations, roof/wall transitions, and stucco/coating conditions.
Annual	Review all preventative systems, update the maintenance plan, perform IAQ/mold follow-up testing if warranted, and assess whether HVAC capacity/dehumidification remains adequate for building use and occupancy patterns.

4.3 Air Purification / Filtration Strategy

Air purification should be designed as a supplemental layer that reduces airborne particulate, spores, dust, odors, and general indoor air quality concerns after source correction and remediation are complete. It should not be presented as a substitute for removing mold-contaminated materials or correcting moisture sources.

- Upgrade HVAC filtration to the highest MERV-rated filter compatible with each HVAC system without causing excessive static pressure, airflow reduction, coil freezing, or equipment damage.
- Where compatible, MERV 13 or higher filtration should be evaluated by an HVAC professional as a preferred filtration improvement for occupied commercial areas.

- Install portable or fixed HEPA air purification units in high-risk, high-traffic, or historically affected areas where additional air cleaning is beneficial.
- Size portable or fixed air purification equipment by room volume and clean air delivery rate (CADR) to achieve an appropriate equivalent air change rate for the space.
- Prioritize areas with poor airflow, high occupancy, elevated humidity history, recurring mold concerns, or limited HVAC return-air filtration.
- Establish filter replacement schedules and document filter changes to maintain system performance.

4.4 UV-C / UVGI Integration

UV-C/UVGI can be used as a supplemental technology to help control microbial growth on HVAC coils, drain pans, and other HVAC interior surfaces, and in some cases to enhance air disinfection in ductwork or upper-room applications. UV-C should be professionally designed, installed, shielded, and maintained.

UV-C Application	Implementation Notes
Coil irradiation	Install UV-C lamps near evaporator coils and drain pans where appropriate to reduce microbial growth on wet HVAC surfaces and help maintain coil cleanliness.
In-duct UVGI	Evaluate in-duct UVGI where duct geometry, exposure time, lamp intensity, access, and maintenance conditions support effective installation.
Upper-room UVGI	Consider only in spaces with suitable ceiling height, airflow, occupancy patterns, and professional design to prevent direct occupant exposure.
Safety controls	Use shielding, interlocks, warning labels, service procedures, and lamp access controls to prevent accidental UV exposure.
Maintenance	Clean lamps and replace bulbs per manufacturer requirements. UV output decreases over time even when lamps remain visibly illuminated.

4.5 H2O2 Generating / Advanced Oxidation Systems

Low-level hydrogen peroxide or advanced oxidation systems should be treated as optional supplemental technology, not as a primary remediation method. These systems should only be considered after moisture correction and remediation are completed, and only when product documentation, third-party testing, safety data, and facility operating conditions support safe use in occupied spaces.

- Select only systems specifically intended for occupied commercial spaces and compatible with the facility's HVAC design and occupancy conditions.
- Require manufacturer submittals documenting active ingredient/output, expected concentrations, ozone generation, by-product testing, safety limits, maintenance requirements, and material compatibility.
- Avoid technologies that produce ozone or significant unverified chemical by-products in occupied spaces.
- Commission the system with baseline and follow-up measurements where feasible, including ozone and applicable oxidant/by-product monitoring if recommended by the manufacturer or project consultant.
- Use H2O2/advanced oxidation only as a supplemental layer to reduce airborne/surface microbial burden and odors; do not use it to compensate for unresolved water intrusion, high humidity, or mold-contaminated materials left in place.
- Maintain written operating, maintenance, lamp/cell replacement, and safety procedures for facility staff.

4.6 Building Envelope and Air Pathway Control

- Maintain exterior sealants, caulking, waterproof coatings, stucco repairs, and wall penetrations as part of routine preventative maintenance.
- Keep exterior roll-up doors, service doors, bathroom doors, and other separation doors closed when not actively in use.
- Install/maintain door sweeps, weather-stripping, self-closers, air curtains, or transfer grilles where needed to control air movement between conditioned and non-conditioned areas.

- Inspect high-risk exterior openings after storms, heavy rain, or high-wind events.
- Promptly correct any new staining, paint delamination, sealant failure, elevated moisture readings, or indoor humidity spikes.

4.7 Monitoring and Documentation

- Install temperature and relative humidity data loggers in representative areas, including high-risk spaces such as PCU, Customs, bathrooms, storage closets, lounges, and areas with prior mold growth.
- Use alert thresholds for sustained relative humidity above 60% so corrective action can be initiated quickly.
- Maintain a written log of HVAC repairs, filter changes, condensate drain cleaning, waterproofing repairs, moisture events, odor complaints, and mold-related observations.
- Perform follow-up inspections after significant weather events or major HVAC interruptions.
- Consider follow-up mold testing after remediation and again after a period of normal building operation to confirm conditions remain controlled.

4.8 Preventative Measures Implementation Matrix

Timing	Implementation Focus
Immediate	Restore critical HVAC operation; stop active plumbing leaks; insulate active dripping condensate/refrigerant lines; seal open penetrations; remove wet ceiling tiles and obvious mold-impacted materials.
Short-Term	Complete exterior waterproofing and sealant corrections; complete mechanical insulation review; improve PCU hallway air circulation; correct Customs HVAC electrical issue; install basic humidity monitoring.
During/After Remediation	Operate HEPA air scrubbers as needed; complete cleaning and PRV; replace damaged materials with moisture-resistant materials where feasible; document clearance and remaining recommendations.
Long-Term	Install or upgrade filtration, fixed air purification, UV-C coil irradiation/in-duct UVGI where appropriate, H2O2/advanced oxidation systems only after safety review, and ongoing humidity monitoring/maintenance procedures.

5. Key Project Assumptions and Limitations

- This plan is based on the inspection observations, mold testing results, and known conditions at the time of preparation.
- Hidden conditions may be discovered during demolition, ceiling tile removal, wall opening, mechanical access, exterior repairs, or remediation work.
- If additional active moisture sources, concealed mold growth, structural deterioration, electrical hazards, or inaccessible defects are discovered, the scope may need to be modified.
- Structural spalling, embedded steel corrosion, major concrete deterioration, and significant exterior wall assembly concerns may require review by a qualified structural engineer or building envelope specialist.
- Air purification, UV-C, and H2O2/advanced oxidation technologies are supplemental prevention measures and should not be used as a substitute for correcting water intrusion, humidity control, or mold-contaminated materials.
- Product selections, final equipment counts, air purification sizing, electrical requirements, and system layouts should be finalized after field measurements, HVAC review, and manufacturer submittal review.

6. Reference Guidance

The following references were used to frame the general remediation and moisture-control approach. They are not a substitute for local code requirements, manufacturer instructions, engineering design, or project-specific professional judgment.

- **EPA - Mold Remediation in Schools and Commercial Buildings:** Guidance for remediation/cleanup of mold and moisture problems in schools and commercial buildings; includes prevention guidance such as maintaining indoor humidity below 60% RH, ideally 30-50% where possible. https://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide
- **ANSI/IICRC S520:2024 - Standard for Professional Mold Remediation:** Professional standard describing procedures and precautions for mold remediation in residential, commercial, and institutional buildings. https://iicrc.org/s520/
- **OSHA - A Brief Guide to Mold in the Workplace:** Workplace guidance noting that the purpose of mold remediation is to correct the moisture problem and remove moldy/contaminated materials to prevent exposure and further damage. https://www.osha.gov/publications/shib101003
- **EPA - Guide to Air Cleaners in the Home:** General guidance on portable air cleaners and HVAC filters, including the concept that air cleaning can reduce indoor pollutants but cannot remove all pollutants. https://www.epa.gov/indoor-air-quality-iaq/guide-air-cleaners-home
- **EPA - UVGI / HVAC UVGI Overview:** General description of professionally designed, installed, and maintained UVGI systems, including upper-room and HVAC applications. https://www.epa.gov/indoor-air-quality-iaq/what-upper-room-ultraviolet-germicidal-irradiation-uvgi-what-hvac-uvgi-can
- **ASHRAE - Humidity Control Resources:** Technical resources addressing building enclosures, dehumidification, mold avoidance, energy use, and hot/humid climate building management. https://www.ashrae.org/technical-resources/bookstore/humidity-control-resources

7. Supporting Educational Visuals

The following visuals may be included as supporting educational pages in the final client report package or used as stand-alone presentation exhibits.

Exterior Waterproofing Restoration

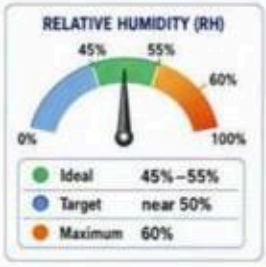


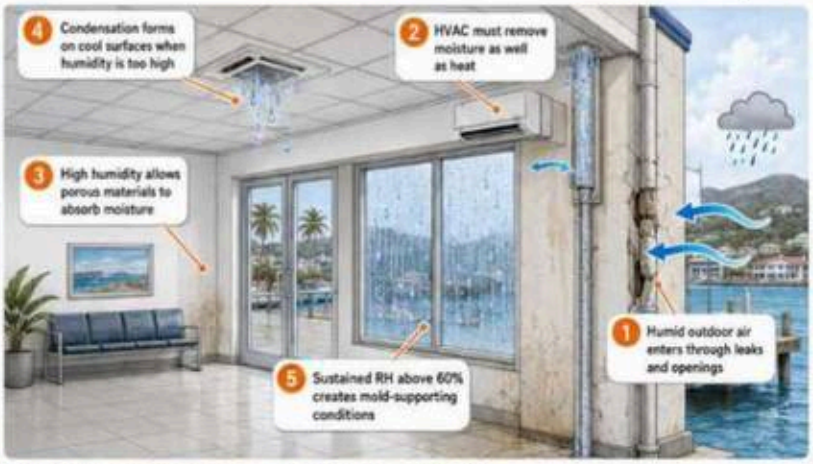
Indoor Humidity Control and Mold Prevention

[redacted]

WHAT IS RELATIVE HUMIDITY?

Relative humidity (RH) is the amount of water vapor in the air compared with the maximum amount the air can hold at that temperature.





HOW HIGH HUMIDITY LEADS TO MOLD GROWTH



MATERIALS AT RISK

- Drywall
- Ceiling tiles
- Insulation
- Wood
- Paper-faced materials
- Stored contents
- Dust and organic debris

WHY THIS MATTERS

- Mold can grow without a major leak if humidity stays high
- High humidity can cause staining, deterioration, and odor issues
- Condensation can wet ceilings, walls, ducts, vents, and windows
- Humidity control is a critical mold-prevention measure, not just a comfort issue

WHY HUMIDITY GETS OUT OF CONTROL

- HVAC systems not operating properly
- Insufficient dehumidification or poor airflow
- Short cycling, poor balancing, or improper thermostat settings
- Dirty coils / filters or blocked condensate drainage
- Exterior leaks, failed waterproofing, and uncontrolled air infiltration

[redacted] RISK FACTORS

- Hot, humid, coastal marine environment
- Exterior air naturally carries a high moisture load
- Waterproofing failures and open penetrations increase humidity burden
- If HVAC operation is inadequate, indoor RH can rise quickly

Maintaining proper RH is essential to prevent recurring mold growth after remediation.

RECOMMENDED HUMIDITY CONTROL APPROACH



1. Restore and maintain proper HVAC operation
2. Improve dehumidification and airflow distribution
3. Keep filters, coils, and condensate drains clean and functional
4. Seal exterior leaks, failed waterproofing, and uncontrolled air pathways
5. Monitor indoor RH routinely and keep it **below 60%**

FOR AIR-CONDITIONED INDOOR SPACES, RELATIVE HUMIDITY SHOULD BE MAINTAINED BELOW 60% AT ALL TIMES, WITH AN IDEAL TARGET RANGE OF 45% TO 55% AND A GOAL OF STAYING AS CLOSE TO 50% AS PRACTICAL.

Exterior Wall Cladding: Stucco over Concrete

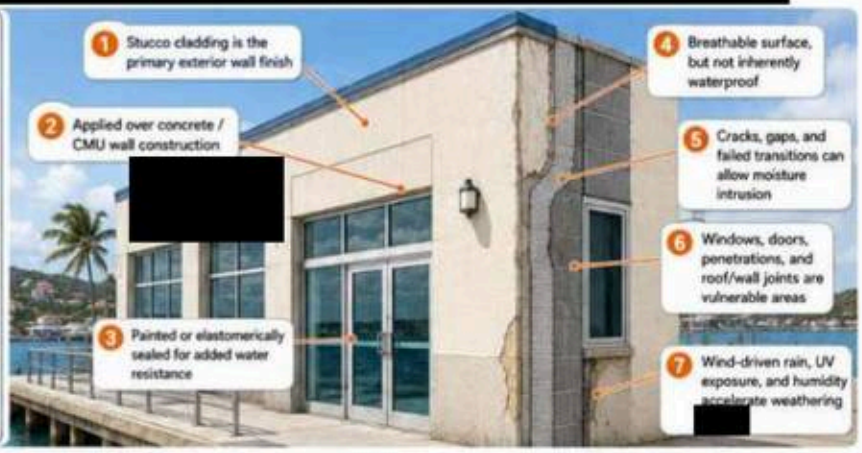
Exterior Wall Cladding: Stucco over Concrete

[redacted]

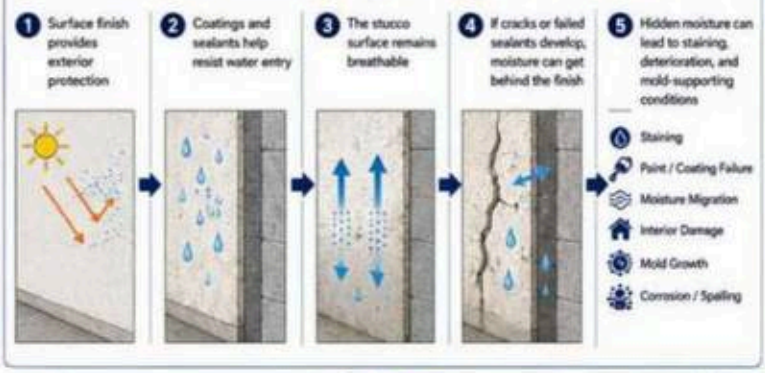
WHAT WAS OBSERVED?

Stucco cladding was observed as the primary type of exterior wall cladding around the [redacted]

stucco is commonly applied directly over concrete masonry construction, providing durability, structural compatibility, and thermal mass benefits.



HOW STUCCO SYSTEMS PERFORM



[redacted]

Hot, humid, coastal marine environment

- Wind-driven rain increases moisture exposure
- [redacted] of coatings and sealants
- Moisture vapor transmission places stress on exterior finishes
- Proactive maintenance is essential

TYPICAL LIFESPAN

With proper installation and routine upkeep, stucco applied over concrete can often last **60 to 80 years or more.** Actual lifespan depends on workmanship, material quality, exposure conditions, and maintenance consistency.

WHY THIS MATTERS

- Stucco can be durable and attractive when properly maintained
- The finish helps protect the wall from environmental exposure
- The wall system's performance depends heavily on sealing and upkeep
- Hidden moisture intrusion may occur even when only minor surface flaws are visible

COMMON FAILURE POINTS

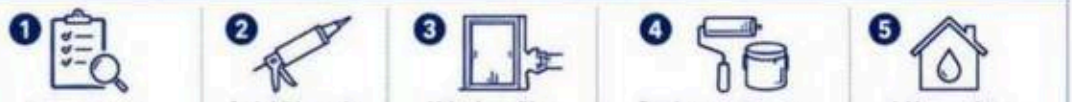
- Hairline cracks in stucco
- Failed caulking around windows and doors
- Unsealed wall penetrations and transitions
- Deteriorated coatings or paint delamination
- Roof-to-wall, sill, and flashing detail deficiencies

MOISTURE RISK

- Stucco itself is not waterproof
- Small defects can admit water behind the finish coat
- Moisture can travel into the wall assembly and interior finishes
- Persistent dampness can create conditions conducive to mold growth

Protecting the exterior wall cladding is critical to preventing recurring moisture intrusion.

RECOMMENDED MAINTENANCE APPROACH



STUCCO OVER CONCRETE CAN PERFORM FOR DECADES, BUT ITS LONG-TERM SUCCESS DEPENDS ON PROPER SEALING, ROUTINE MAINTENANCE, AND PROMPT CORRECTION OF MOISTURE ENTRY POINTS.

HVAC Operation, Humidity Control and Mold Prevention

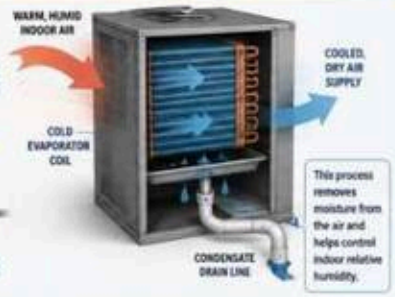
HVAC OPERATION, HUMIDITY CONTROL & MOLD PREVENTION

TARGET INDOOR RELATIVE HUMIDITY
45% – 55%
KEEP BELOW 60%

Cool Air. Dry Air. Healthy Building.

HOW A/C SYSTEMS REMOVE MOISTURE

1. Warm, humid indoor air returns to the HVAC system.
2. Air passes over the cold evaporator coil.
3. Moisture in the air condenses on the coil as liquid water.
4. Water drips into the drain pan and flows out through the condensate drain line.
5. Cooled, drier air is supplied back into the building.



This process removes moisture from the air and helps control indoor relative humidity.

Proper cooling + dehumidification = Lower humidity = Less risk of mold growth

WHEN HVAC SYSTEMS DON'T OPERATE PROPERLY

Poor HVAC performance allows indoor humidity to rise, creating conditions conducive to mold growth, odors, and damage.

ELEVATED HUMIDITY
Indoor humidity can rise quickly, often above 60%.

CONDENSATION
Moisture forms on cooler surfaces (ducts, vents, walls, windows, etc.).

MOISTURE ABSORPTION
Porous materials absorb moisture from the air.

MOLD GROWTH & DETERIORATION
Materials can support mold growth, musty odors, and property damage.

CONTRIBUTING HVAC ISSUES

- System not operating or inoperable
- Clogged condensate drain lines
- Clogged condensance & inspections
- Inadequate service helps or ventilation
- Improperly conditioned areas
- Short cycling

KEY FACTORS THAT SUPPORT PROPER HUMIDITY CONTROL

EFFECTIVE COOLING & DEHUMIDIFICATION
HVAC must consistently remove both heat and moisture.

CLEAN FILTERS & COILS
Dirty components restrict airflow and reduce efficiency.

PROPER AIRFLOW & DISTRIBUTION
Balanced airflow ensures even conditioning.

CLEAR CONDENSATE DRAINAGE
Clogs or blockages can cause water backups and humidity issues.

SEALED BUILDING ENVELOPE
Sealed openings prevent humid outdoor air from entering.

ROUTINE MAINTENANCE & INSPECTIONS
Regular service helps systems operate efficiently and reliably.

BEST PRACTICES FOR MOLD PREVENTION

- Maintain indoor relative humidity between 45% – 55% (always below 60%).
- Ensure HVAC systems are properly sized, operating, and maintained.
- Inspect and clean coils, filters, and condensate drains regularly.
- Keep supply vents and returns clear and unobstructed.
- Seal leaks and uncontrolled air pathways in the building envelope.
- Condition all occupiable spaces—avoid unconditioned or poorly conditioned areas.
- Monitor humidity levels, especially during high humidity seasons.
- Address humidity and moisture issues promptly.



WHY THIS MATTERS

[redacted] systems play a critical role in controlling moisture. Proper operation protects your building, your occupants, and your investment.

- Protects building materials & finishes
- Supports occupant comfort & health
- Reduces mold risk & odors
- Extends the life of HVAC equipment