8.0 Asbestos, Lead, Radon and Mold

8.1 Asbestos-Containing Materials (ACMs)

According to HUD Guidelines, a comprehensive building asbestos survey must be performed by a qualified asbestos inspector on building built before 1978. The subject property buildings were constructed in 2001, which is beyond HUD's cutoff date for asbestos. As such, an asbestos evaluation was not required by HUD.

NESHAP regulations require sampling potential ACM prior to demolition or extensive renovation, regardless of the date of construction; therefore, if such activities are planned, it may be required to conduct a survey of the entire facility, or that portion slated for renovation or demolition, before initiating such destructive activities. That survey should include an assessment of all subject building materials, including those in areas which are normally inaccessible. Any material found to be ACM should be handled in accordance with applicable regulations.

8.2 Lead-Based Paint (LBP)

Lead is a highly toxic metal that affects virtually every system of the body. While adults can suffer from excessive lead exposures, the groups most at risk are fetuses, infants and children under 6. Congress passed the Residential Lead-Based Paint Hazard Reduction Act of 1992, also known as "Title X", to protect families from exposure to lead from paint, dust, and soil. Section 1018 of this law directed the Housing and Urban Development (HUD) and the US EPA to require the disclosure of known information on lead-based paint (LBP) and LBP hazards before the sale or lease of most housing built before 1978. Sellers, landlords, and their agents are responsible for providing this information to the buyer or renter before sale or lease.

According to Section 1017 of Title X, "LBP hazard is condition that causes exposure to lead from lead-contaminated dust; bare, lead-contaminated soil; or LBP that is deteriorated or intact LBP present on accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects". Therefore, under Title X intact lead-based paint on most walls and ceilings is not considered a "hazard", although the condition of the paint should be monitored and maintained to ensure that it does not become deteriorated. LBP is defined as paint, varnish, stain, or other applied coating that has 1 mg/cm^2 (or 5,000 ug/g by weight) or more of lead.

It is unlikely that lead-based paint is present in buildings constructed after 1978. Therefore, due to the age of the subject property buildings, it is unlikely that LBP is present.

8.3 The Renovation, Repair and Painting Rule

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips by disturbing lead-based paint, which can be harmful to adults and children.

On April 22, 2008, EPA issued a rule requiring the use of lead-safe practices and other actions aimed at preventing lead poisoning (40 Code of Federal Regulations (CFR) 745). Under the rule, beginning on April

22, 2010, contractors performing renovation, repair and painting (RRP) projects that disturb lead-based paint in homes, child care facilities, and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination. Until that time, HUD and EPA recommend that anyone performing renovation, repair, and painting projects that disturb lead-based paint in pre-1978 homes, child care facilities and schools follow lead-safe work practices. However, since the subject property is not a pre-1978 home, the Renovation, Repair and Painting Rule is not required as part of this assessment.

8.4 Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert, gaseous element formed by radioactive decay of radium (Ra) atoms. The US EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, according to the table below:

EPA Radon Zones		
EPA Zones	**Average Predicted Radon Levels**	**Potential**
Zone 1	Exceed 4.0 pCi/L	Highest
Zone 2	Between 2.0 and 4.0 pCi/L	Moderate
Zone 3	Less than 2.0 pCi/L	Low

It is important to note the EPA has found homes with elevated levels of radon in all three zones, and the US EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Based upon the radon zone classification (Zone 3), radon is not considered to be a significant environmental concern. Furthermore, based upon the HUD guidelines, radon testing by a Radon Professional is not required at the subject property.

It should be noted that, while not warranted at this time, actual radon sampling would need to be conducted in order to evaluate the presence and/or absence of radon at the subject property.

A copy of the radon map for the subject property area is included in appendices.

8.5 Mold

Molds are microscopic organisms found virtually everywhere, indoors and outdoors. Mold will grow and multiply under the right conditions, needing only sufficient moisture (e.g.in the form of very high humidity, condensation, or water from a leaking pipe, etc.) and organic material (e.g., ceiling tile, drywall, paper, or natural fiber carpet padding). Mold growths often appear as discoloration, staining, or fuzzy growth on building materials or furnishings and are varied colors of white, gray, brow, black, yellow, and green. In large quantities, molds can cause allergic symptoms when inhaled or through the toxins the molds emit.

Partner observed accessible, interior areas for the subject property building for significant evidence of mold growth; however, this ESA should not be used as a mold survey or inspection. Additionally, this inspection was not designed to assess all areas of potential mold growth that may be affected by mold growth on the

subject property. Rather, it is intended to give the client an indication as to whether or not conspicuous (based on observed areas) mold growth is present at the subject property. This evaluation did not include a review of pipe chases, mechanical systems, or areas behind enclosed walls and ceilings.

Evidence of water infiltration was observed during the site assessment. Property management stated no residents have filed complaints regarding health problems related to mold. Outward and obvious signs of mold that could affect indoor air quality or deteriorate concealed, structural building materials were not observed. There were no reported issues from the property management or from the municipal code enforcement office that mold has been or is a concern at the subject property.

The following indications of water damage were observed during Partner's visual assessment:

Mold Observations	
Location of area affected	**Condition**
Leasing Office/Clubhouse	-Water staining and damaged drywall on the ceilings of the maintenance and storage areas
Unit 602	-Areas of formerly repaired damage on living room ceilings -Staining with former drywall repairs visible on living room ceiling -Water damaged cabinetry beneath bathroom sinks and kitchen sink -Staining on concrete subfloor on first story
Unit 604	-Staining on wooden subfloor on second story in the vicinity of the HVAC unit on second story -Staining and damaged drywall surrounding HVAC unit on second story -Damaged and peeling drywall above the shower surround in second story bathroom
Unit 701	-Warped wooden cabinetry in bathrooms beneath sink and on exterior near toilet
Unit 802	-Staining with former drywall repairs visible on living room ceiling
Unit 902	-Staining and crumbling drywall above the shower surround in the bathroom. Approximately 3 years old. -Reported staining near front door which has been repaired by tenant.
Unit 905	-Water damaged cabinetry beneath kitchen and bathroom sinks -Staining and bubbling drywall on second story bedroom wall -Staining on sills from window seal infiltration -Stained floor tiles surrounding bathroom toilet
Unit 1006	-Staining with former drywall repairs visible on living room ceiling

Partner observed several areas of water damage within the leasing office building as well as in the observed units on the subject property. Much of the observed water damage, both in the leasing office building as well as the individual units appears to be in the vicinity of the heating, ventilation and air conditioning (HVAC) equipment as a result of condensation in a generally humid region of Texas during all seasons.

Ms. Solis, the onsite property manager, noted that this type of water damage is the most common reported damaged throughout the complex. As water damage is reported, onsite maintenance repairs all damaged materials within the apartment unit. Additional areas of water damage observed within the individual

apartment units appears to be from water infiltration through window seals, poor moisture management in bathrooms, poor moisture seals along bathroom interfaces, and small leaks from sink pipes. Partner did not observe visual or olfactory indications of mold and mildew growth related to the water damage at inspected areas of the subject property.

Please refer to the PCA for further discussion of the water damaged areas and estimate of repairs.