SITE AND STRUCTURAL ASSESSMENT AT LINCOLN COUNTY SHERIFF'S DEPARTMENT
42 Bath Road
Wiscasset, Maine
Gale JN: 841940

March 4, 2024

Prepared For:

Lincoln County, Maine
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SITE AND STRUCTURAL ASSESSMENT
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WISCASSET, MAINE

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EXECUTIVE SUMMARY

The purpose of this assessment is to assist the County of Lincoln in determining the feasibility of maintaining the facility as is currently used by addressing deficiencies and inefficiencies with the site and building through major repairs and renovations or to construct a new facility on a different property. The Lincoln County Sherriff's Office is located in Wiscasset, Maine (the county seat) and serves nineteen (19) rural coastal and inland communities in mid-coast Maine. The original building was erected in the 1950's as an automobile filling and service station. In the 1980's the County acquired the facility, and in 1985 renovated and expanded the building creating the Lincoln County Sherriff's Office and Jail. In 2006, the Jail was relocated to another property, leaving the Sherriff's Department operation in the building. There are approximately forty-five (45) staff members and tenants that currently work out of the building, which is staffed twenty-four hours (24 hrs.) a day, seven (7) days a week.

Gale Associates, Inc.'s (Gale's) engaged subconsultant services from Harriman for architectural, mechanical, and plumbing consulting; R.W. Gillespie & Associates for soils and geotechnical consulting; Ransom Consulting, LLC for hazardous building materials sampling and testing; and Preferred Construction Management for cost estimating.

The building's site, soils, building envelope systems, structure, architecture, mechanical, electrical, and plumbing systems, as well as sampling and testing for hazardous containing materials were evaluated and assessed. The assessment is not intended to be an exhaustive analysis of each building component and system, but provides a general overview of their existing conditions, including initial opinions for improvements along with cost assumptions. Based on field review, evaluation, leak audits, and information and documentation provided by Lincoln County, it is Gale's opinion that there are several conditions and deficiencies that affect the building's performance, comfort, functionality, accessibility, and health and safety, which are in need of repair, replacement and/or renovation throughout the facility.

The site/civil limits appear to be in fair condition, with the exception that the sidewalks include unmarked handicap parking locations, non-compliant slopes and ramps, and paved pathways that exhibit cracks and differential settlement, undulating and uneven surfaces that are not in compliance with ADA standards. The paved driveways and parking lots that include oxidation, transverse and longitudinal cracks containing vegetated growth, differential settlement, undulations, high and ponding water conditions; and there are negative sloped site grades around the building allowing ponding water conditions that has and will continue to allow water intrusion into the lower levels of the building. Site civil improvements include resetting catch basins, bituminous resurfacing of paved areas, line stripping and markings, and lower the grade around the building and adding French drains and stone drip edge.

The building envelope systems consisting of concrete foundations, precast concrete walls, brick masonry veneer, concrete masonry unit (CMU) veneer, CMU barrier walls, steep sloped asphalt shingle roofings, low sloped elastomeric membrane roofing, and windows vary in condition from fair to poor. The brick masonry veneer is in fair condition but with isolated areas of cracked brick, displaced brick, step cracks, deteriorated

mortar, rust/atmospheric staining, algae growth, and efflorescence, of which, should be remedially repaired to extend the serviceability of the brick veneer exterior wall system.

In addition to remedial brick masonry repairs, the brick veneer masonry cavity through-wall flashing, primarily located at the north and east elevations, needs replacement. As shown in the existing drawings, the flashing was neither designed nor installed correctly, and does not appear that it would be preventing accumulated water within the cavity to exit to the exterior but rather to pass to the interior.

The existing CMU veneer and CMU barrier wall masonry is in very poor condition and is susceptible to moisture infiltration with widespread cracked CMU blocks, deteriorated mortar, step cracks, deteriorated and delaminating coating, and peeling paint. The CMU barrier wall is single-wythe masonry that would be without a cavity or drainage and the primary waterproofing is reliant integrity of the paint coatings. Extensive repairs are required including removal of the paint coatings and cementitious coatings in their entirety, replacement of cracked and deteriorated CMU blocks, 100% repointing of the mortar joints and application of a new waterproof coating or consideration can be given to over clad the existing CMU with an exterior insulation finish system, sheet metal or other cladding material systems. This approach would require further design analysis to determine its applicability and therefore is not included in the overall repair, replacement, and renovation cost estimate.

The window systems consist of steel, wood, and wood aluminum clad windows throughout the building. The painted wood windows are double hung and located in the Administration and original portion of the building and are in very poor condition. The wood frames were observed to be typically warped and displaced along the bottom sash, and the paint finishes are weathered, worn and peeling, and as a result are affecting the interior environment as they leak air and water. The wood aluminum clad windows are also experiencing some premature weathering. It is Gale's opinion that the wood and wood aluminum clad be removed and replaced with new aluminum, thermally broken aluminum windows with insulated glazing units to match the original aesthetic of the building. To reduce solar heat gain and solar glare, insulated glazing units can include differing light transmission tinting. Consideration may also be given to replacing the steel windows depending upon future renovations and in an effort to improve their thermal performance.

The existing roofing systems are in poor condition. The steep sloped shingles are beyond their serviceable useful life as the shingles are weathered and worn, several are loose, broken, or missing, and there is vegetative growth throughout. The low sloped single-ply membrane roofing system contains defects such as punctured membrane, open seams, fastener backout, and cupping insulation and are conditions for water and moisture infiltration to the interior. Two (2) of the roofs exhibited significant ponding water. It is Gale's opinion that all roofing be replaced with new fiberglass asphalt shingle roofing system and a new fully adhered elastomeric membrane roofing with tapered insulation and new roof drains, and all new sheet metal flashings and edge metal systems.

Overall, the existing structure appears to be in fair condition with isolated areas of more significant deficiencies, which include the cracked wood joists at the First Level of the Administration Office of the original building that should be replaced, along with the plywood sub-floor to address the bowed and warped flooring conditions. Step cracking in the interior CMU walls do not appear to be attributable to building settlement, however, the masonry joints do require repointing and cracks in the CMU blocks routed and sealed and/or replaced. To address moisture infiltration concerns throughout the Basement Level of the 1985 Addition, it is Gale's opinion that the slab-on-grade in and cracks in the concrete slab be grouted hydrophilic grout that is designed to expand upon contact with water. The retaining wall at the south elevation includes structural cracks and appears to be leaning. Gale advises that the wall be removed and rebuilt.

Interior improvements should be done in coordination with remedial work to the building exterior to reduce further impact from moisture and building settling. In general, complete interior demolition is recommended so that repairs and improvements can meet current operational needs to the extent possible. However, given the overcrowded condition of the current facility, it is unlikely that repairs to systems and finishes alone will address the safety, health, and operational needs of staff and visitors. The opinions for improvements are:

- Add a main entry addition to create a secure entrance and elevator.
- Change all door hardware to lever-type with locksets that maximize occupant safety and security.
- Renovate interior space to accommodate ADA compliant spaces such as corridor widths, door approach clearances, and maneuvering area for wheelchairs.
- Remove all non-load bearing partitions and rebuild in a configuration that better suits occupant needs.
- Rework former jail area, to the extent possible to improve flow and storage for evidence as well as office areas.
- Repair all interior finish faces of exterior walls and replace all wall base.
- Replace all finished flooring throughout the building and abate where required.
- Repair and epoxy seal cracked floor slabs, apply moisture mitigation, and install all new floor finishes as appropriate to various building areas.
- Remove all finished ceilings, abate where required, replace ceilings with painted drywall or ACT as required to meet program needs of spaces.
- Replace existing stair railings and guardrails with code-compliant version.
- Replace damaged or broken tiles at entry landing and stair treads,
- Replace all doors, frames, hardware, transaction windows, and access controls while replacing interior walls and partitions, provide ballistic rated and/or shatter-proof glazing.
- Address operational deficiencies as renovations and repairs are being made.

The plumbing systems appear to be operating sufficiently; however, the fixtures and restrooms do not comply with accessibility requirements and the water heating equipment is near the end of its service life. Opinions include: replace the oil-fired water heater with an electric heat pump water heater; provide a thermostatic mixing valve on the hot water supply to the building; install a two-inch (2") reduced pressure zone backflow preventer downstream of the water meter; extend the plumbing vent at least four feet (4') above the combustion air louver; clean debris from the roof drains; completely remove all cell fixtures and associated piping; provide ADA compliant restrooms on each level to support the number of occupants; provide ADA-compliant shower for staff; and provide a bi-level water-cooled drinking station with bottle filler on each level.

Overall, most of the mechanical equipment is past their life expectancy and should be replaced. Building conditions are reportedly humid and uncomfortable. Mechanical systems are constant volume with dated controls that do not provide zones for cooling. This could cause systems to conflict with heating zones and increase energy costs. Main duct work is undersized for both HV-1 and AC-2 which can cause balancing and sound issues. Hot water and refrigerant piping insulation are damaged or incomplete. Most duct work and piping are concealed behind concrete plank ceilings and CMU blocks with limited access to valves and dampers in the detention facility areas.

In general, the electrical distribution throughout the facility is outdated and requires replacement or significant maintenance. In some areas like the electrical room/mezzanine, it needs to be completely redesigned. Most electrical panels have a working space violation, and many of these panels are beyond their

useful life and would be a hazard for electrical contractors to repair/replace parts. The IT equipment should be located in a dedicated, conditioned, IT room. Currently the IT equipment located throughout the building are in shared locations which makes it more susceptible to accidental damage.
There are several instances of code violations throughout the facility. Due to the age of equipment (most of the distribution equipment is original to the building), it is recommended that a complete renovation down to the building's base structure be carried out, then rebuilt.

Geotechnical subsurface explorations were performed by taking several boring samples, with laboratory testing performed on selected soil samples. The information gathered from these explorations, combined with information found on the foundation design drawings help to inform how the soil bearing characteristics may inform some of the foundation's failures. Based on the results of the soil samples, building conditions other than subsurface conditions could be contributing to observed building damage.

Hazardous containing building materials identified within the Hazardous Building Materials Inventory report by Ransom should be properly removed and disposed of by a licensed abatement contractor prior to demolition or renovation activities, including but limited to, Asbestos Containing Materials, Lead Based Paint, Fluorescent bulbs, thermostats, emergency exit lights/signs and electronic ballasts, which may contain mercury, PCBs, or heavy metals, mold-impacted building materials. In addition, the mechanical systems should be evaluated to confirm adequate ventilation is being provided, which could impact CO2 levels.

Based on the findings of Gale and our consultants, the preliminary cost estimate to perform the scope of work outlined in the report is approximately **$7,487,174**. This preliminary estimate also does not include soft costs associated such as Design, Engineering and Owner's project management. Lincoln County should be aware that due to the current economic condition around the world (continued effects of the COVID-19 pandemic, material shortages and cost increases, gas shortages, etc.), which has not fully recovered, there is a potential that the actual design/bid values may be higher, or lower than what has been presented in this report. The estimates shown below include fifteen percent (15%) contingency, ten percent (10%) general conditions, five percent (5%) overhead and profit, and two percent (2%) bond and insurance costs. Please note that escalation cost contingencies are not included, however, a twenty percent (20%) contingency has been added to account for volatility in the construction industry.

INTRODUCTION

In accordance with our agreement, Gale Associates, Inc. (Gale) has performed a Site and Structural Assessment of the Lincoln County Sheriff's Building, located at 42 Bath Road (Route 1) in Wiscasset, Maine. The purpose of this assessment is to assist the County of Lincoln in determining the feasibility of maintaining the facility as is currently used by addressing deficiencies and inefficiencies with the site and building through major repairs and renovations or to construct a new facility on a different property.

The County and Sheriff's Department commissioned this assessment due to concerns with the building experiencing water intrusion and damages from roof leaks and water seepage through the Ground Floor level into the existing jail cell areas causing mold and air quality issues. There are site grading and potential soil issues around the building that may be causing cracks in the foundation and in the exterior masonry walls and 77site retaining walls. The building suffered fire damage during its earlier years that are now concealed by false ceilings in the Patrolmen's Rooms. Over the original portion of the building, which now contains various offices, the floors are bowed, warped and "bouncing" with doors that cannot be fully opened or sometimes cannot be closed, and the corridor is unusually narrowed along its travel. Various windows are difficult to open or do not close securely, and leak both air and water. The abandoned jail cells are used for evidence, file and general storage that are impractical to tear down or move to create new and more usable space. The heating, ventilating and air conditioning (HVAC) mechanical systems are outdated, as they are aged, worn, and energy inefficient.

As the prime Engineering Consultant, Gale assessed the Site Civil, Building Structure and Building Envelope systems, with the following subconsultants retained by Gale to assess other facility conditions and systems, as well as providing professional cost estimating services:

Architectural
Harriman
46 Harriman Drive
Auburn, ME 04210

Mechanical, Electrical and Plumbing:
Harriman
46 Harriman Drive
Auburn, ME 04210

Soils/Geotechnical Assessment:
R.W. Gillespie & Associates
20 Pomerleau Street
Biddeford, ME 04005

Hazardous Building Materials Sampling and Testing:
Ransom Consulting, LLC
400 Commercial Street, Suite 404
Portland, ME 04101

Professional Cost Estimating:
Preferred Construction Management Co., Inc.
94 Auburn Street, Suite 207
Portland, ME 04103

BACKGROUND INFORMATION

Figure 1: Front entrance view of the Sheriff's Building.

The Lincoln County Sherriff's Office is located in Wiscasset, Maine (the county seat) and serves nineteen (19) rural coastal and inland communities in mid-coast Maine. The original building was erected in the 1950's as an automobile filling and service station. In the 1980's the County acquired the facility, and in 1985 renovated and expanded the building creating the Lincoln County Sherriff's Office and Jail. In 2006, the Jail was relocated to another property, leaving the Sherriff's Department operation in the building. There are approximately forty-five (45) staff members and tenants that currently work out of the building, which is staffed twenty-four hours (24 hrs.) a day, seven (7) days a week.

In 1985, the Lincoln County Law Enforcement and Detention Center Facility, designed by Moore/Weinrich & Woodward Architects (MWWA) of Brunswick, Maine, was constructed as an Addition and renovation to the original 1950's building. The building fronts Route 1/Bath Road with landscaping and trees to the north and abuts the Camden National bank to the west, and the Lincoln County Communications building and County Courthouse to the east, separated by drive aisles and parking lots and woodlands to the south. The building sits at a lower elevation than Route 1, and the property slopes from the north and northwest to the south and east.

The original building was a split-level building with Ground Floor garage bay access from the south elevation and First Floor (1st Fl.) garage bay and service station access from the north elevation. The structure was modified and renovated to include the patrol officer reporting area, supervisors' office, interview room, storage rooms, property and equipment rooms, and restrooms at the Ground Floor level with corridor leading to the Addition. There are two (2) entry doors to the Ground Floor level located at the south elevation. A laundry room, sallyport and vehicle sallyport, inmate property room and storage room were also constructed generally within the footprint of the original building at the Ground Floor level and is only accessible from the Addition side. A bump-out was constructed at the south elevation off the back of the original building as part of the 1985 Addition, which was built to accommodate the sallyport and vehicle sallyport. The First Floor (1st Fl.) was renovated to house administration, Sheriff, Chief Deputy and Detective offices, restroom, storage room and related law enforcement rooms. Stairs from the main building lobby within the Addition lead to the First Floor (1st Fl.) level, with exterior access gained from the east elevation. Some modifications to the various offices and rooms have since been altered in their use and function.

The original building structure appears to be constructed of cast-in-place concrete foundations, and slab on-grade, wood floor joists and plywood sheathing at the First Floor (1st Fl.) and wood rafters and plywood sheathing supporting a low sloped roof. The MWWA drawing information was limited, as it denoted existing beams and columns, but did not describe the material.

The 1985 Addition, which is the Detention Area, was constructed to the east of the original building and extending further to the south on the property, running perpendicular to the original structure. The footprint of the Addition is built into property slopes and grade changes, creating varied exterior wall and roof sections heights. The Addition includes a main entrance lobby off from the north elevation onto a split landing. The split landing leads down to the Ground Floor Level to the Detention Area, and then up to higher landing leading to the mechanical room and attic storage area within the Addition, and into a stairwell that leads to the Sheriff's and Administration offices that are located in the original portion of the facility. The Ground Floor Level Detention Area was constructed to include a central control room, booking rooms, detention cells, holding rooms, day rooms, interview rooms, multi-purpose rooms and food service/kitchen, janitors' room, and restrooms. The kitchen was later expanded with the construction of modular concrete structure at the south elevation. Since the decommissioning of the Jail, most of the cells are now vacant, but some of them along with day rooms and corridors now serve as miscellaneous storage and file storage areas. At the northeast corner, the vacated cells and day rooms now serve as locked evidence storage. The other rooms have been converted to transient office space for other Lincoln County law enforcement and programs entities associated with the nearby County Courthouse. The Addition can be entered from the south elevation either through the expanded kitchen area or from a doorway in the sallyport of the renovated original building.

According to the MWWA drawings, the building Addition is constructed of cast-in-place concrete foundations, and slab on-grade, prestressed concrete floor planks at the First Floor (1st Fl.) supported by reinforced concrete masonry unit (CMU) block walls, structural columns and beams. The roofs are constructed with steel bar joists and metal decking for the low sloped roofs and wood rafters with plywood sheathing at the steep sloped shed and gable ended roof sections.

The building envelope systems (i.e., exterior façade walls, roofing, windows, and associated components) consists of cast-in-place concrete foundations and walls, concrete masonry unit (CMU) walls, brick veneer masonry, steep slope shingle roofing, low slope single-ply membrane roofing, hollow metal doors and frames with and without glazing panels, sectional door, hollow metal windows and wood windows.

The facility was surveyed by Gale and its Subconsultants on August 16, 2023, and with soil borings taken on September 7, 2023.

REVIEW OF EXISTING DOCUMENTS

Prior to the survey, Gale visited the property to obtain documentation regarding the building. With assistance from County staff, the archives stored in the County Courthouse were reviewed. The documents were limited and the only relevant documents that were obtained were as follows:

- Moore/Weinrich & Woodward Architects of Brunswick, Maine, along with Swift Engineering for Structural, Harold Thomas P.E. for Electrical and Bennett Engineering, Inc for Mechanical. The set is undated but appears to reflect the construction of the Sheriff's, circa 1985. The list of drawings consists of the following:

  - L1 Site Plan
  - L2 Site Details
  - A1 Demolition Plans
  - A2 Ground Floor Plan
  - A3 First Floor Plan
  - A4 Roof Plan
  - A5 Elevations
  - A6 Elevations
  - A7 Building Sections
  - A8 Wall Sections
  - A9 Wall Sections
  - A10 Interior Elevations
  - A11 Interior Finishes
  - A12 Door Schedule
  - S1 Foundation Plan
  - S2 Mechanical Floor Plan
  - S3 Roof Framing Plan
  - S4 Details
  - P1 Ground Floor Plan
  - P2 First Floor Plan
  - HV1 Ground Floor Plan
  - HV2 First Floor Plan
  - E1 Ground Floor Plan
  - E2 First Floor Plan

INTERIOR LEAK OBSERVATIONS

As part of the evaluation, representatives from Gale performed an interior leak audit to evaluate areas of potential moisture infiltration.

For several years and most recently in the Spring 2023, water intrusion has occurred at the Ground Floor level in the Detention Area within the Addition portion of the building. According to Lincoln County personnel, the water appears to infiltrate along the base of the east perimeter wall. The most recent event produced enough water to flood the Ground Floor cells, day rooms, and corridors to ankle height. The perimeter walls are exposed concrete masonry units (CMU) on a brick base course. Both the walls and concrete floors are painted. Interior water exposure and damage is evident by deteriorated masonry debris, water and efflorescence staining, as well as blistered and peeling paint observed at the base of the perimeter and interior walls, and on concrete floor surfaces.

Other locations of leaks and water intrusion as informed by Lincoln County personnel and as observed by water staining conditions include:

- Kitchen Expansion (modular concrete structure):
  - Ceilings, water spot staining.
  - VCT Flooring, spot rust from furnishings and efflorescence accumulation between tile joints.
  - Crawl space. Note that the crawl space is accessible through an opening in the floor covered by a steel plate. The crawl space included a sump pump, and the conditions within were observed to be damp, moist and wet.
  - High humidity and condensation
- Sallyport ceiling.
- Sheriff's & Administration office ceilings.
- Sheriff's & Administration office windows.

Figure 2: East perimeter wall Day Room.

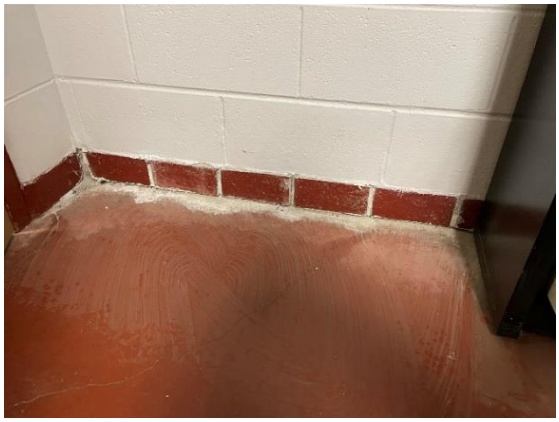


Figure 3: Water and efflorescence staining, peeling paint finish and deteriorated masonry dirt and debris.

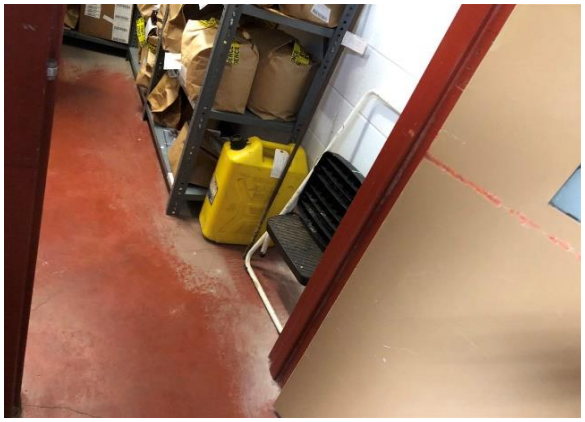


Figure 4: East perimeter wall; converted Evidence Room.

Figure 5: East perimeter wall; blistered, peeling paint, deteriorated masonry, and dirt and debris.

Figure 6: East perimeter wall; water and efflorescence staining, peeling paint finish and deteriorated masonry dirt and debris.

Figure 7: Water stains on surface painted concrete floor in corridor.

Figure 8: Kitchen Expansion; Spot water stains on ceiling.

Figure 9: Kitchen Expansion; notice efflorescence accumulation between joints and spot rust in VCT flooring.

Figure 10: Kitchen Expansion; floor cover to crawl space.

Figure 11: Kitchen Expansion; crawl space with sump pump and exhibiting damp, moist and wet conditions.

Figure 12: Administration Office: water-stained ceiling tile.

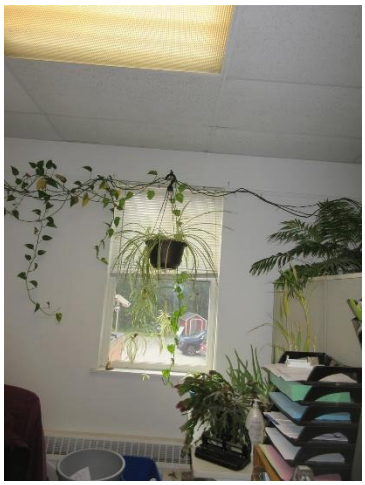


Figure 13: Administration Office: Typical double hung wood window.

EXISTING CONDITIONS ASSESSMENTS

SITE/CIVIL CONDITIONS

Introduction

Gale Associates (Gale) performed an evaluation of the civil/site components of the existing Lincoln County Sheriff's Building located in Wiscasset, ME. The project limits of the evaluation were confined to a portion (highlighted in yellow of Figure 1 of Tax Map U-1/Lot 166 as identified on the Wiscasset Town Assessor's map. The evaluation was performed on August 16, 2023 and record/photograph areas of concern in relation to the below site components:

- driveway surface conditions,
- parking lot surface conditions,
- pedestrian access conditions,
- handicap accessibility,
- site drainage, and
- site grading/erosion.

Gale did not review the following as part of the facility evaluation:

- property boundary research,
- subsurface utility engineering (SUE) – Quality Level "B" evaluation,
- collection of topographical survey,
- domestic water service/well evaluation,
- sanitary sewer service/septic evaluation,
- driveway sight-distance,
- landscape evaluation,
- Phase I or II environmental site assessment, and
- contamination site assessment.

Figure 14: Civil/Site Evaluation Project Limits
(not to scale)

Evaluation

The civil/site evaluation was divided into eight (8) sub-evaluation areas. The sub-evaluations were limited to the West Driveway and Sidewalk, Rear Parking Lot, East Driveway and Parking Lot, North Sidewalk, and the respective North, East, South, and West Building areas. In Addition to recording and photographing areas of concern, where feasible, site component dimensions were recorded.

West Driveway and Sidewalk

The west driveway and sidewalk are located along the west side of the facility and provides egress to Bath Road (aka US Route 1). The driveway is approximately 150 feet long, commencing at the curb-cut of Bath Road and heading in a southerly direction to the rear parking lot, and approximately twenty feet (20') wide. The driveway consists of a bituminous concrete surface that appears to be in fair condition with evidence of surface oxidation; no evidence of other surface deficiencies (i.e., cracking, delamination, potholes, etc.) were apparent. The driveway profile varies from 2.7% down-gradient from Bath Road toward the rear parking lot for the first approximately 110 feet, then steepens to 13.7% until it ties to the rear parking lot. The cross-section of the driveway is a normal crown (high ridge along the driveway centerline) conveying stormwater runoff either side of the driveway pavement surface. Cross-slopes were recorded to be less than one percent (1%); typical cross-slope is two percent (2%). Three (3) stormwater drainage catch basin structures were located within the limits of the west driveway; two (2) at the southern portion of the west driveway and one (1) located approximately 75 feet south of Bath Road along the west side of the driveway. The drainage structure is constructed from pre-cast concrete that entails a sedimentation sump. Smooth-interior, corrugated-exterior high-density polyethylene (HDPE) drainage pipes appear to receive collected drainage from each other and discharge to the drainage structure located within the rear parking lot. While the structures and drainage pipes appeared to be in fair condition, the sumps showed evidence of sedimentation accumulation that should be removed. While no curbing (i.e., granite, concrete, pavement) located along the west side of the driveway was apparent, there is an 18-foot long by 68-foot-wide vehicular parking area flanked by a raised vertical granite curbed paved surface sidewalk located along the east side of the driveway.

The east side parking lot of the west driveway consists of six (6) 18-foot long by 9-foot-wide parking spaces, one (1) 18-foot long by 9-foot wide (assumed) handicapped parking space, and one (1) 18-foot long by 5-foot-wide handicapped aisle, totaling 68 feet in width. While the handicapped aisle entailed standard diagonal pavement markings, no pavement marking nor signage designating the associated (assumed) parking space to be handicapped restricted. Similar to the driveway, the parking lot is a bituminous concrete surface that appears to be in fair condition with evidence of surface oxidation. While the handicapped parking and aisle profile slope appear to be meet the 2010 US Department of Justice (DOL) American Disability Act (ADA) standards for accessible design (no greater than 1:48), the cross-slope does not meet ADA design standards. The profile and cross-slopes were recorded to be approximately 1.1% and 3.5%; respectively.

The adjacent raised bituminous concrete sidewalk supported by vertical granite curbing is approximately 93' long by 5'-5" wide. The vertical granite curb supporting the paved sidewalk appears to be plumb and in fair condition; some evidence of curb joints to be grouted. The paved surface of the sidewalk appears to be in poor condition. There is evidence of oxidation, transverse cracks, the profile undulates, and the surface is rough due to surface deterioration. Except for the last twenty-five feet (25') leading up to the building's west side egress point, the sidewalk profile appears to meet current ADA standard of less than 1:20. The sidewalk profile slope of the first sixty-eight feet (68') were recorded to be approximately three percent (3%) [+/- 0.5%]. The sidewalk profile slope of the remaining twenty-five feet (25') was recorded to be approximately twelve percent (12%). The handicapped ramp from the parking lot to the raised sidewalk appears to be in poor condition. While the ramp slope was recorded to be approximately 6.3% (meeting current ADA standards of 1:12), the ramp does not appear to be well defined, and the truncated dome has settled creating an elevation difference greater than the allowable one-quarter inch (¼") in accordance with current ADA standards.

Figure 15: West driveway looking south from Bath Road curb-cut.

Figure 16: West driveway steep slope and (2) catch basin drainage structures.

Figure 17: West driveway off-pavement catch basin drainage structure.

Figure 18: Sedimentation accumulation within drainage structure sump.

Figure 19: West driveway parking lot.

Figure 20: West driveway handicapped parking space and aisle; notice longitudinal cracking.

Figure 21: West driveway raised sidewalk surface.

Figure 22: West driveway raised sidewalk twelve percent (12%) slope leading up to the building's egress point.

Figure 23: West driveway raised sidewalk poorly defined handicapped ramp; notice heaving, settlement & cracks.

Figure 24: West driveway raised sidewalk settled truncated dome.

<u>Rear Parking Lot</u>

The rear parking lot is located along the south side of the facility, connecting the west and east side driveways. The parking lot is approximately 19,125 square-feet in size and consists of forty (40) parking spaces; one (1) space used by a dumpster and approximately 530 square-feet used for exterior storage. The parking surface is a bituminous concrete surface that appears to be in fair condition with evidence of surface oxidation, some transverse/longitudinal cracking, and isolated depressions. Surface stormwater runoff is primarily conveyed overland in a southeast direction and ultimately discharges to a dense woodland area. There is one (1) stormwater drainage catch basin structure located approximately in the center of the parking lot. The drainage structure is constructed from pre-cast concrete that entails a sedimentation sump. Smooth-interior, corrugated-exterior high-density polyethylene (HDPE) drainage pipes appear to receive collected drainage from the west driveway catch basins and also discharge to the southerly dense woodland area. While the structures and drainage pipes appeared to be in fair condition, the sumps showed evidence of sedimentation accumulation that should be removed.

Figure 25: Rear parking lot.

Figure 26: Rear parking lot; notice transverse cracks between stormwater inlet grates.

Figure 27: Rear parking lot, dumpster.

Figure 28: Rear parking lot, exterior storage.

Figure 29: Rear parking lot, exterior storage; notice crack containing vegetated growth.

Figure 30: Rear parking lot, accumulated sand is evidence of surface depressions. Also notice cracks containing vegetated growth.

Figure 31: Rear parking lot center catch basin drainage structure.

Figure 32: Sedimentation accumulation within drainage structure sump.

Figure 33: Rear parking lot, dense woodland area.

Figure 34: Rear parking lot, dense woodland area.

East Driveway and Parking Lots

The east driveway and parking lots are located along the east side of the facility that provide egress to Bath Road (aka US Route 1). The driveway is approximately 280 feet long, commencing at the rear parking lot and heading north to the curb-cut of Bath Road, and approximately twenty-five feet (25') wide. The driveway consists of a bituminous concrete surface that appears to be in fair condition with evidence of surface oxidation and minor cracking. The driveway profile appears to be consistently less than one percent (1%) down-gradient from north to south. The cross-section of the driveway is a reverse crown (sloped in one direction) conveying stormwater runoff from the higher east to lower west elevations. Cross-slope was recorded to be approximately one percent (1%); typical cross-slope is two percent (2%). Located on both sides of the east driveway are 18-foot by 113-foot vehicular parking areas flanked by extruded concrete curbing; the concrete curb appears to be in good condition.

Each vehicular parking area consists of eleven (11) 18-foot long by 9-foot-wide parking spaces, one (1) 18-foot long by 9-foot wide handicapped parking space, and one (1) 18-foot long by 5-foot wide handicapped isle, totaling 113 feet in width. Each handicapped parking space and associated isle entail appropriate pavement markings and signage identifying the spaces are restricted to handicapped accessible vehicles. Similar to the driveway, the parking lots are a bituminous concrete surface that appears to be in fair condition with evidence of surface oxidation and minor cracking. The handicapped parking and isle profile and cross-slopes were recorded to be approximately two percent (2%) and 0.6%, respectively, which meet current ADA standards of 1:48.

Drainage of the east driveway and parking lot, generally sheet flows down-gradient from the higher northeast corner of the area to the dense woodland area located at the southwest corner of the area. The southerly limit of the east driveway includes a twelve-inch (12") smooth-interior, corrugated-exterior high-density polyethylene (HDPE) culvert that allows collected stormwater to flow under the limits of the east driveway/rear parking lot. The culvert appears to be in good condition, clean, straight, and appears to show no signs of erosion; ultimately discharging into the southerly dense woodland area.

Figure 35: East driveway, looking north.

Figure 36: East driveway, looking north.

Figure 37: East driveway, looking north.

Figure 38: East driveway, looking north.

Figure 39: East driveway *west extruded concrete curb.*

Figure 40: East driveway, west extruded concrete curb.

Figure 41: East driveway, twelve-inch (12") HDPE culvert outlet.

Figure 42: East driveway, culvert clean.

North Sidewalk:

The north sidewalk provides pedestrian access from the east driveway and parking lot to the building's north side egress point. The sidewalk is a 130 foot long by 6 feet 2 inches wide bituminous concrete surface. The paved surface of the sidewalk appears to be in fair condition based on evidence of oxidation, some transverse cracks, and slight undulations in the profile. The sidewalk profile slope was recorded at thirty-foot (30') intervals from the east driveway to the building's north side egress point. Slopes ranged from approximately 1.8% to 4.6%, resulting with a calculated average profile slope of approximately 2.9%; hence, meeting the current ADA standard of less than 1:20. The sidewalk cross-slope was recorded to be approximately one percent (1%) [+/- 0.5%].

Figure 43: North sidewalk, looking west.

Figure 44: North sidewalk, looking west.

Figure 45: North sidewalk, looking west.

Figure 46: North sidewalk, looking west.

Building North Area:

The building's north area primarily consists of negative slope (contours sloping toward, not away from the building); hence, resulting in stormwater runoff being conveyed toward the building. While there are three (3) stormwater drainage catch basin structures located parallel to the north sidewalk. Each catch basin is constructed from corrugated metal pipe (CMP), rotated vertically, green SDR35 polyvinyl chloride (PVC) inlet/outlet pipes, with a cast-iron grate that varies from being flush to slightly above finish grade; typically, grates are slightly below finish grade. There is no evidence of gutters at the roof's eaves or a stone drip-edge to mitigate erosion from roof runoff; hence, resulting in roof runoff ponding at the building. The foundation does step with the grade on this elevation, but the reveal to the bottom of the building's brick veneer is inconsistent from high to low points.

Figure 47: Building North, negative slope conveying runoff toward building.

Figure 48: Building North, field drainage structure.

Figure 49: Building North, field drainage grate higher than surrounding finish grade.

Figure 50: Building North, field drainage structure constructed from CMP.

Figure 51: Building North, minimal foundation reveal.

Figure 52: Building North, minimal foundation reveal and no stone drip edge.

<u>Building East Area</u>**:**

Except for the corrugated metal pipe (CMP) drainage structures, the building's east side is similar to the north side (i.e., non-positive slope, no evidence of a stone drip-edge, and no foundation reveal).

Figure 53: Building East, with little to no foundation reveal and no stone drip edge.

Figure 54: Building East, with little to no foundation reveal and no stone drip edge.

Figure 55: Building East, with little to no foundation reveal and no stone drip edge.

Figure 56: Building East, with little to no foundation reveal and no stone drip edge.

Figure 57: Building East, minimal foundation reveal and no stone drip edge.

Figure 58: Building East, minimal foundation reveal and no stone drip edge.

<u>Building South Area</u>

The facility's rear parking paved surface abuts the building's south side. While there is no foundation reveal, the paved surface does maintain a positive slope.

Figure 59: Building South, pavement abuts building with positive slope and acceptable foundation reveal.

Figure 60: Building South, pavement abuts building with positive slope, but little foundation reveal.

Figure 61: Building South, pavement abuts the building with positive slope, but with little foundation reveal.

Figure 62: Building South, pavement abuts the building with positive slope, but with little foundation reveal.

Figure 63: Building South, pavement abuts building & positive slope, but little foundation reveal.

Figure 64: Building South area, pavement abuts building and positive slope, but little foundation reveal.

<u>Building West Area</u>

The building's west maintained a positive slope. However, there is no evidence of a stone drip-edge nor a foundation reveal.

Figure 65: Building West area, little foundation reveal and no stone drip edge; positive slope.

Figure 66 - Building West area, little foundation reveal and no stone drip edge; positive slope.

BUILDING ENVELOPE CONDITIONS

The existing building envelope systems (i.e., exterior façade walls, roofing, windows, and associated components) of the Sheriff's Department facility consists of cast-in-place concrete foundations and walls, concrete masonry unit (CMU) walls, brick veneer masonry, steep slope shingle roofing, low slope single-ply membrane roofing, hollow metal doors and frames with and without glazing panels, sectional door, steel metal windows and wood windows.

On August 16, 2023, representatives from Gale performed a visual evaluation of the building envelope systems to review and document the extent and approximate locations of deficiencies within the as-built conditions. Visual observations of the façade were performed from the ground and roof levels with the assistance of binoculars. The following are the noted observations:

<u>Exterior Façade – Brick Masonry Veneer</u>

- According to the MWWA drawings, the exterior walls at the Addition are cavity wall constructed and consist of brick veneer with three-quarter inch (¾") air space, two-inch (2") insulation and CMU block or concrete wall back-up.
- There is limited drawing information regarding the exterior wall construction at the original building, however it appears that walls were overclad to include a brick veneer, with three-quarter inch (¾") air space, two-inch (2") insulation over the original CMU block wall. The brick veneer is outboard of the vertical plane of the foundation wall and is supported on a steel shelf angle along the base of the wall at the north and west elevations [refer to Figures 2 & 4].
- The brick veneer masonry is uniform and consistent throughout, and its appearance is indistinguishable between the original building and the Addition.
- The brick units are mainly modular size brick units, but with patterns of oversized modular units typically along the lower sections of the facade. Soldier coursing is located above window locations and along the roof line, and the windowsills include rowlock laid bricks.
- Overall, the brick veneer masonry appears to be in fair condition, with isolated areas of step cracking, individual cracked and spalled brick masonry units. There are isolated and random locations of de-bonded, cracked, spalled and missing mortar.
- Weeps are located within vertical joints at the base of the wall and above window locations; however, the joints are left open and do not include weep tubes, screens or vents.
- Multiple abandoned anchors were observed throughout the façade penetrating both the brick masonry and the mortar.
- Atmospheric staining and vegetative/algae growth and vines were observed at isolated locations throughout the brick masonry.
- The building includes one (1) brick masonry chimney with a concrete cap which was observed to be in poor condition with spalling/cracking brick masonry and deteriorated mortar joints.
- At the east elevation, fourteen (14) masonry anchor bolts exist along the Ground Floor.
- Steel lintels exist above the window locations and several of them appeared to be corroded and rusted. An isolated lintel location also appeared to be deflected.

- A series of decorative precast panels containing a shield like symbol are inset into the brick masonry along the upper portion of the north elevation.

Exterior Façade – CMU Veneer (Addition) and CMU Barrier Walls (Original Building)

- According to the MWWA drawings, the exterior walls at the south elevation of the Addition portion of the building, as well as the sallyport bump-out, are cavity wall constructed and consist of a four-inch (4") CMU veneer with three-quarter inch (¾") air space, two-inch (2") insulation and CMU block or concrete wall back-up. The exterior surface includes multiple layers of an apparent masonry paint coating.
    - The masonry paint coating is stained, worn, weathered and faded, includes hair line cracks, and is severely blistered and peeled throughout.
    - The CMU veneer mortar joints are typically deteriorated, cracked, de-bonded and eroded, particularly in locations where the masonry paint coating is blistered and peeled or non-existent.
    - The CMU veneer blocks appear to be generally intact and solid but do include some random and isolated cracks and spalls.
    - Above the overhead sectional door of the sallyport at the steel header, the CMU mortar joints are significantly separated.

- The exterior walls on the south elevation of the original building appear to be constructed of the original eight-inch (8") single-wythe concrete masonry units (CMU) with an applied apparent cementitious finish that is covered with multiple layers of masonry paint coating.
    - The masonry paint coating is stained, worn, weathered and faded, includes hair line cracks, and is severely blistered and peeled throughout.
    - With the exception of few areas of the wall where the cementitious finish and paint coating are generally solid, concealing the CMU and CMU mortar joints, overall the cementitious finish is in very poor condition as the finish severely cracked and delaminated, with some spalling.
    - There are significant areas where the CMU mortar joints are predominately telegraphing through the cementitious finish and paint coating. Where telegraphed the joints are dark in color and appear to be an indication that the mortar joints are deteriorated and eroded.
    - There is step, vertical and diagonal cracks that appear to be telegraphing through the cementitious finish and paint coating. Where telegraphed these cracks are dark in color and appear to be an indication that cracks are in the CMU blocks.
    - Where CMU was installed to infill the former Filling and Service Station overhead door bays, the joints between the new and old are separated.
    - Some of the step and diagonal cracking, delamination and spalls in the cementitious finish and CMU appear to be attributed to corroded steel lintels. Note that the lintels are located four (4) courses above the top of the existing windows.

- The southeast corner of the building includes a one-story free-standing courtyard wall constructed with brick masonry veneer and CMU block that was observed to be in poor condition.
    - The CMU is deteriorated with cracks, spalls, deteriorated mortar joints, peeling paint, and efflorescence.
    - The top of the wall includes a brick masonry cap that is deteriorated and is displaced. The brick mortar joints are deteriorated and eroded and are in poor condition. There is evidence of mortar repairs.

- The southwest corner of the building includes a concrete retaining wall. It appears to be coated with a similar masonry paint coating as the CMU building walls.
    - The masonry paint coating is stained, worn, weathered, and faded, includes hair line cracks, and is severely blistered and peeled throughout.
    - The concrete was observed to be in poor condition with both spider cracking and deep vertical and diagonal cracks, as well as exhibiting delaminated and spalled concrete.

- The precast concrete modular kitchen constructed at the south elevation also appears to have been coated with a similar masonry paint coating as the CMU building walls.
    - The masonry paint coating is stained, worn, weathered, and faded, and includes traces of hair line cracks, blistering and peeling conditions.
    - In general, the concrete appears to be in fair condition. However, the sealant in the vertical and horizontal construction joints are exhibiting adhesive and cohesive failures.
    - The pre-compressed molded expansion joint between the modular building and the CMU wall of the Addition is exhibiting some adhesive failure.

Figure 67: Partial north elevation of the brick masonry façade, 1985 Addition.

Figure 68: Partial north elevation of the original 1950's building since overclad with brick.

Figure 69: East elevation of the brick masonry façade, 1985 Addition.

Figure 70: West elevation of the brick masonry façade, original 1950's building since overclad with brick.

Figure 71: View of organic and moisture staining on brick masonry along base of east elevation, where reported water infiltration has occurred.

Figure 72: Partial view of organic and moisture staining on brick masonry at base of east elevation, where reported water infiltration has occurred. Notice brick course at weeps at and below the existing grade.

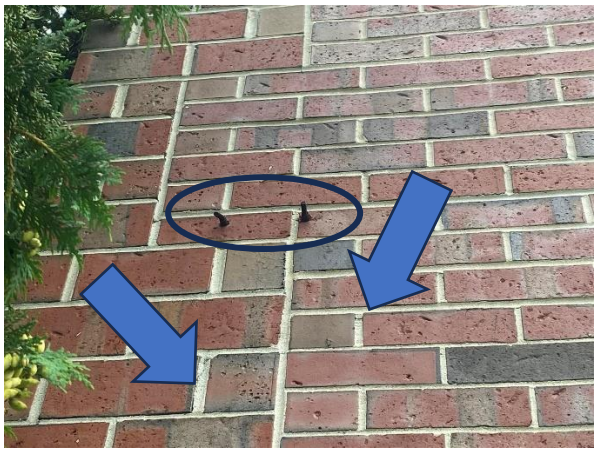


Figure 73: Typical isolated cracked brick masonry mortar joints and corroded anchor bolts.

Figure 74: Typical isolated cracked, de-bonded and loose brick masonry mortar joints.

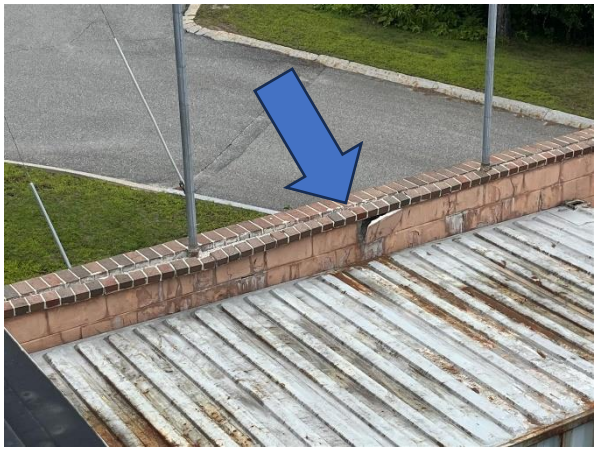


Figure 75: Courtyard wall exhibiting deteriorated peeling paint, cracked mortar joints, and cracked & spalled CMU. Also, notice fencing and fence posts on top of wall.

Figure 76: View deteriorated brick masonry mortar joints at yard wall.

Figure 77: Partial view of CMU wall at south elevation, including peeling coating and paint, moisture stained and deteriorated mortar joints, step cracks, and spalled CMU.

Figure 78: Typical peeling coating and paint, moisture stained and deteriorated mortar joints, step cracks, and spalled CMU, south elevation.

Figure 79: Cracked and delaminating concrete at exposed steel lintel above window location.

Figure 80: Cracked and spalled concrete retaining wall.

<u>Exterior Doors & Windows</u>

The existing window system types are hollow metal, wood and wood aluminum clad.

- The punched windows and entrance system at the Addition portion of the building are hollow metal windows that are painted. These are fixed units with insulated glazing units (IGUs), including the entrance door with side lites and arched transom above. The door and side lite glazing includes wired safety glass.
    - The steel windows appear to be in fair condition.
    - One (1) location of cracked glass.
    - Isolated IGU seal failure resulting in fogging condition.
    - The hollow metal punches steel windows at the detention areas include vertical painted steel security fin screening that are fastened to the exterior of the frame. The fin screening are exhibiting varying degrees of corrosion.
    - The hollow metal framed windows that are set in the CMU block walls are exhibiting some corrosion.

- There is one (1) painted wood double hung, combination window unit in the mechanical room.

- The paint finish is worn, weathered and peeling.
- One (1) of the top sashes was observed to be open with a cable wire running from the interior to the exterior and is open to the weather.

- There are two (2) operable projected awning windows that are wood aluminum clad, which appear to be in fair condition, although the cladding finish is worn and weathered.
  - At one (1) unit, a crack was observed in the jamb trim.

- The punched windows of the original building are operable double hung windows, with painted wood sash that are set into vinyl jamb liners. They include IGU glazing and exterior mounted insect screens.
  - Overall, the windows appear to be in poor condition.
  - The paint finish is worn, weathered and peeling.
  - The wood is typically deteriorating and exhibiting initial stages of rot and decay.
  - The wood sashes are bowed and warped and the glazing beads loose and detached at several locations.
  - It was reported that the windows leak both air and water and are difficult to operate.
  - At one (1) window on the second floor, County staff reported that a window balance was broken, and a piece of wood was being utilized to hold the upper sash in place. In general, these windows appear to be in poor condition.

- The window perimeter sealants are typically deteriorated, consisting of varying degrees of adhesive and cohesive, and cracked and crazed weathering conditions.

Figure 81: Typical hollow metal fixed punched window.

Figure 82: Hollow metal punched windows with steel security fin screening.

Figure 83: Cracked IGU at hollow metal punched window.

Figure 84: Fogged IGU unit.

Figure 85: Double Hung wood window at Mechanical Room, with deteriorated paint finish.

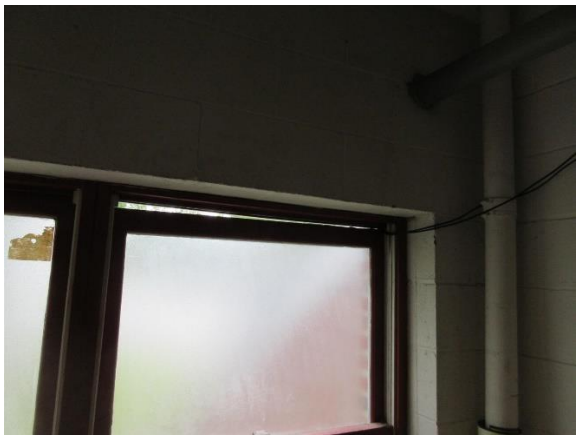


Figure 86: Displaced upper window sash with cable wire running from the interior to the exterior.

Figure 87: Typical wood aluminum clad operable projecting window.

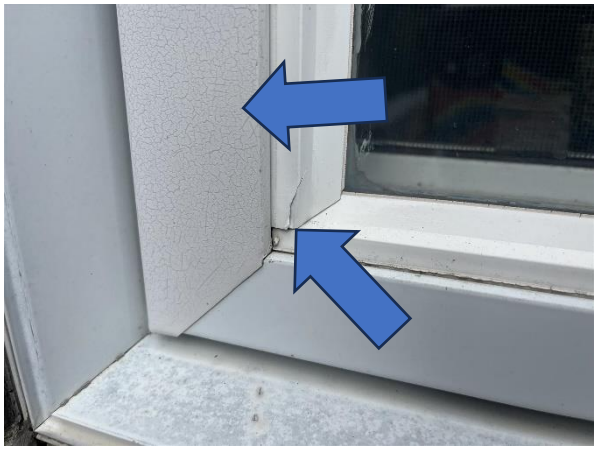


Figure 88: View crack in aluminum window cladding trim and weathered finish.

Figure 89: Typical double hung wood windows, North Elevation in brick veneer façade.

Figure 90: Typical deteriorated sealant at window perimeter.

Figure 91: Typical double hung wood window, South Elevation in CMU façade.

Figure 92: Interior view of double hung wood window in the Administration office with a piece of wood used to support top sash.

Figure 93: Typical weathered wood window with displaced wood glazing trim that is deteriorating.

Figure 94: Typical corroded hollow metal frame at CMU opening. Also notice the peeling paint coating on the CMU block and from the concrete brick sill joints.

Roofs

- The existing low sloped roof systems at Roof Area A, D, E, and F (Refer to Appendix A) consist of a single-ply elastomeric membrane (EPDM) over an unknown thickness of insulation and a corrugated metal roof deck. Note that roof test cuts were not taken and that the as-built condition of the roofing assembly could not be ascertained. Based on existing drawings, drainage appears to be achieved by a structural roof framing slope towards the existing drain locations.

- At Roof Area A, the EPDM roofing system appears newer, as the seams are sealed with tape rather than adhesively formed.
    - Access to Roof Area A was provided by a roof access hatch which was observed to be rusted.

- At Roof Areas D, E and F, the EPDM membrane seams appear to be sealed adhesive glue. Overall, the roofing membrane and associated components appear to be in poor condition with isolated locations of open membrane, unadhered membrane, vegetative growth, ponding water, and fastener backout. The seams appear to be glue adhered seams

- Heavy amounts of vegetative growth were observed at Roof Area A, including moss and trees. Several trees adjacent to the building overhang both the EPDM and steep slope shingle roof areas, and were observed to grow directly onto the membrane at Roof Area D. Punctures and open membrane were observed adjacent to overgrown tree branch locations.

- The roof drain at Roof Area F appeared to be clogged, and ponding water was observed at the entire roof area with a substantial head of water. Additionally, a scupper and downspout from Roof Area D discharges onto the roof. Large amounts of standing water were also observed at Roof Area E, and the roof did not appear to include a drain or scupper. The edge metal at Roof Area E appeared to be galvanized steel which was typically rusted.

- Access to Roof Area D was provided by a step ladder which was placed directly onto the adjacent roof area.

- An acrylic domed skylight is located at Roof Area A and appears to be in poor condition with failed perimeter sealant and gaskets, weathering, and loose fasteners. The skylight is not rated for fall protection.

- A mechanical equipment doghouse is located at Roof Area A and is constructed with wood, wire mesh bird netting, and an asphalt shingle roof. The doghouse is constructed on concealed sleepers and is in poor condition with deteriorated wood and paint.

- Sheet metal flashing at Roof Area A to the adjacent CMU rising wall was observed to be in poor condition with failed sealant and exposed fasteners. The sheet metal appeared to have been previously painted and elastomeric flashing installed.

- In general, a majority of the rooftop equipment including RTUs, air conditioning units, roof access hatches, ductwork, and miscellaneous conduits were observed to be rusted.

- At Roof Area D, an antenna and PVC piping was fastened to an existing vent pipe with duct tape and plastic zip ties.

- Roof Areas B and C consist of a steep sloped asphalt shingle roof system. Based on the existing drawings, the asphalt shingle system appears to consist of asphalt shingles and roofing felt installed on plywood decking with batt insulation below. Several missing and/or broken shingles were observed throughout the roof areas, as well as locations of algae growth and rust staining. Algae growth is typically located at the south elevation. Isolated locations of shingles appear to have been previously replaced.

- At the asphalt shingle roof to masonry wall transition, flashing appears to consist of lead coated copper reglet flashing and sealant. The sealant was observed to be typically deteriorated along the horizontal joint.

- The eaves and rake edges were constructed with wood fascia. Soffit vents are located at the eaves. At the eave to rake edge transition, openings were observed between the wood fascia and brick masonry. Wood louver vents are located at the gable ends, and ridge vents were not observed. Based on the existing drawings, insulation baffles are installed at the underside of the plywood deck.

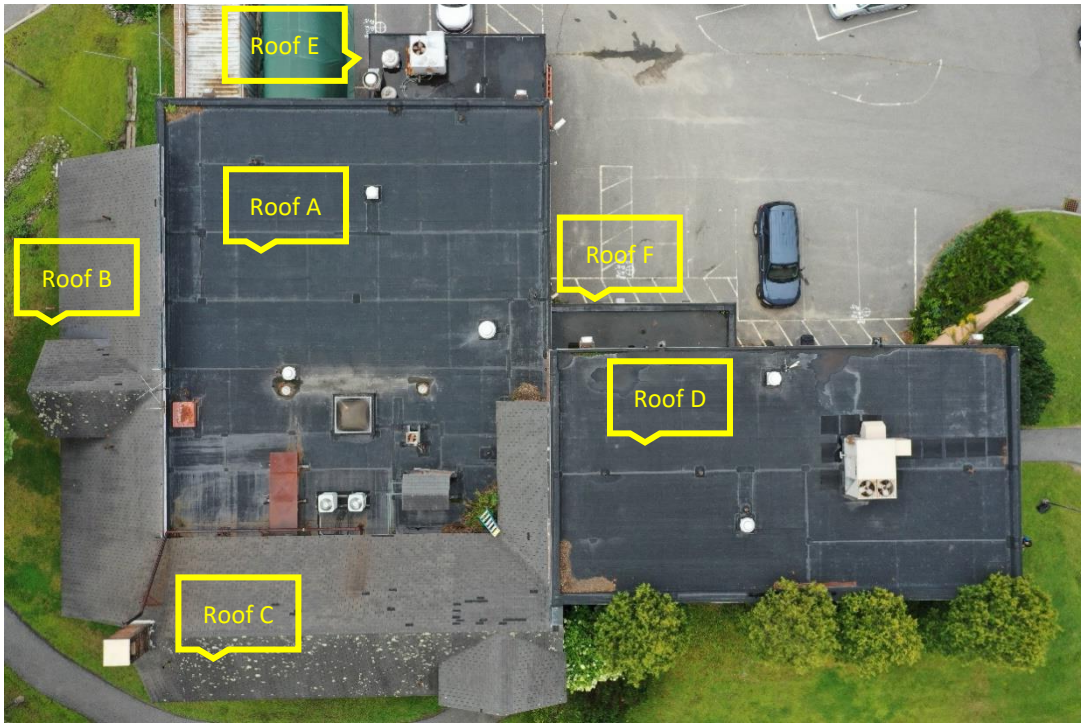


Figure 95: Overview of Roof Areas A, B, C, D, E & F.

Figure 96: Partial overview of Roof Area A.

Figure 97; Partial overview of Roof Area B.

Figure 98: Partial overview of Roof Area C.

Figure 99: Partial overview of Roof Area D.

Figure 100: Partial overview of Roof Area E.

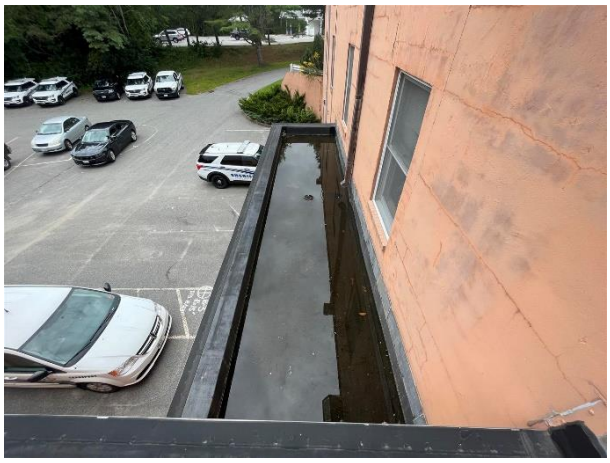


Figure 101: Partial overview of Roof Area F.

Figure 102: Vegetative growth on Roof Area A.

Figure 103 Tree branches on Roof Area D.

Figure 104: Roof drain clogged with debris and ponding at Roof Area F.

Figure 105: Punctured roofing membrane at Roof Area D.

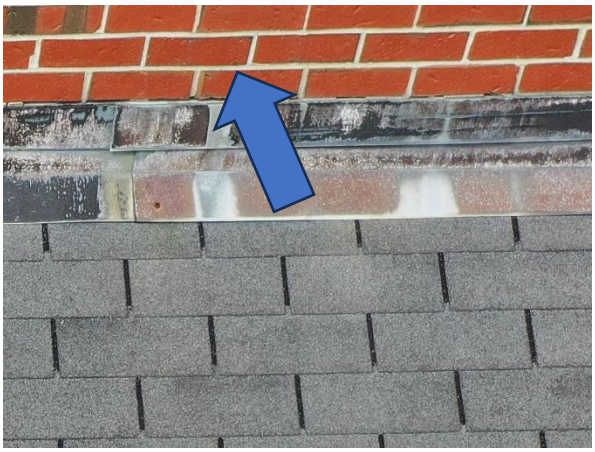


Figure 106: Open mortar horizontal joints at asphalt roof to brick masonry transition.

Figure 107: Typical missing/broken shingles.

STRUCTURAL CONDITIONS

The Lincoln County Sheriffs building was originally constructed in 1950 as a single-level automobile fuel/gas station. In 1985, a renovation project included the addition of a second (2nd) level to the original structure along with a two-level addition. The primary structural elements of the original single-level filling station and the second (2nd) level addition consist of wood joists supported on steel beams, which bear on exterior masonry walls and interior steel columns. The original concrete roof slabs were removed and replaced with plywood as a part of the 1985 renovation project.

The two-level addition constructed as part of the 1985 renovation project consists of a flat roof and several steep slope roofs. The primary structural framing elements for the flat roof consist of steel joists that span in the north-south direction, while the framing elements for the steep slope roofs are comprised of 2x10 wood joists that span in the east-west direction and bear directly on the exterior masonry walls. The second (2nd) level framing consists of prestressed precast slabs that span in a north-south direction and bear directly on the exterior masonry walls and interior steel beams. The masonry wall consists of a four-inch (4") wide brick veneer and eight-inch (8") wide reinforced concrete masonry unit (CMU), separated by a two-inch (2") of ridged insulation and supported by a one foot (1'-0") wide concrete foundation wall with a strip footing.

Structural Observations

Gale visited the site on August 16, 2023, to perform the visual evaluation of the existing structure. The visual evaluation of the existing structure was to observe the existing condition of the structural elements that were exposed or accessible with ladder access and by removing and re-setting individual ceiling tiles.

Overall, the existing building appears to be in fair condition with isolated areas of significant deficiencies. The following summarizes Gale's observations made while on-site:

Original Building Framing

1. The existing first (1st) level framing appears to be in fair condition with several locations of deteriorated wood joists. The existing steel beams that span in the north-south direction appear to be in good condition with surface rust staining. *Refer to Figures 108,109 and 110 for typical deficiencies in the wood joists observed throughout the first (1st) level.*

Figure 108: Overall view of the First Floor (1st Fl.) framing of the original structure.

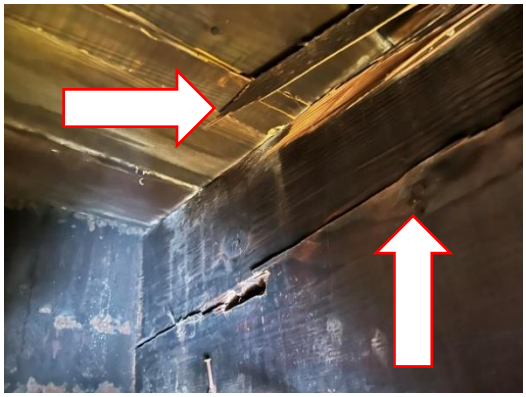


Figure 109: Typical view of checking in a wood joist that appears to extend to the bearing end.

Figure 110: View of a cracked wood joists located at approximately mid-span of a wood joist.

2. The Request for Proposal (RFP) document reported bowed and warped flooring at the first (1st) level. The existing steel beams are spaced approximately sixteen feet (16') on-center, which corresponds to the high points on the first (1st) level. The existing joists are supported on a piece of blocking which appears to be secured to the bottom flange of the steel beam. The top of the existing joists appears to be installed at a lower elevation than the top of steel beam which results in a gap between the underside of the floor deck and the top of the joists, allowing the existing flooring to deflect down to the top of the joists. *Refer to Figures 111 and 112 for the view of the sloped first (1st) level and condition of the First Floor (1st Fl.) framing.*

Figure 111: Typical view of a high point on the first level.

Figure 112: Typical view of the existing joist that frames into the steel beam.

<u>1985 Addition Concrete Slab-on-Grade</u>

1. The four-inch (4") thick concrete slab-on-grade appears to be in good condition with scattered areas of cracking throughout. *Refer to Appendix D for locations of visually observed cracks in the slab-on-grade.* Typical deficiencies observed during the evaluation are included in Figures 113 and 114.

Figure 113: Typical view of a crack in the concrete slab-on-grade with efflorescence on both sides of the crack.

Figure 114: View of a crack in the concrete slab-on-grade with efflorescence within the crack.

2. Efflorescence was observed at the slab along the west wall where water infiltration was reported at the Basement Level of the 1985 addition. The exterior and interior mortar joint at the base of the wall appears to be deteriorated along the east elevation. The first (1st) course of brick appears to be lower than the exterior grade, which appears to result in the water infiltration issue at the base of the exterior wall along the east elevation. Refer to Figures 115 and 116 for the condition of the mortar joint at the base of the wall.

Figure 115: View of the joint between the slab-on-grade and the masonry wall. Refer to Photo 9 for a closer view of the deteriorated joint at the base of the wall.

Figure 116: Closer view of the deteriorated mortar joint at the base of the wall, which was observed along the east elevation

<u>1985 Addition First Level Framing</u>

1. The First Floor (1st Fl.) framing of the 1985 addition includes eight-inch (8") thick precast-prestressed concrete slabs that span to the exterior concrete masonry walls and interior steel beams. Ceiling tiles were removed to observe representative areas of the underside of the precast concrete slabs. The precast slabs and steel beams appear to be in good condition with no deficiencies observed in the underside of the precast concrete slabs at the locations exposed. At isolated locations throughout the Basement Level, the steel beams are encased in drywall and an acoustic ceiling tile is hung from the prestressed slabs. Refer to Figures 117 and 118 for typical view of the First Floor (1st Fl.) framing.

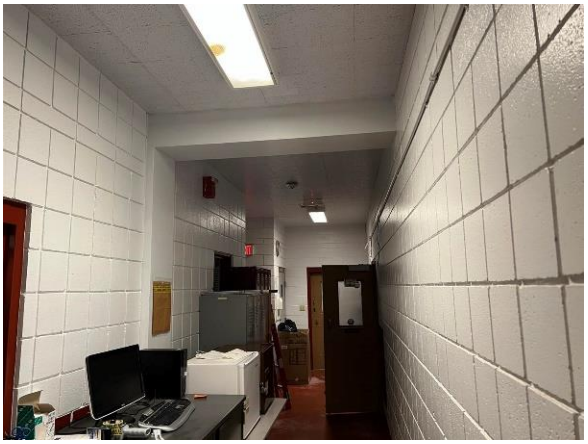


Figure 117: View of a steel beam that frames into a steel column, which supports the eight-inch (8") precast-prestressed concrete slab. Acoustic tiles were observed at isolated locations throughout the Basement Level and were removed in representative areas to observe the condition of the slabs.

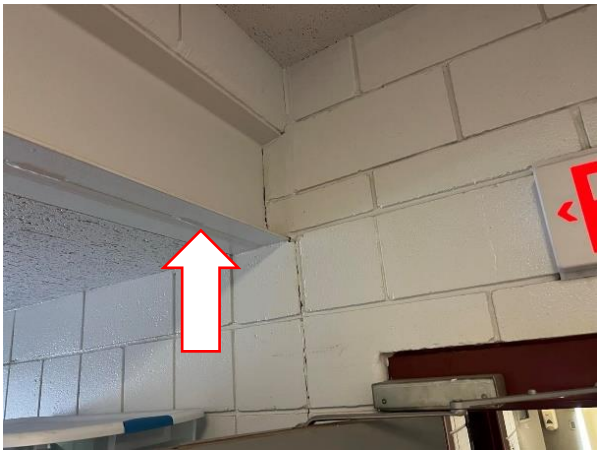


Figure 118: View of a steel beam that frames into interior masonry walls that supports the eight-inch (8") thick precast-prestressed concrete slabs.

<u>1985 Addition Roof Framing</u>

1. The flat roof of the 1985 Building addition consists of metal decking secured to open web steel joists spanning in the north-south direction that bear on the exterior masonry walls. In general, the underside of the metal decking and the open web steel joists appear to be in good condition. Refer to Figures 119 and 120 for the condition of the flat roof framing.

Figure 119: Typical view of the open web steel joists and underside of the metal decking at the flat roof section of the 1985 building addition.

Figure 120: View of the open web steel joists that frame into a steel beam in the middle of the flat roof.

2. The existing building drawings show that the steep slope section of the 1985 Building addition roof is comprised of 2x10 wood joists that span in the east-west direction and bear directly on the exterior masonry walls. Insulation was installed between the 2x10 wood joists, and the condition of the wood joists was unable to be observed at the time of the evaluation due to a finished ceiling.

Exterior Masonry Wall

1. The existing building drawings show that the exterior masonry wall is comprised of a four-inch (4") wide brick veneer and an eight-inch (8") wide reinforced concrete masonry unit (CMU), separated by a two-inch (2") thick layer of ridged insulation. In general, the exterior wall appears to be in fair condition with isolated locations of vertical cracks. At the intersection of an interior wall and the exterior wall, a previous repair was observed. The previous repair consists of a steel angle installed on each side of the eight-inch (8") interior CMU wall, which is bolted through the CMU wall and brick veneer. Refer to Figures 121 and 122

Figure 121: View of steel angle bolted to CMU.

Figure 122: View of plate and bolt through brick veneer.

Interior Masonry Wall

1. At isolated locations throughout the building, Gale observed step cracks at the interior CMU walls. The step cracks appear to originate from the top of the door frames or from the corner of an interior wall and extend to the underside of the First Floor (1st Fl.) slab. *Refer to Appendix D for locations and extents of step cracking on the interior masonry walls.* Refer to Figures 123 and 124 for typical step cracking at the interior masonry walls.

Figure 123: View of interior step cracking in the CMU.

Figure 124: View of interior step cracking in the CMU.

Exterior Retaining Wall

1. The exterior retaining wall located along the west elevation of the original building exhibited map cracking and delamination throughout the retaining wall. The map cracking may be limited to a parge coating that appears to be applied after the wall was constructed. Gale observed wide vertical and diagonal structural cracks located adjacent to the existing building, and that the retaining wall appears to be deflected. *Refer to Appendix D for locations of defects along the retaining wall.* Refer to Figures 125 through 128 for typical defects observed throughout the retaining wall.

Figure 125: Overall view of the retaining wall located at the northeast corner of the original building.

Figure 126: Closer view of a vertical structural crack that extends from the top of the retaining wall to be base of the retaining wall. Gale observed delamination on both sides of the vertical crack.

Figure 127: View of a diagonal structural crack at the top west corner of the retaining wall. The crack appears to extend across the top of the retaining wall.

Figure 128: View of the parge coat along the retaining wall. A portion of the parge coat has flaked off adjacent to the vertical structural crack.

ARCHITECTURAL – BUILDING INTERIOR CONDITIONS

On August 16th, 2023, representatives from Harriman, in collaboration with Gale, performed a visual evaluation of the building and its existing systems to review and document the extent and location of defects and deficiencies. The focus of this assessment is the building's interior architectural systems and accessibility. Observations are limited to visible elements. The assessment is non-destructive in nature.

Architectural systems are analyzed per the following applicable Codes and Standards:

- International Building Code: IBC 2015
- NFPA 101 National Fire Protection Association: Life Safety Code
- Americans with Disabilities Act: 2010 ADA Standards for Accessible Design

Refer to Appendix C - Architectural Conditions Report for additional information.

MECHANICAL, ELECTRICAL, PLUMBING CONDITIONS

On August 16, 2023, representatives from Harriman visited the project site to perform a visual evaluation of the building and its existing systems to review and document the extent and location of deficiencies within the mechanical, electrical, fire, plumbing and security systems.

Plumbing Conditions

Plumbing systems are analyzed per the following applicable Codes and Standards:

- 2021 Uniform Plumbing Code.
- International Energy Conservation Code, 2015 edition.

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

Mechanical/HVAC Conditions

Mechanical systems are analyzed per the following applicable Codes and Standards:

- International Energy Conservation Code, 2015 edition.
- Maine Uniform Building and Energy Code (MUBEC).

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

Electrical Conditions

Electrical systems are analyzed per the following applicable Codes and Standards:

- NFPA 70 National Electrical Code
- ASHRAE 90.1

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

SOIL/GEOTECHNICAL CONDITIONS

R.W. Gillespie & Associates, Inc. (RWG&A) of Biddeford, Maine has provided geotechnical engineering support to obtain information regarding subsurface conditions and soil properties to base evaluations of the existing building's foundation support.

Refer to Appendix E - Site/Soil Condition Report for additional information.

HAZARDOUS BUILDING MATERIALS

Hazardous materials testing was performed by Ransom Consulting, LLC (Ransom) to evaluate the possible sources of asbestos containing materials (ACM), lead based paint (LBP) and polychlorinated biphenyls (PCBs) within the building.

Refer to Appendix F - Hazardous Materials Report for additional information.

DISCUSSIONS AND OPINIONS

SITE/CIVIL DISCUSSION AND OPINIONS

While the overall project site limits appear to be in fair condition, there are areas of significant concern. These concerns include but are not limited to:

- Sidewalk accessibility conditions, such as unmarked handicap parking, non-compliant slopes and ramps, and paved pathways that exhibit cracks and differential settlement, undulations and uneven surfaces that are not in compliance with ADA standards.

- Paved driveways and parking lots that include oxidation, transverse and longitudinal cracks containing vegetated growth, differential settlement, undulations, high and ponding water conditions; and,

- Negative sloped site grades around the building allowing ponding water conditions that has and will continue allow water intrusion into the lower levels of the building.

BUILDING ENVELOPE DISCUSSION AND OPINIONS

Masonry

Based on Gale's visual evaluation, it appears that the existing brick veneer masonry façade is in fair condition. The brick masonry defects include, but not limited to, isolated locations of deteriorated mortar, cracked/spalled brick, displaced brick, step cracks, rust/atmospheric staining, algae growth, and efflorescence. Deterioration within the brick masonry can result in excess moisture within the wall and potentially result in moisture infiltration on the interior. Defects within the exterior façade can also deteriorate further and at an accelerated rate due to freeze-thaw cycling. It is Gale's opinion that the County consider remedial repair/replacement work to address the observed defects to maintain and prolong the performance of the building's exterior wall system.

With respect to the water infiltration into Ground Floor Detention Rooms, it likely that during certain weather events such as heavy rainfall or snow accumulation and melting conditions that water is apparently seeping in between the concrete floor slab and at the base of the inner wythe of CMU at the east elevation. The MWWA drawings identifies a through wall flashing in the brick veneer masonry that is below grade to the exterior side with the vertical leg of the flashing within the cavity extending upward but terminated flush in the joint between the top for concrete foundation and below the CMU. The drawings note for "open joints above grade", which indicates weeps. Note that the concrete floor slab is flush with the top of the concrete foundation. For this reason, it appears that the only pathway for accumulated water to exit the brick veneer cavity is through the joint between the foundation and base of the CMU wall to the interior side, rather than to the exterior through weeps. The through wall flashing should have been terminated into the CMU mortar bed joint at least one (1) course above the foundation/slab elevation.

At the brick masonry chimney, deteriorated/missing mortar, efflorescence, atmospheric/rust staining, and cracked brick were observed. The top portion of the chimney is in poor condition and should be rebuilt with a new precast concrete chimney cap and flashing.

The CMU wall at the south elevation is in poor condition with widespread deterioration and cracked CMU blocks, deteriorated mortar, step cracks, deteriorated and delaminating coating and peeling paint. The wall

at the south elevation appears to be a single-wythe of CMU block with gypsum finish installed at the interior, and a cementitious coating installed at the exterior. The wall does not appear to have a cavity or drainage plane, and the wall's primary waterproofing integrity is reliant on the paint coating applied to exterior surface. Paint coatings provide a barrier and help mitigate the potential for the CMU block and mortar to absorb moisture; however, the waterproofing integrity of paint coatings deteriorates overtime from exposure to weather and ultraviolet (UV) radiation. Depending on the product installed, exterior coatings/paint finishes should be replaced approximately every five to ten years (5-10 yrs.) to maintain the system's waterproofing integrity. Should maintenance of the paint coating be deferred, moisture can penetrate through defects in the coating into the CMU wall and present as moisture infiltration. Additionally, moisture can penetrate the CMU through deficiencies in the coating and/or CMU more easily and become trapped within the wall assembly or migrate down the CMU cells to window/door lintels or the base of the CMU wall. As there does not appear to be existing flashing or a weep system at lintels or the base of the wall, the moisture that has infiltrated the wall system is unable to effectively drain from the wall assembly. During cold weather, the trapped moisture can freeze, expand, and spall/crack the CMU.

The free-standing courtyard wall located at the southeast corner of the building was observed to be in poor condition and should be repaired. The top off the wall is constructed with brick masonry which is typically displaced and cracked. Due to the lack of cap flashing, water can travel through the wall and cause further deterioration at both the CMU face and the brick masonry. The brick masonry cap should be removed, and the top portion of the wall rebuilt to address displaced brick masonry, and a new precast concrete cap with under cap sheet metal flashing installed. Repairs to the CMU portion of the wall should include coating removal, 100% repointing of mortar joints, spot replacement of deteriorated CMU, and recoating. Please note, Gale's visual evaluation of the wall was limited due to equipment stored adjacent to the wall, and Additional quantities of CMU replacement should be carried out as part of the repairs.

Due to the existing cementitious coating and paint coating, it appears that the coating may be concealing the extent of deteriorated mortar. Therefore, it is Gale's opinion that the existing coating be removed, and observed deficiencies can be repaired by cutting and pointing of deteriorated mortar joints one hundred percent (100%), performing concrete spall repairs at shallow spalls/delamination within the face of the CMU, and installing a new permeable coating and paint finish to the exterior surface. Permeable exterior coatings will help promote moisture within the CMU to dry towards the exterior. However, coatings will require routine maintenance and replacement and should be budgeted by the County to maintain the performance of the CMU exterior wall system.

Consideration may be given to over clad the existing CMU with an exterior insulation finish system, sheet metal or other material cladding systems. This approach would require further design analysis to determine its applicability.

Please note that as Gale's initial evaluation was limited to general observations, it is Gale's opinion that destructive testing be performed to evaluate and document the as-built materials and conditions of the wall assembly prior to or during a future design development phase of the project. Additionally, due to the observed condition of the CMU, it is Gale's opinion that samples of the CMU block and associated mortar be collected and sent to a testing facility for petrographic analysis and compressive strength testing.

Deteriorated mortar is mortar that has become brittle and eroded. As such, it tends to delaminate from the brick surface. Deteriorated mortar was observed at locations shown on the drawings and could be sufficiently repaired by repointing only the affected areas. However, maintenance of the mortar joints that do not receive repairs should be anticipated and budgeted for future repair work. Mortar repairs appear to have occurred multiple times throughout the building's history. Please also note that spot pointing of masonry walls will be noticeable from the ground and could affect the aesthetics of the building. While contractors will make an

effort to match the colors and material, it is difficult to match them identically because of the weathering on the existing mortar. For the aforementioned reasons, one hundred percent (100%) repointing of mortar joints is often considered.

Deteriorated mortar repointing should be performed in accordance with the Brick Industry of America's (BIA's) Technical Note 7F, which requires the removal of existing mortar to a predetermined depth and replacement with a mortar mix appropriate for the masonry units and the surrounding environment. The proper procedure includes cutting existing joints back to at least three-fourths of an inch (3/4") in depth or deeper until sound mortar is encountered and applying new mortar of an appropriate strength and composition in lifts (thin applications) until the full depth of the cut is solidly packed. It is Gale's opinion that a qualified engineering firm designs, and a qualified masonry contractor performs the masonry repairs so that repairs are performed in accordance with BIA requirements.

Abandoned fasteners and anchors should be removed and disposed of, and all resulting holes should be repaired. Hole repair could either be accomplished by patching the mortar joint or removing and replacing the masonry unit, depending on the method used for attachment and its location.

With regards to energy performance, the thermal resistance and/or thermal transmittance of the exterior wall assembly is not discernable. According to MWWA drawings, a typical wall assemble at 1985 Addition includes four-inch (4") veneer (brick or CMU), one-inch (1") air cavity, two-inch (2") rigid insulation and eight-inch (8") CMU filled with insulation. Current energy compliance for the State of Maine, which recognizes the 2015 International Energy Conservation Code, prescriptively requires that a mass wall assembly have thermal transmittance value (U-Value) of not greater than U-0.080. It is possible that portions of the existing building are compliant. However, without actual identification of the building component compositions, particularly that may be hidden within the cavity, the performance cannot be verified. Exploratory test cuts, material sampling, and energy modeling would be needed to confirm the building envelope thermal performance.

Exterior Doors & Windows

The window systems consist of steel, wood, and wood aluminum clad windows throughout the building. Except for the steel windows that appear in fair condition despite exhibiting some rust corrosion, the wood and wood aluminum clad windows are in poor condition. The majority of the windows consist of double hung wood units and are located in the original building Administration of the building. The wood frame was observed to be typically warped and displaced along the bottom sash, and the paint finishes are weathered, worn and peeling, and as a result are affecting the interior environment as they leak air and water. The aluminum clad wood windows were observed to be in fair to poor condition with weathering of the prefinished coating likely due to ultraviolet ray (UV) exposure. Additionally, gaskets and perimeter sealant were observed to be weathered and failing. Several steel window units include metal bars installed to the exterior, and therefore the visual evaluation of these window types was limited. However, cracked glass was observed at one (1) steel window unit location.

Typical window systems have a service life of between twenty to thirty years (20-30 yrs.) depending on the type of system, frequency of use, and exposure to weather. Window units that see frequent sun tend to experience quicker deterioration of weather-stripping and glazing gaskets. Based on the manufacturer's stamp, the double hung wood units were installed during the building renovations in 1984, making them approximately thirty-nine (39) years old. Therefore, these windows have reached the end of their serviceable life. The frame and glazing systems appear to lack adequate air and moisture protection due to failed sealants and gaskets, cracked glazing, failed IGUs, and the thermally inefficient systems provide minimal resistance to heat and cold transfer through the frames and glazing.

It is Gale's opinion that the wood and wood aluminum clad be removed and replaced with new aluminum, thermally broken aluminum windows with insulated glazing units to match the original aesthetic of the building. To reduce solar heat gain and solar glare, insulated glazing units can include a tint. Consideration may also be given to replacing the steel windows depending upon future renovations and in an effort to improve their thermal performance.

Roofing

The roofing systems at the facility consist of steep-slope asphalt shingles and low-slope elastomeric roof membrane. Both roof systems appear to be in poor condition. On the asphalt shingle roofs, the shingles are extremely weathered and worn, and several shingles were observed to be loose, broken, or missing, and there is vegetative growth throughout. Defects at the elastomeric roofs include punctured membrane, open seams, fastener backout, and cupping insulation. The observed defects are potential sources for moisture infiltration and may be contributing to leak locations seen throughout the facility. As moisture infiltrates the roofing system, it reduces the effectiveness of the insulation in terms of thermal efficiency and R-value, as well as lead to moisture infiltration at the interior spaces below.

The steep-slope roofs at Roof Areas B and C that are covered with asphalt shingles, as noted, are in poor condition and are beyond their serviceable useful life due. It is Gale's opinion that the roof be removed and replaced with a new asphalt shingle roofing system and associated components. The presence of algae at the shingles may indicate poor ventilation within the roof system as the shingles retain moisture. Sheet metal flashings at adjacent brick masonry rising walls appear to consist of lead coated copper reglet flashing which appeared to be in poor condition with open horizontal mortar joints in the brick masonry and deteriorated/missing sealant along the top of the reglet. Additional considerations should be made during roof replacement to determine if the asphalt shingle roof system is constructed with adequate ventilation and insulation below the deck.

Roof Areas A, D, E, and F are constructed with a single-ply elastomeric membrane. Although the installation date at these roof areas was not provided to Gale, it is Gale's experience that elastomeric membranes typically have a service life of approximately fifteen to twenty years (15-20 yrs.), if maintained. Damage to the existing membrane including scratches, rips, and tears within the membrane appears to be partially due to overgrown trees and branches that lay directly on the membrane and associated edge metal. Additionally, excess leaves and debris from the trees has piled up on the roofs, which can lead to clogged drains and Additional vegetative growth growing on top of the membrane. As part of roof replacement, adjacent trees and vegetation should be cut back clear of the roof areas.

Roof Area A includes a wood-framed doghouse with an asphalt shingle roof over a mechanical unit that appeared to be in poor condition. The structure does not appear to be adequately rated for applicable wind pressures and snow loading at the roof and should be removed. If the equipment housed within the doghouse requires to be covered, options for a new housing unit may be constructed with CMU, brick, or metal wall panels and be secured to the deck structure below.

Ponding water was observed at Roof Areas E and F. Roof Area E does not appear to include a means for drainage, as there was no roof drain, scupper, gutter, or downspouts observed. As part of roof replacement, a roof drain or scupper should be installed to mitigate standing water on the roof membrane. At Roof Area F, a substantial amount of ponding water was observed at the roof area and the drain appeared to be clogged. As part of roof replacement, the existing drain should be scoped and routed clear of debris. It is Gale's opinion that the County consider roof replacement at the single-ply roof areas.

When selecting a replacement roof system for this building, there are several different roof membrane options that can be considered. Due to the limited amount of roof top equipment and penetrations, it is Gale's opinion that Roof Areas A, D, E and F be replaced with a new, single-ply roof system such as elastomeric (EPDM) or thermoplastic (PVC) roofing system. The Town of Wiscasset is currently utilizing the Maine Uniform Building and Energy Code (MUBEC), which includes the 2015 International Energy Conservation Code (IECC). The 2015 IECC required a minimum of R-30 for continuous insulation above the roof deck. Although the existing insulation heights at most of the roof areas are unknown, roof top equipment and rising wall flashings may need to be raised to accommodate the industry standard eight-inch (8") flashing height.

STRUCTURAL DISCUSSION AND OPINIONS

Overall, the existing structure appears to be in fair condition with isolated areas of more significant deficiencies. The most significant deficiencies include the cracked wood joists at the First (1st) Level of the Administration Office of the original building.

Based on the conditions observed during the evaluation, it is Gale's opinion that the following repairs are performed. *Refer to Appendix D for locations of observed deficiencies.*

1. To address the bowed and warped flooring at the First (1st) Level, it is Gale's opinion that the damaged wood joists be removed and replaced. The existing plywood sub-floor should be removed throughout the First (1st) Level of the original building and replaced with a new plywood sub-floor. Additional layers/shims of plywood should be installed above the wood joists to match the top of existing steel beam elevation to provide additional support for the new sub-floor. Please note that a structural analysis to calculate the capacity of the existing wood joists or the plywood sub-floor has not been completed at this time. As such, structural calculations would be required to design the sizes of the new sub-floor and joist framing.

2. To address moisture infiltration concerns throughout the Basement Level of the building, it is Gale's opinion that the following repairs are completed:
    a. Repoint the mortar joint at the base of the exterior wall is repointed along the east elevation of the 1985 Addition. Based on Gale's evaluation it appears that the first (1st) course of brick appears to be below the exterior grade along the east elevation. As stated in the Civil section of the report, the exterior grade shall be lowered to maintain a six-inch (6") minimum foundation reveal around the building. A French drain shall be installed to collect the runoff and distribute it away from the building.
    b. Provide grout injection repairs through the slab-on-grade in the 1985 Addition, where active water infiltration was observed. Grout injection involves drilling access ports and injecting grout behind the crack on the opposite side of the slab. The hydrophilic grout is designed to expand upon contact with water to create a barrier between the water and the crack. Grout injection can be an iterative process, with the engineer and contractor returning after the first installation to observe locations of continued water infiltration for follow-up grout installation. To address the source of water below the slab and reduce the likelihood of buoyant pressures below the slab, installation of a sump pump below the slab on-grade.

3. The interior step cracks shall be repointed, and the cracked CMU blocks shall be rout and sealed. Based on the structural evaluation, it is Gale's opinion that the cracks do not appear to be related to

settlement. Refer to the Geotechnical section of the report for comment on the subsurface conditions based on the borings completed.

4. Gale observed that the retaining wall appears to be leaning, which may be a result of water building up behind the wall. To address the concrete deficiencies and the leaning of the concrete retaining wall, it is Gale's opinion that the retaining wall is removed and replaced.

ARCHITECTURAL - BUILDING INTERIOR DISCUSSION AND OPINIONS

Architectural discussions and opinions are centered around accessibility and ADA concerns, interior walls and partitions, occupant safety concerns, finished flooring, finished ceilings, stairs, railings, and guardrails, interior doors frames and hardware as well as outlining operational deficiencies.

Refer to Appendix C – Architectural Conditions for additional information.

PLUMBING, MECHANICAL AND ELECTRICAL DISCUSSION AND OPINIONS

Plumbing

The plumbing systems appear to be operating sufficiently. The fixtures and restrooms do not comply with accessibility requirements. Water heating equipment is near end of service life.

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

Mechanical/HVAC

Overall, most of the mechanical equipment is past their life expectancy and should be replaced. Building conditions are reportedly humid and uncomfortable. Mechanical systems are constant volume with dated controls that do not provide zones for cooling. This could cause systems to conflict with heating zones and increase energy costs. Main duct work is undersized for both HV-1 and AC-2 which can cause balancing and sound issues. Hot water and refrigerant piping insulation are damaged or incomplete. Most duct work and piping are concealed behind concrete plank ceilings and CMU blocks with limited access to valves and dampers in the detention facility areas.

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

Electrical

In general, the electrical distribution throughout the facility is outdated and requires replacement or significant maintenance. In some areas like the electrical room/mezzanine, it needs to be completely redesigned. Most electrical panels have a working space violation, and many of these panels are beyond their useful life and would be a hazard for electrical contractors to repair/replace parts.

The IT equipment should be located in a dedicated, conditioned, IT room. Currently the IT equipment located throughout the building are in shared locations which makes it more susceptible to accidental damage.

There are several instances of code violations throughout the facility. Due to the age of equipment (most of the distribution equipment is original to the building), it is recommended that a complete renovation down to the building's base structure be carried out, then rebuilt. This may not be financially viable, and thus the facility and its operations may consider relocation to another building or new building.

Several light fixtures in secure areas are accessible to inmates and are not secured to a maximum detention level of quality. Some fixtures are secured with a flat head bolt, which leads it to be much more easily accessible.

Refer to Appendix D – Mechanical, Electrical, Plumbing Conditions for additional information.

SITE SOIL/GEOTECHNICAL DISCUSSION AND OPINIONS

R.W. Gillespie & Associates, Inc. performed subsurface explorations by taking several boring samples. Laboratory testing was performed on selected soil samples. The information gathered from these explorations, combined with information found on the foundation design drawings help to inform how the soil bearing characteristics may inform some of the foundation's failures.

The subsurface exploration and laboratory testing information indicate glaciomarine deposits of the Presumpscot Formation underlie the building site. Peat deposits, organic matter, debris, uncontrolled fill, and other deleterious materials were not encountered in the borings. In conclusion:

- Water intrusion in the east part of the building appears associated with surface water ponding or flowing against the building due to site grading. Groundwater could also be a contributing factor if foundation drains are not free-flowing.

- Inorganic fill and naturally deposited inorganic soils were encountered in the soil borings. Silty sand, silt, and clay deposits were encountered at anticipated foundation subgrade levels.

- The crack damage observed inside the building is considered negligible to slight. It is consistent with angular distortions less than about 1/175 (i.e., one-inch [1"] over fifteen- to twenty feet [15'-20']). Estimated total settlement based on the subsurface data acquired and an allowable bearing pressure of 3,000 pounds per square foot is less than one-inch (< 1"). Building conditions other than subsurface conditions could be contributing to observed building damage.

Refer to Appendix E – Site/Soil Conditions for additional information.

HAZARDOUS BUILDING MATERIALS DISCUSSION AND OPINIONS

Based on the results the Hazardous Building Materials inventory, including the mold and moisture assessment, Ransom has provided the following opinions:

- Asbestos Containing Materials (ACM) were identified at the Site building. Materials identified as ACM that may be impacted by future renovation or demolition activities at the Site building should be properly removed for off-Site disposal, prior to or concurrent with such activities.

- Painted surfaces sampled during the course of this HBMI exhibited lead at concentrations, which would delineate the materials as "lead-based" according to HUD guidelines. These guidelines apply to federal housing projects and are referenced herein for comparison purposes only. General and/or demolition contractors may perform demolition of surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with OSHA's lead standards.

- Ransom collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above the TSCA threshold of 50 mg/kg.

- During this investigation, Ransom also inventoried and field-verified quantities of universal waste items at the Site, including fluorescent bulbs, thermostats, emergency exit lights/signs and electronic ballasts, which may contain mercury, PCBs, or heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

- Ransom measured indoor air quality parameters throughout the Site building; indoor air concentrations of CO2 in the northern hallway, western restroom, the patrol room, the lieutenant's office the sergeant's office, and the patrol room entryway exceeded the recommended air quality parameter of 900 ppm. A technician should be contracted to inspect the ventilation system in the Site building. The performance of the system should be evaluated to confirm adequate ventilation is being provided (which could impact CO2 levels).

- Microbial growth was observed on the exposed ceiling insulation and the wood framing in the attic/storage space. Ransom observed a slight musty/moldy odor in the attic during the site assessment. Ransom was not able to observe damage or leaks in the ceiling due to the insulation, ceiling height, and storage within the room. The source of water intrusion into the attic should be determined and mitigated. All mold impacted building materials should abated.

Refer to Appendix G - Hazardous Materials Report for additional information.

SUMMARY OF OPINIONS

SITE/CIVIL SUMMARY

While the overall project site limits appear to be in fair condition, there are areas of significant concern. To correct the areas of concerns recorded during the site evaluation, the following are opinions of improvements to be completed.

- Driveway, Parking lot, and Sidewalk Surfaces: Apply bituminous concrete surface treatment to prevent water intrusion into the pavement, base, and subbase materials.
- Sidewalks: Reconstruct pedestrian access that do not comply with current US Department of Justice (DOL) American Disability Act (ADA) standards for accessible design.
- Drainage Structures: Vacuum accumulated sediment from drainage structure sumps. Reconstruct structure grate elevations to be lower than surrounding finish grade elevations.
- Site Grading: With the exception at egress points, lower existing finish grade surrounding the building to maintain a six-inch (6") minimum foundation reveal around the building, install perimeter French Drain to collect and convey roof runoff away from the building and the replace the existing vegetated surface abutting the building with a perimeter eighteen-inch (18") wide by six-inch (6") deep stone drip edge.

BUILDING ENVELOPE SUMMARY

Exterior Façade/Masonry

- Remove and replace cracked and spalled brick masonry units, including brick with corroded masonry anchors. 500 Brick Units.
- Repoint select and random deteriorated brick masonry mortar joints and step cracks on all elevations. Twenty-five percent (25%) area of brick masonry walls.
- Replace cavity wall through wall flashing at portions of the north elevation and for the entire length of the east elevation at the Addition.,
- Rebuild top portion of courtyard wall and install a new precast concrete cap with under cap sheet metal flashing.
- Rebuild the top portion of brick masonry chimney, repoint brick masonry to remain and install new precast concrete chimney cap.
- Clean atmospheric and rust staining, vegetative growth, and efflorescence from brick masonry on all elevations.
- Remove existing masonry paint coatings and cementitious coatings from all CMU walls and concrete walls, clean and prepare for repairs and new coating.
- Repoint all CMU wall mortar joints 100%.
- Replace cracked, spalled or delaminated CMU blocks. Twenty-five percent (25%) of wall area
- Repair cracked and spalled concrete.
- Apply vapor permeable opaque concrete masonry coating to all exposed CMU walls.

Exterior Doors & Windows

- Remove and replace exterior metal doors and frames, with insulated steel reinforced metal doors and frames.
- Remove and replace existing hollow metal, wood, and wood aluminum clad punched windows and entrances with new, thermally broken aluminum windows and entrances.
- Remove and replace existing window and door perimeter sealant.

Roofing

- Remove and replace existing elastomeric roof systems at Roof Areas A, D, E, and F with a new durable SBS modified bitumen roofing membrane system, tapered insulation, and air/vapor barrier (AVB) over the existing roof decks including, including new edge metal fascia's and throughwall flashings.
- The long-term thermal resistance (LTTR) of the roofing system shall be a minimum of LTTR-30 in compliance with current energy code requirements.
- Route and clear existing roof drain lines and replace existing roof drains with new cast iron roof drains.
- Remove and replace existing asphalt shingle roof systems at Roof Areas B and C with a new asphalt shingle roof system.
- Remove and replace existing sheet metal flashings at brick masonry rising walls.

STRUCTURAL SUMMARY

Based on the conditions observed during the evaluation, it is Gale's opinion that the following repairs be performed. *Refer to Appendix B for locations of observed deficiencies.*

- Remove and replace damaged wood joists at First (1st) Level.
- Remove existing plywood sub-floor throughout the First (1st) Level of the original building and replace with a new plywood sub-floor. Additional layers/shims of plywood should be installed above the wood joists to match the top of existing steel beam elevation to provide additional support for the new sub-floor.
- Perform structural analysis to calculate the capacity of the existing wood joists and the plywood sub-floor. Structural calculations would be required to design the sizes of the new sub-floor and joist framing.
- To address moisture infiltration concerns throughout the Basement Level of the building:
    - Provide hydrophilic grout injection repairs through the slab-on-grade in the 1985 Addition, where active water infiltration was observed.
- Repoint interior step cracks in CMU walls and rout and seal cracked CMU blocks.
- Remove and replace the existing leaning retaining wall at the south elevation and shall include six-inch (6") diameter perforated pipe installed for the entire length above the retaining wall footing.

ARCHITECTURAL – BUILDING INTERIOR SUMMARY

All interior improvements should be done in coordination with remedial work to the building exterior to reduce further impact from moisture and building settling. In general, complete interior demolition is recommended so that repairs and improvements can meet current operational needs to the extent possible. However, given the overcrowded condition of the current facility, it is unlikely that repairs to systems and finishes alone will address the safety, health, and operational needs of staff and visitors.

The opinions for improvements are:

- Add a main entry addition to create a secure entrance and elevator.
- Change all door hardware to lever-type with locksets that maximize occupant safety and security.
- Renovate interior space to accommodate ADA compliant spaces such as corridor widths, door approach clearances, and maneuvering area for wheelchairs.

- Remove all non-load bearing partitions and rebuild in a configuration that better suits occupant needs.
- Rework former jail area, to the extent possible, improve flow and storage for evidence as well as office areas.
- Repair all interior finish faces of exterior walls and replace all wall base.
- Remove all finish flooring throughout the building and abate as necessary. Repair and epoxy seal cracked floor slabs, apply moisture mitigation, and install all new floor finishes as appropriate to various building areas.
    - Entries: walk off mat and/or porcelain tile.
    - Evidence and shower areas: epoxy flooring or safety sheet flooring.
    - Office areas: carpet tile of LVT.
    - Toilet rooms: LVT or sheet linoleum.
- Remove all finish ceilings, abate as necessary. Replace ceilings with painted drywall or ACT as required to meet program needs of spaces.
- Replace existing stair railings and guardrails with code-compliant versions.
- Replace damaged or broken tiles at entry landing and stair treads.
- Replace all doors, frames, hardware, transaction windows, and access controls while replacing interior walls and partitions. Provide ballistic rated and/or shatter-proof glazing.
- Address operational deficiencies as renovations and repairs are being made.

Refer to Appendix C - Architectural Conditions Report for additional information.

PLUMBING SUMMARY

- Replace the oil-fired water heater with an electric heat pump water heater.
- Provide a thermostatic mixing valve on the hot water supply to the building.
- Install a 2" reduced pressure zone backflow preventer downstream of the water meter.
- Extend the plumbing vent at least four feet above the combustion air louver.
- Clean debris from the roof drains.
- Completely remove all cell fixtures and associated piping.
- Provide ADA compliant restrooms on each level to support the number of occupants.
- Provide ADA-compliant shower for staff.
- Provide a bi-level water-cooled drinking station with bottle filler on each level.

Refer to Appendix D - Mechanical, Electrical, Plumbing Conditions Report for additional information.

MECHANICAL/HVAC SUMMARY

Detention Facility and Mechanical Room

- Demolish HV-1, air to air heat exchanger, condensing units, associated duct work, reheat coils, piping, and controls.
- Demolish AC-1, condensing unit, associated duct work, piping, and controls.
- Demolish perimeter hydronic baseboard, cabinet unit heaters, unit heaters, and controls.
- Demolish roof mounted and inline exhaust fans.
- Demolish generator exhaust pipe, remote radiator and piping.
- Demolish combustion duct work.
- Provide 12.5-ton packaged heat pump rooftop unit with economizer, hot water reheat coil, duct work, piping, and controls.

- Provide 12 VAV boxes with hydronic hot water reheat coils and controls.
- Provide 750 MBH boiler plant with redundant pumps, hydronic specialties, expansion tanks and controls. Provide with supply and return piping and insulation to equipment, coils and terminal units.
- Provide perimeter hydronic baseboard, cabinet unit heaters, unit heaters, and controls.
- Provide exhaust fan, duct work and accessories for bathrooms and janitor closets.
- Duct combustion air ductwork in compliance with NFPA 31. Refer to DIV 22 for vent piping scope.
- Provide 250 CFM roof mounted exhaust fan for mechanical room ventilation with thermostat.

Administration Building

- Demolish AC-2, duct work and controls.
- Demolish hydronic piping, baseboard, cabinet unit heaters, and controls.
- Demolish EF-1 and controls.
- Provide 8-ton packaged heat pump rooftop unit with economizer, hot water reheat coil, duct work, piping, and controls.
- Provide 8 VAV boxes with hydronic hot water reheat coils and controls.
- Provide perimeter hydronic baseboard, cabinet unit heaters, and controls.
- Provide 100 CFM roof mounted exhaust fan and controls.

Refer to Appendix D - Mechanical, Electrical, Plumbing Conditions Report for additional information.

ELECTRICAL SUMMARY

All electrical demolition and construction work may require alterations or penetrations through prestressed concrete plank floors and concrete walls.

Detention Facility and Electrical Room

- Demolish the electrical service entrance and its equipment, coordinate with CMP to design and building a new service entrance.
- Remove/demolish the existing 150kW generator and enclosure, provide a new generator that is not located within the building.
- Demolish all fluorescent light fixtures, switches, and timeclocks. Replace with new LEDs.
- Provide lighting controls that comply with ASHRAE 90.1.
- Reroute communications (coaxial) and IT cabling to avoid exterior exposure.
- Demolish generator exhaust pipe, remove rooftop radiator and enclosure.
- Provide new branch circuit panelboards for electrical distribution throughout the building.

Administration Building

- Remove/replace existing fluorescent light fixtures with LEDs.
- Provide new switching control and occupancy sensors connected to new LED light fixtures.
- Consolidate IT equipment into dedicated, secured, IT room.
- Provide additional storage spaces to avoid working space code violations by stacking boxes and other non-electrical items in front of panels.
- Upgrade internet to fiber optic rather than standard copper cables.

Refer to Appendix D - Mechanical, Electrical, Plumbing Conditions Report for additional information.

HAZARDOUS BUILDING MATERIALS SUMMARY

It is the opinion of Ransom that hazardous containing building materials identified within the Hazardous Building Materials Inventory report be properly removed and disposed of by a licensed abatement contractor prior to demolition or renovation activities, including but limited to:

- Asbestos Containing Materials
- Lead Based Paint
- Fluorescent bulbs, thermostats, emergency exit lights/signs and electronic ballasts, which may contain mercury, PCBs, or heavy metals.
- Evaluate mechanical systems to confirm adequate ventilation is being provided (which could impact CO2 levels).
- Abate all mold impacted building materials.

Refer to Appendix G - Hazardous Materials Report for additional information.

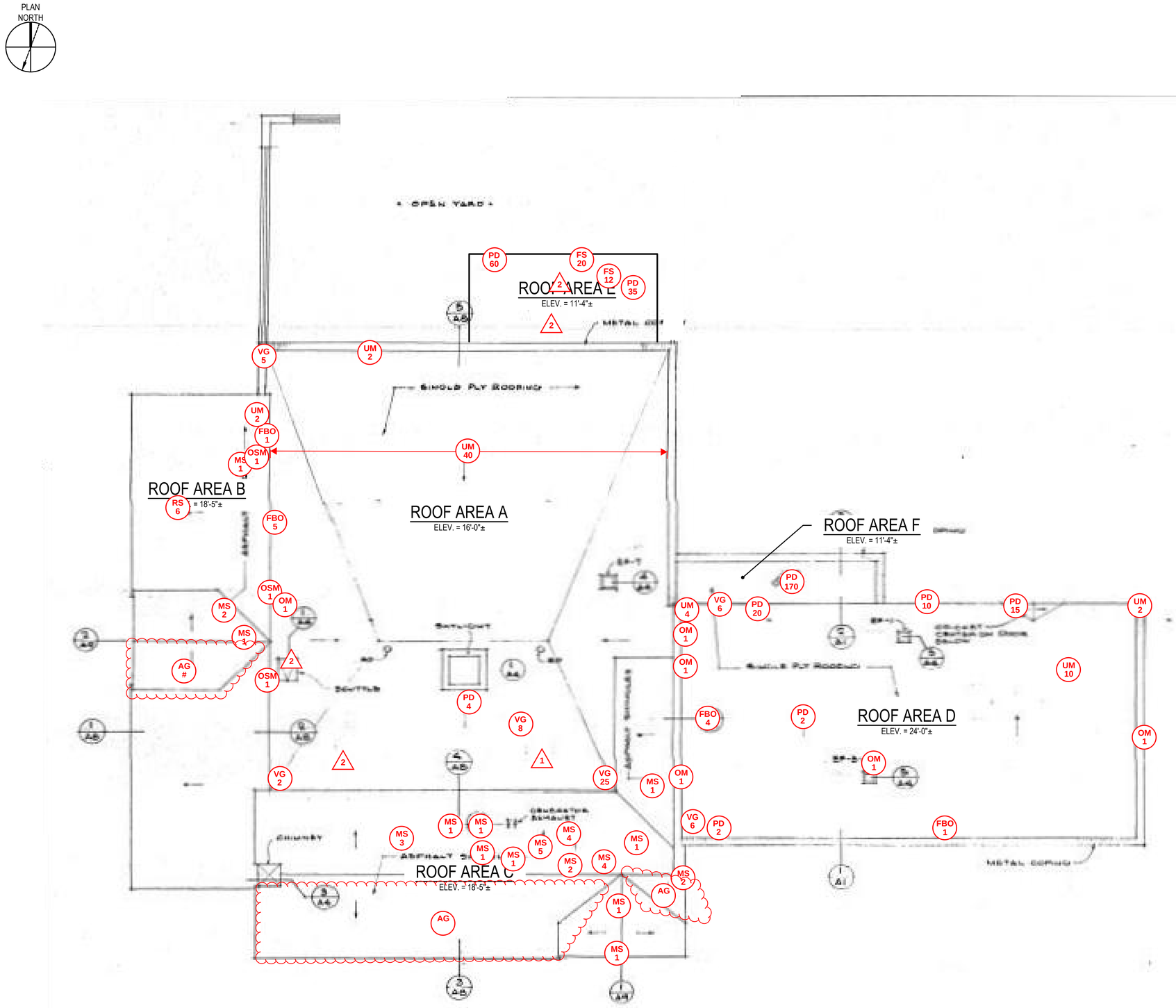
PRELIMINARY COST ESTIMATES SUMMARY

The budget estimates presented in this report have been broken down for the opinions listed above. This estimate is based on current construction costs, should be considered preliminary, and should not be used for sensitive budgeting. All estimating was performed using historical data and market trends to establish unit pricing. These estimates have been generated by various sources and may not reflect the actual conditions at the time of construction. The preliminary estimate also does not include soft costs associated such as Design, Engineering and Owner's project management. Lincoln County should be aware that due to the current economic condition around the world (continued effects of the COVID-19 pandemic, material shortages and cost increases, gas shortages, etc.), which has not fully recovered, there is a potential that the actual design/bid values may be higher, or lower than what has been presented in this report. The estimates shown below include fifteen percent (15%) contingency, ten percent (10%) general conditions, five percent (5%) overhead and profit and two percent (2%) bond and insurance costs. Please note that escalation cost contingencies are not included, however, a twenty percent (20%) contingency has been added to account for volatility in the construction industry. *Refer to Appendix G for further breakdown of the Preliminary Cost Estimate.*

PRELIMINARY COST ESTIMATES SUMMARY	
Category of Work	Preliminary Line-Item Cost
Site Civil	$ 71,308
Exterior Masonry	$ 477,825
Roofing Repairs and Replacement	$ 396,833
Exterior Doors & Windows	$ 120,635
Architectural	$ 2,875,736
Structural	$ 141,529
Plumbing	$ 470,131
Mechanical/HVAC	$ 881,485
Electrical	$ 803,831
Hazardous Material / Asbestos Abatement	Included
Total Preliminary Cost Estimate	$ 6,239,312
Total Preliminary Cost Estimate w/20% Contingency	**$ 7,487,174**

Appendix A

Building Envelope Defect Drawings



1 A101 ROOF AREA PLAN
SCALE: NOT TO SCALE

GENERAL NOTES

1. THE ROOF PLAN SHOWN ON THIS DRAWING IS FROM ORIGINAL SCANNED DOCUMENTS. THE DRAWINGS MAY NOT BE FULL SCALE AS SHOWN.

ROOFING DEFECT LEGEND

AG #	ALGAE; # INDICATES SQUARE FEET
FBO #	FASTENER BACK-OUT; # INDICATES LINEAR FEET
MS #	MISSING ASPHALT SHINGLE; # INDICATES UNITS
OM #	OPEN/TORN / SLICED / PUNCTURED MEMBRANE; # INDICATES LINEAR FEET
OSM #	OPEN SHEET METAL SEAM; # INDICATES LINEAR FEET
PD #	PONDING WATER; # INDICATES SQUARE FEET
UM #	UNADHERED MEMBRANE; # INDICATES SQUARE FEET
VG #	VEGETATIVE GROWTH; # INDICATES SQUARE FEET

DEFECT NOTES

1. MECHANICAL UNIT WOODEN SHED IN POOR CONDITION WITH DETERIORATED WOOD.
2. MECHANICAL UNIT TYPICALLY RUSTED

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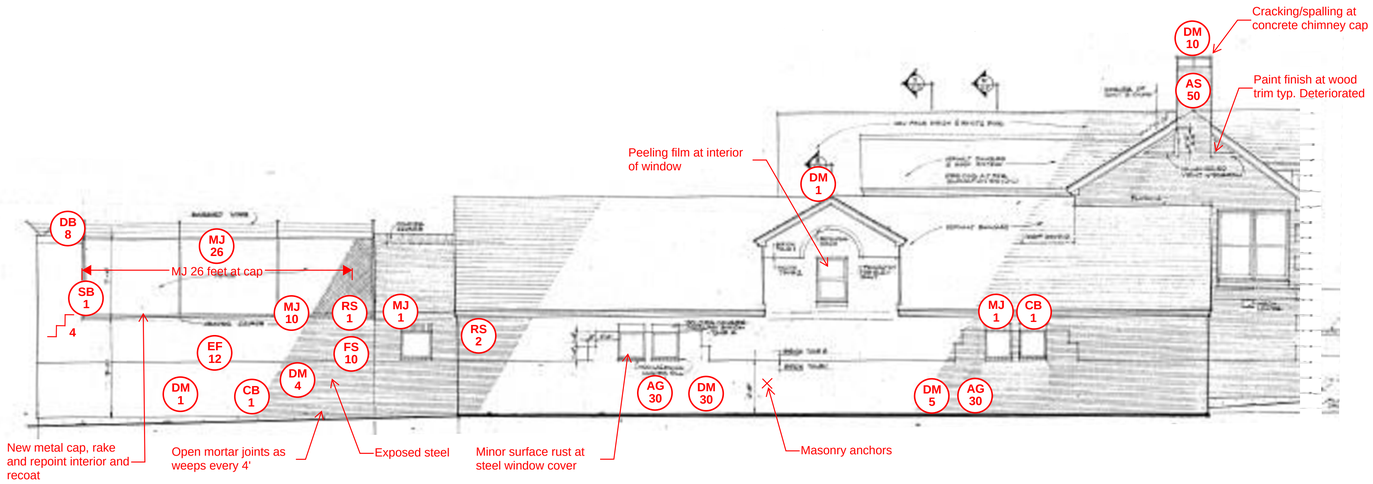
GRAPHIC SCALE

SHEET TITLE
ROOF PLAN

DRAWING NO.
A101



1 A201 EAST ELEVATION

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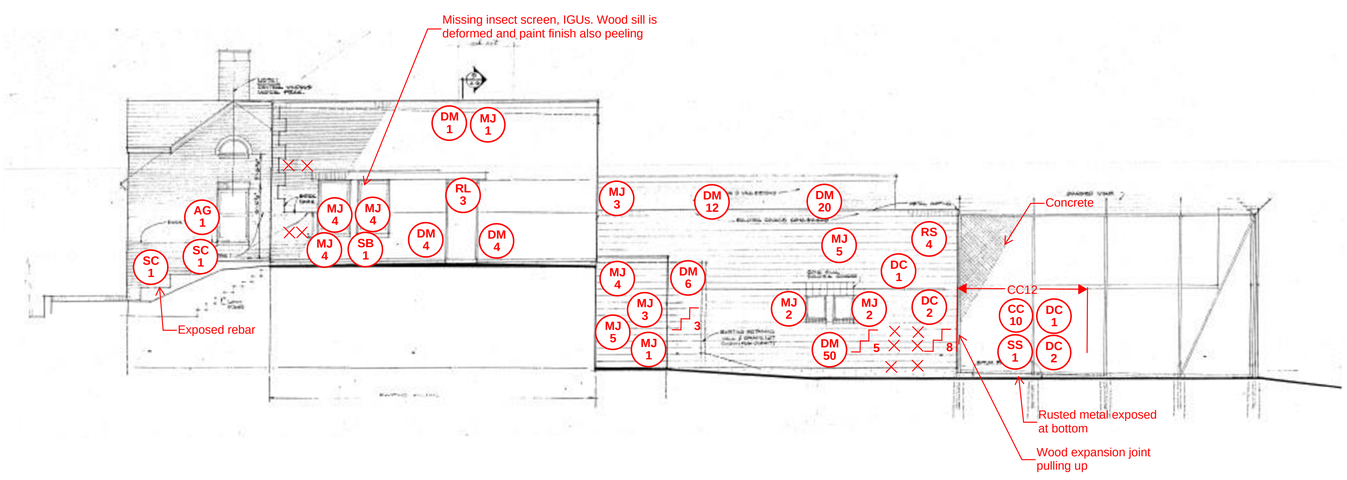


2 A201 WEST ELEVATION

SCALE: NOT TO SCALE

DEFECT LEGEND

MASONRY

AG #	ALGAE; # INDICATES SQUARE FEET
AS #	ATMOSPHERIC STAINING; # INDICATES SQUARE FEET
CB #	CRACKED BRICK; # INDICATES UNITS
DL #	DEFLECTED LINTEL; # INDICATES LINEAR FEET
DM #	DETERIORATED MORTAR JOINT; # INDICATES SQUARE FEET
EF #	EFFLORESCENCE; # INDICATES SQUARE FEET
MJ #	DETERIORATED MORTAR JOINT; # INDICATES LINEAR FEET
RL #	RUSTED LINTEL; # INDICATES LINEAR FEET
RS #	RUST STAIN; # INDICATES SQUARE FEET
SB #	SPALLED BRICK; # INDICATES UNITS
VG #	VEGETATIVE GROWTH; # INDICATES SQUARE FEET
DB #	DISPLACED BRICK; # INDICATES UNITS
	BRICK MASONRY TO BE REBUILT
	DETERIORATED MORTAR TO BE REPOINTED
×	EXISTING ANCHOR / METAL STUB
	EXISTING ANCHOR / METAL STUB (LARGE)

STONE & CONCRETE

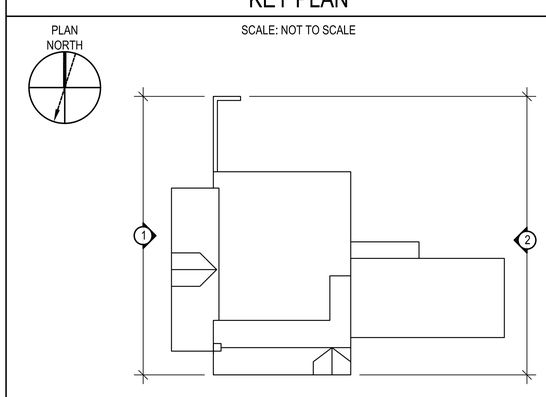
CC #	CRACKED CONCRETE; # INDICATES LINEAR FEET
DC #	DELAMINATING CONCRETE; "S" INDICATES SHALLOW DELAMINATION "D" INDICATES DEEP DELAMINATION # INDICATES SQUARE FEET
EV #	ENVIRONMENTAL SOILING; # INDICATES SQUARE FEET
SC #	SPALLED CONCRETE; "S" INDICATES SHALLOW SPALL "D" INDICATES DEEP SPALL # INDICATES SQUARE FEET
SS #	SPALLED STONE; "S" INDICATES SHALLOW SPALL "D" INDICATES DEEP SPALL # INDICATES SQUARE FEET
WS #	WEATHERED STONE; # INDICATES SQUARE FEET

SEALANT & GLAZING

CD #	CONDENSATE
CG #	CRACKED GLAZING; # INDICATES LINEAR FEET

KEY PLAN

SCALE: NOT TO SCALE



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CHECKED BY	ALS
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DRAWING SCALE	NOT TO SCALE

GRAPHIC SCALE

SHEET TITLE

ELEVATIONS

DRAWING NO.

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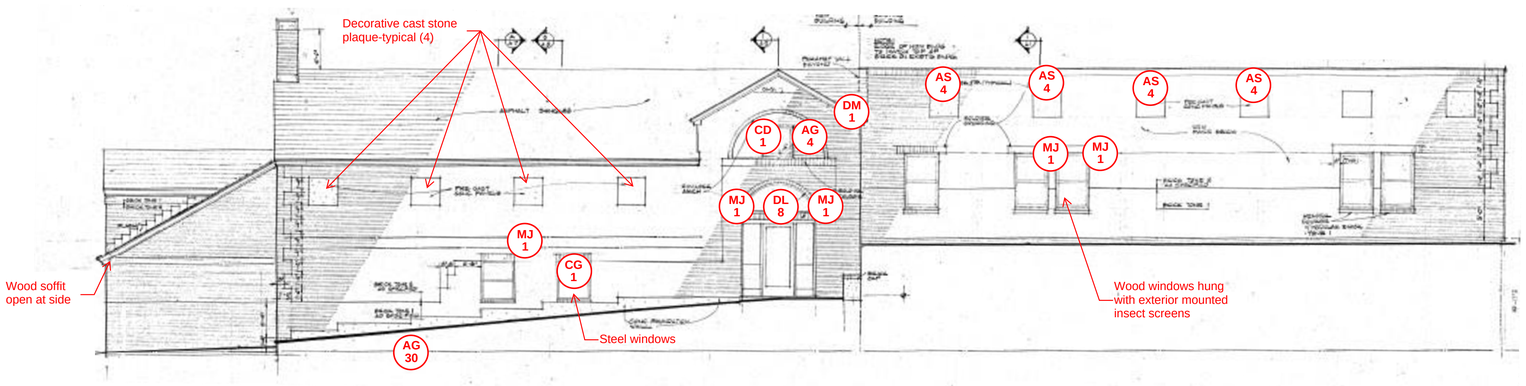

1 A202 NORTH ELEVATION
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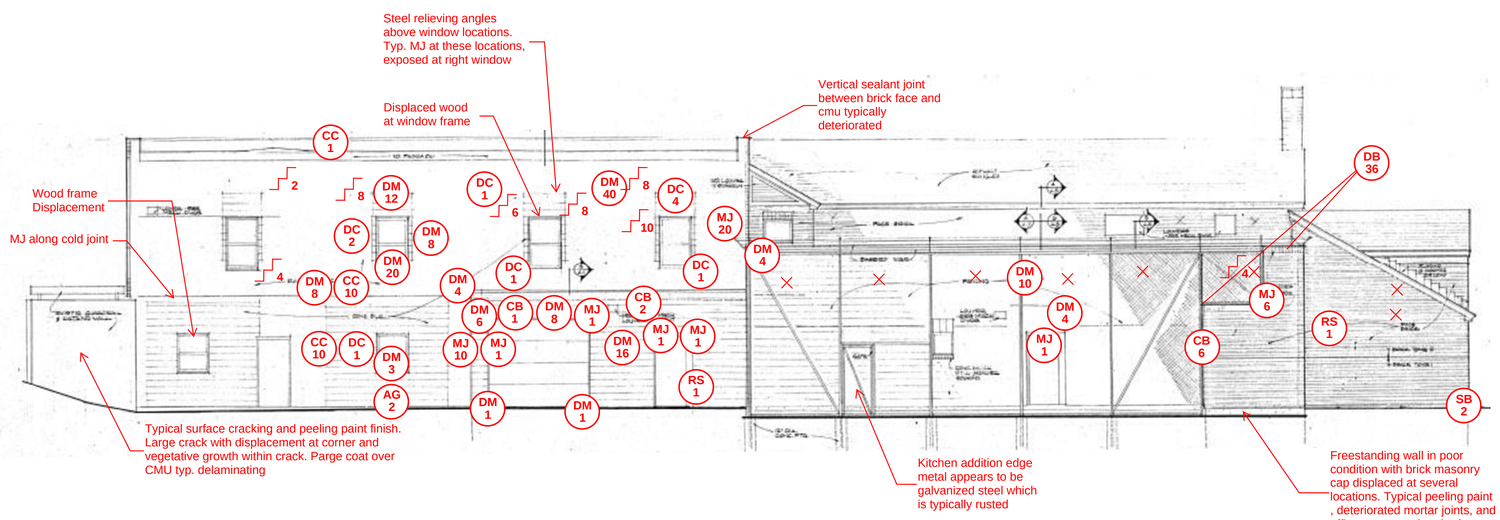


2 A202 SOUTH ELEVATION
SCALE: NOT TO SCALE

DEFECT LEGEND

MASONRY

AG #	ALGAE; # INDICATES SQUARE FEET
AS #	ATMOSPHERIC STAINING; # INDICATES SQUARE FEET
CB #	CRACKED BRICK; # INDICATES UNITS
DL #	DEFLECTED LINTEL; # INDICATES LINEAR FEET
DM #	DETERIORATED MORTAR JOINT; # INDICATES SQUARE FEET
EF #	EFFLORESCENCE; # INDICATES SQUARE FEET
MJ #	DETERIORATED MORTAR JOINT; # INDICATES LINEAR FEET
RL #	RUSTED LINTEL; # INDICATES LINEAR FEET
RS #	RUST STAIN; # INDICATES SQUARE FEET
SB #	SPALLED BRICK; # INDICATES UNITS
VG #	VEGETATIVE GROWTH; # INDICATES SQUARE FEET
DB #	DISPLACED BRICK; # INDICATES UNITS
	BRICK MASONRY TO BE REBUILT
	DETERIORATED MORTAR TO BE REPOINTED
×	EXISTING ANCHOR / METAL STUB
	EXISTING ANCHOR / METAL STUB (LARGE)

STONE & CONCRETE

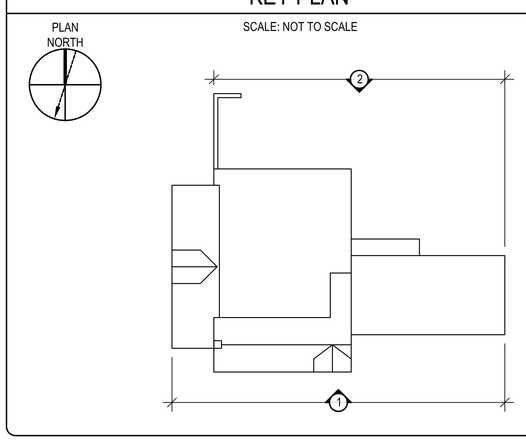
CC #	CRACKED CONCRETE; # INDICATES LINEAR FEET
DC #	DELAMINATING CONCRETE; "S" INDICATES SHALLOW DELAMINATION "D" INDICATES DEEP DELAMINATION # INDICATES SQUARE FEET
EV #	ENVIRONMENTAL SOILING; # INDICATES SQUARE FEET
SC #	SPALLED CONCRETE; "S" INDICATES SHALLOW SPALL "D" INDICATES DEEP SPALL # INDICATES SQUARE FEET
SS #	SPALLED STONE; "S" INDICATES SHALLOW SPALL "D" INDICATES DEEP SPALL # INDICATES SQUARE FEET
WS #	WEATHERED STONE; # INDICATES SQUARE FEET

SEALANT & GLAZING

CD #	CONDENSATE
CG #	CRACKED GLAZING; # INDICATES LINEAR FEET

KEY PLAN

SCALE: NOT TO SCALE



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GRAPHIC SCALE

SHEET TITLE
ELEVATIONS

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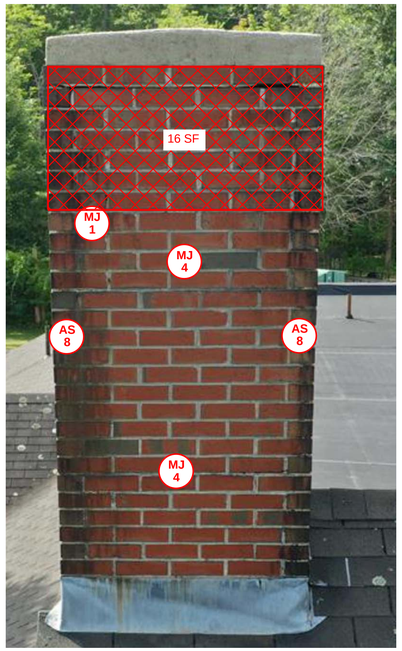

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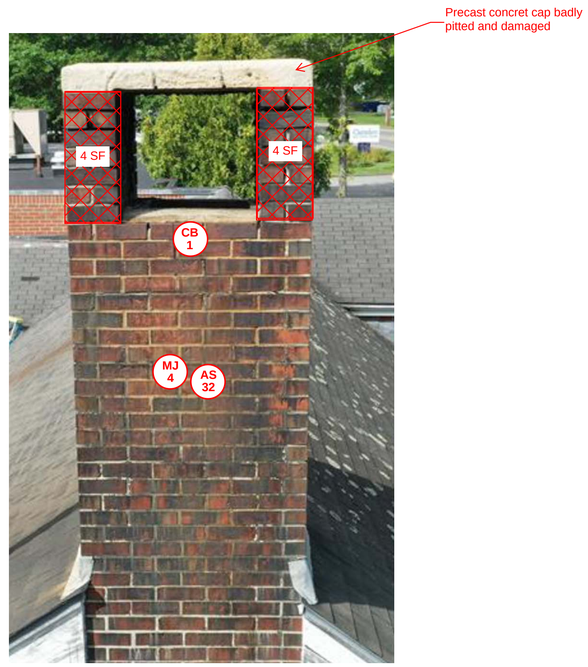

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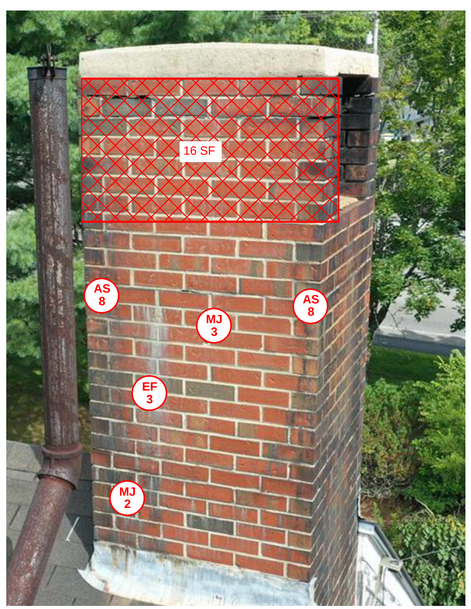

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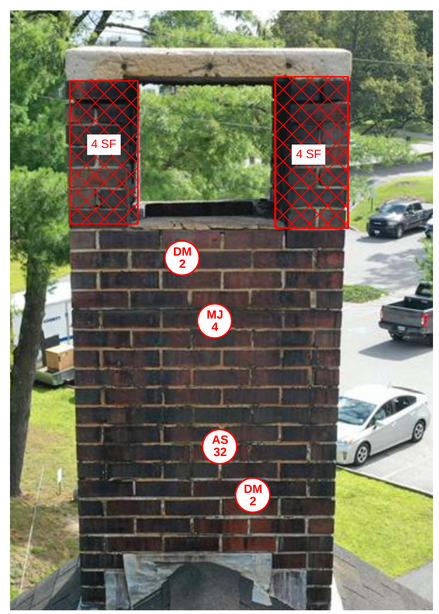

4 A203 EAST ELEVATION
SCALE: NOT TO SCALE

DEFECT LEGEND

MASONRY

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AS #	ATMOSPHERIC STAINING; # INDICATES SQUARE FEET
CB #	CRACKED BRICK; # INDICATES UNITS
DL #	DEFLECTED LINTEL; # INDICATES LINEAR FEET
DM #	DETERIORATED MORTAR JOINT; # INDICATES SQUARE FEET
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	EXISTING ANCHOR / METAL STUB (LARGE)

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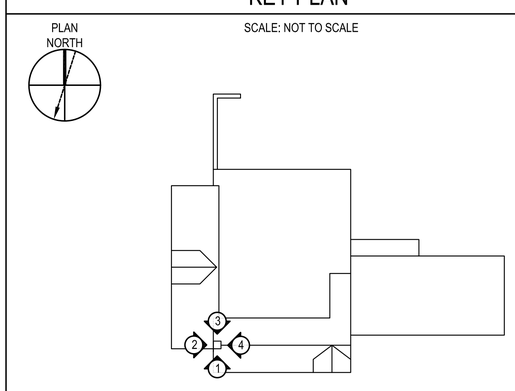
SS #	SPALLED STONE; "S" INDICATES SHALLOW SPALL "D" INDICATES DEEP SPALL # INDICATES SQUARE FEET
WS #	WEATHERED STONE; # INDICATES SQUARE FEET

SEALANT & GLAZING

CD #	CONDENSATE
CG #	CRACKED GLAZING; # INDICATES LINEAR FEET

KEY PLAN

SCALE: NOT TO SCALE



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GRAPHIC SCALE

SHEET TITLE

ELEVATIONS

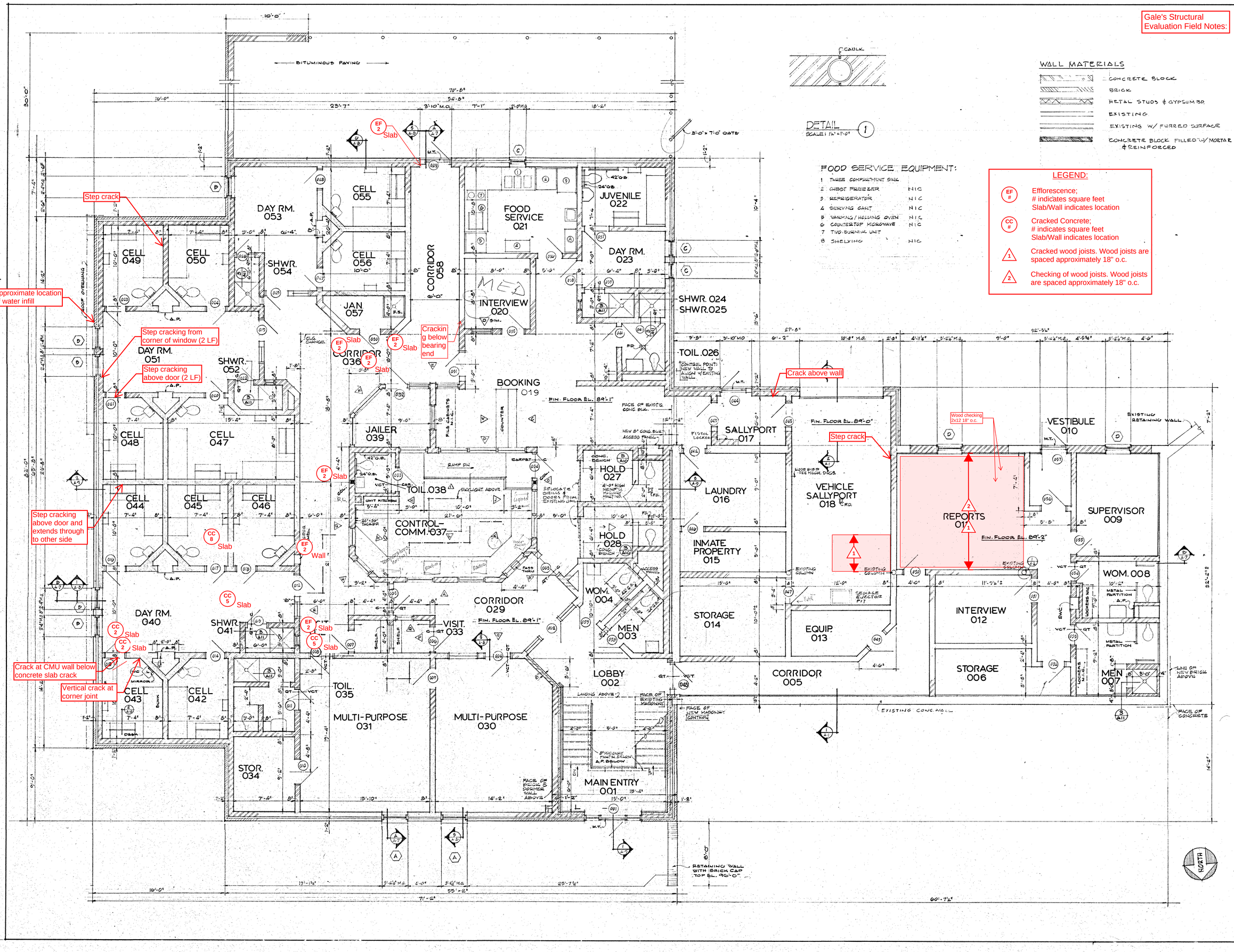
DRAWING NO.

A203

Appendix B

Structural Defect Drawings

Gale's Structural Evaluation Field Notes:



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STRUCTURAL SWIFT ENGINEERING
ELECTRICAL HAROLD THOMAS P.E.
MECHANICAL BENNETT ENGINEERING, INC.

LINCOLN COUNTY LAW ENFORCEMENT & DETENTION FACILITY

WISCASSET, MAINE

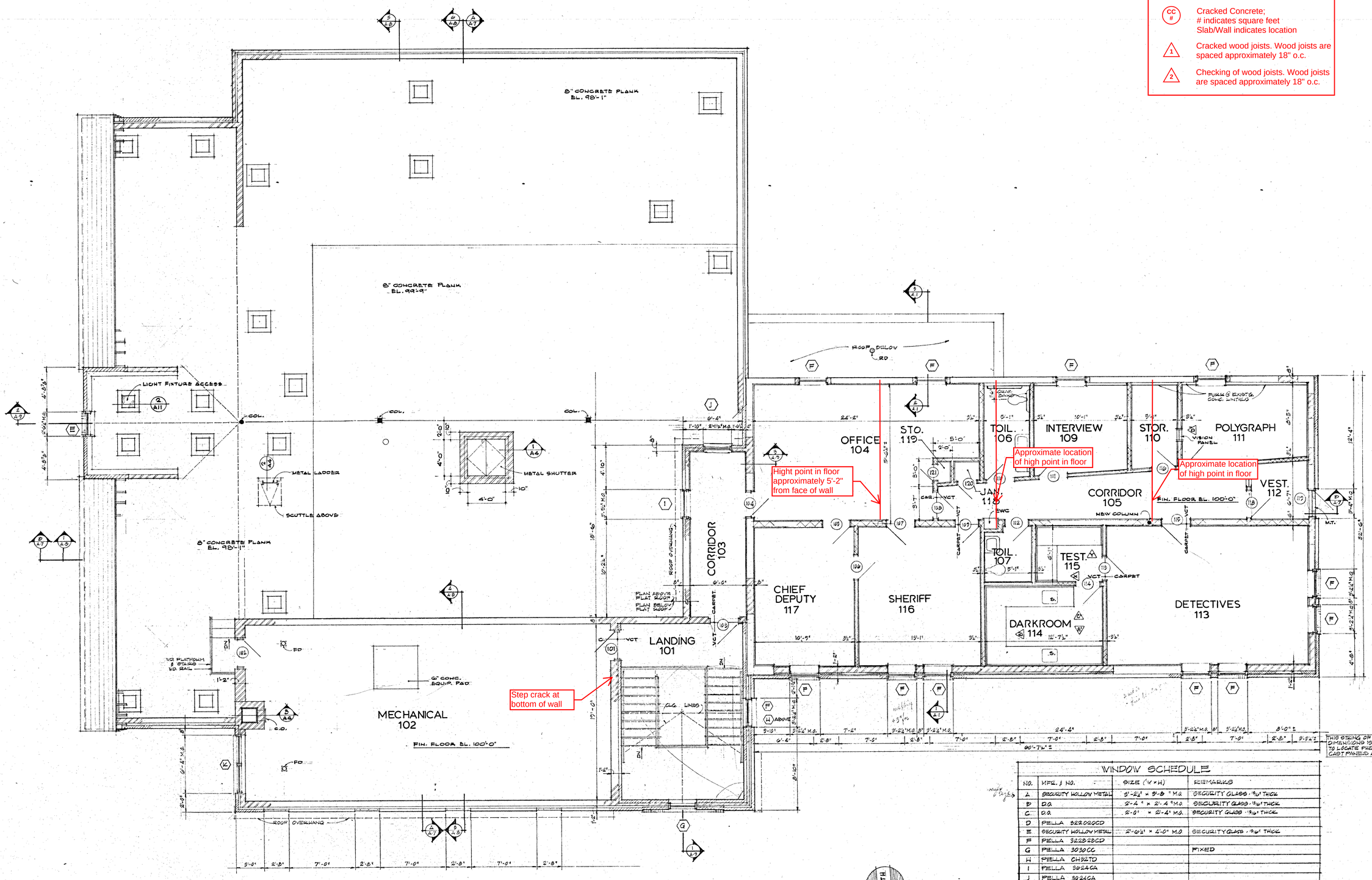
A2

GROUND FLOOR PLAN

Gale's Structural Evaluation Field Notes:

LEGEND:

- EF # — Efflorescence; # indicates square feet Slab/Wall indicates location
- CC # — Cracked Concrete; # indicates square feet Slab/Wall indicates location
- 1 — Cracked wood joists. Wood joists are spaced approximately 18" o.c.
- 2 — Checking of wood joists. Wood joists are spaced approximately 18" o.c.



WINDOW SCHEDULE			
NO.	MFG. & NO.	SIZE (W×H)	REMARKS
A	SECURITY HOLLOW METAL	3'-2½" × 3'-8" M.O.	SECURITY GLASS - 1⅜" THICK
B	D.O.	2'-4" × 2'-4" M.O.	SECURITY GLASS - 1⅜" THICK
C	D.O.	2'-0" × 2'-4" M.O.	SECURITY GLASS - 1⅜" THICK
D	PELLA 322020CD		
E	SECURITY HOLLOW METAL	2'-0½" × 4'-0" M.O.	SECURITY GLASS - 1⅜" THICK
F	PELLA 322828CD		
G	PELLA 3030CC		FIXED
H	PELLA CH32TD		
I	PELLA 3024CA		
J	PELLA 3024CA		
K	PELLA 32242ACD		OBSCURE GL.

MOORE / WEINRICH & WOODWARD ARCHITECTS
49 PLEASANT STREET · BRUNSWICK, MAINE 207-729-1636
STRUCTURAL SWIFT ENGINEERING
ELECTRICAL HAROLD THOMAS P.E.
MECHANICAL BENNETT ENGINEERING, INC.

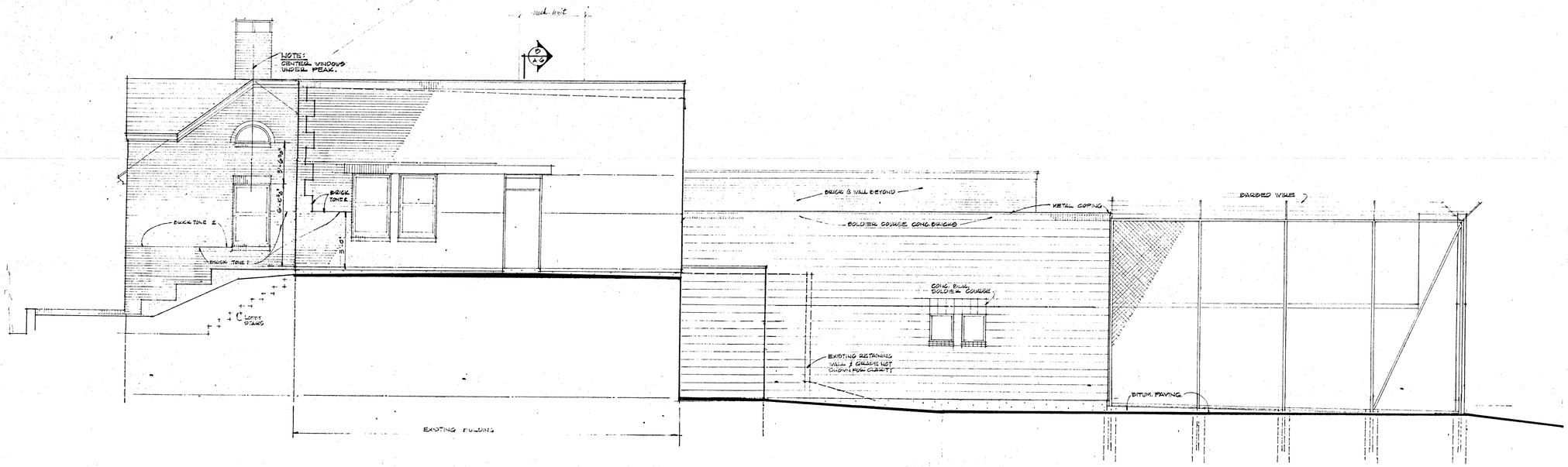
LINCOLN COUNTY LAW ENFORCEMENT & DETENTION FACILITY

WISCASSET, MAINE

A5

FIRST FLOOR PLAN

Gale's Structural Evaluation Field Notes:

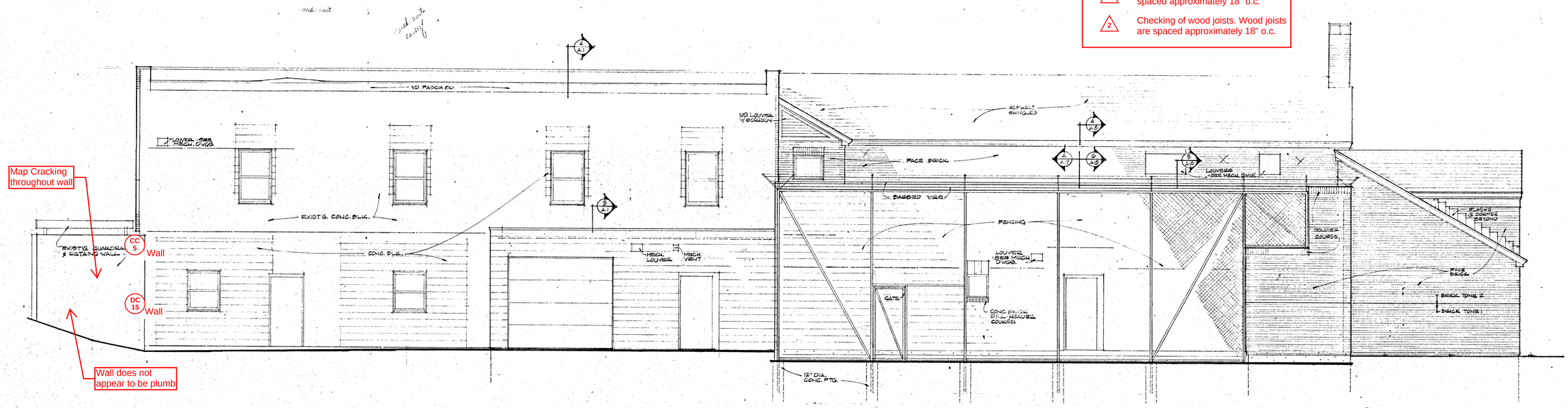


WEST ELEVATION

SCALE: 1/4" = 1'-0"

LEGEND:

- EF # — Efflorescence; # indicates square feet Slab/Wall indicates location
- CC # — Cracked Concrete; # indicates square feet Slab/Wall indicates location
- DC # — Delaminated Concrete; # indicates square feet Slab/Wall indicates location
- 1 — Cracked wood joists. Wood joists are spaced approximately 18" o.c.
- 2 — Checking of wood joists. Wood joists are spaced approximately 18" o.c.



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

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LINCOLN COUNTY LAW ENFORCEMENT & DETENTION FACILITY

WISCASSET, MAINE

A6

ELEVATIONS

Appendix C

Architectural Conditions

ARCHITECTURAL-BUILDING INTERIOR

INTRODUCTION:

The purpose of this assessment is to provide a visual interior architectural systems evaluation of the existing Lincoln County Sheriff's Office located at 42 Bath Road in Wiscasset, Maine. The building currently serves as a sheriff's office and an administration building. A portion of the building houses the former county jail, which is used for administrative and storage purposes.

Architectural systems are analyzed per the following applicable Codes and Standards:

- International Building Code: IBC 2015
- NFPA 101 National Fire Protection Association: Life Safety Code
- Americans with Disabilities Act: 2010 ADA Standards for Accessible Design

REVIEW OF EXISTING DOCUMENTS

Moore/Weinrich and Woodward Architects, dated For Review September 15, 1983, full set of architectural, structural, plumbing, mechanical and architectural drawings for the detention facility.

EXISTING CONDITIONS ASSESSMENT

On August 16th, 2023, representatives from Harriman, in collaboration with Gale, performed a visual evaluation of the building and its existing systems to review and document the extent and location of defects and deficiencies. The focus of this assessment is the building's interior architectural systems and accessibility. Observations are limited to visible elements. The assessment is non-destructive in nature. The following is a summary of conditions by category.

Summary Findings by Interior Category

The condition of interior systems ranged from very poor to fair. No areas in the facility were identified as being in good or very good condition.

Figure 1 Interior-Basement

Figure 2 Lobby

Accessibility and ADA

Building accessibility does not meet basic ADA requirements. There is no interior vertical circulation besides a single staircase. This means that non-ambulatory people are not able move from one floor to another without going outside the building and navigating through the parking lot. Door approach clearances and door hardware do not meet ADA requirements in many cases.

Figure 3 Building access from parking lot

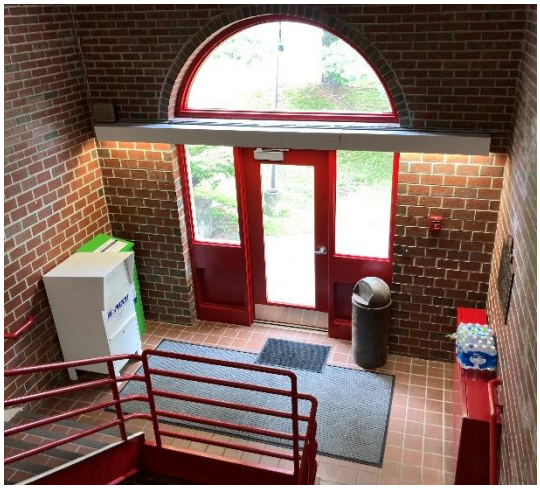

Figure 4 Main Building Entry

Figure 5 Upper Level Staff Entry

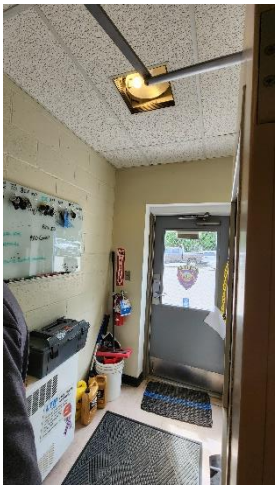

Figure 6 Lower Level Staff Entry

Interior Walls and Partitions

Interior walls and partitions are in poor condition. CMU (concrete modular unit) walls contained holes and pockmarks from abandoned anchorage points for rails, benches, and equipment. Cracking in CMU wall joints was observed along with steel reinforcing angles installed to limit wall separation. Peeling paint and mineral deposits (efflorescence) were also observed at the base of several CMU walls. Damage to interior CMU walls, likely caused by moisture infiltration and building settling, occurred in exterior wall and interior partition locations.

Gypsum wall issues ranged from water damage, cracks, damage to outside corners, and patched holes.

Occupant Safety Concern: The lobby area walls are of particular concern. Current law enforcement best practices include a secure, ballistic rated assembly between public and staff areas. Administrative staff at the LincolnCounty Sheriff's office are currently vulnerable to threats by the public that include firearms.

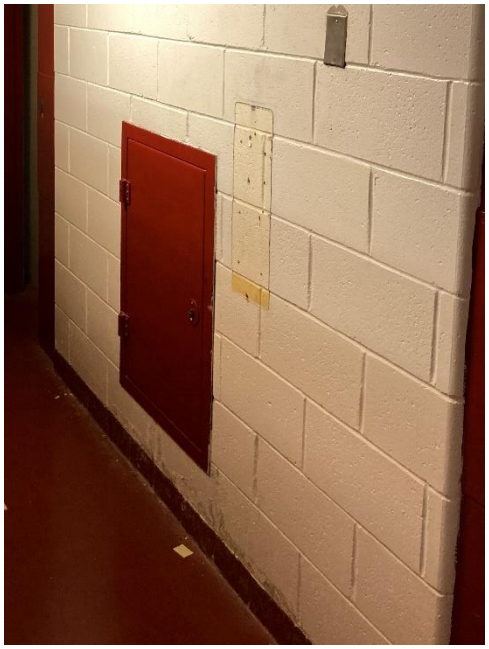

Figure 7 Damage to interior CMU partition

Figure 8 Cracking and reinforcing at CMU exterior wall

Figure 9 Unprotected Wall: Public/Threat Side

Figure 10 Unprotected Wall: Staff Side

<u>Wall Base</u>

Wall base ranged from very poor to poor condition. Areas of missing and/or damaged wall base was observed throughout the building.

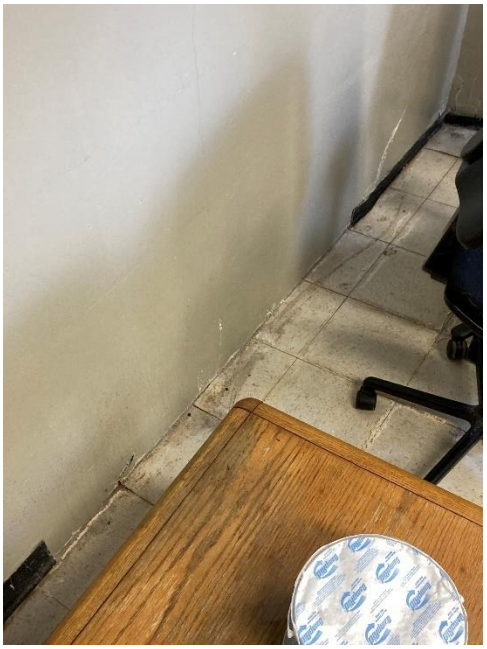

Figure 11 Missing Wall Base

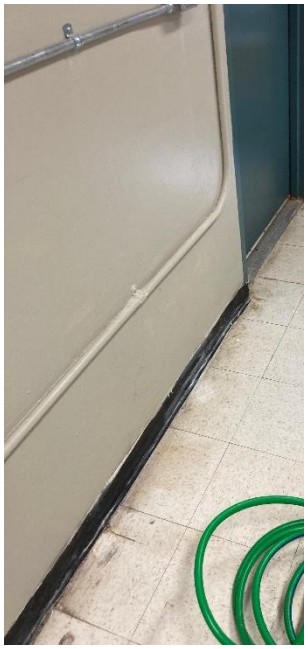

Figure 12 Damaged Wall Base

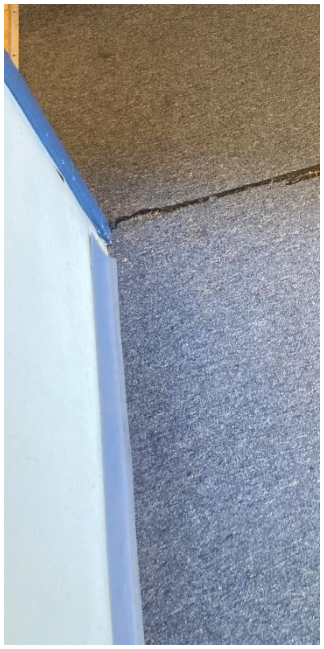

Figure 13 Wall Base

Finish Flooring

Finish flooring materials are in very poor condition. VCT (Vinyl Composition Tile) flooring was missing, cracked, or loose in many areas on the lower level. Carpet flooring was very worn with visible seams at thresholds that are likely trip hazards. Given its age, and indications of moisture infiltration, it is likely that the broadloom carpet in the basement level contains moisture or mold between the carpet backing and the concrete floor slab. Significant cracking was observed in the basement painted concrete floors. Areas of the basement tile floor contain darkened, stained grout from years of use.

Figure 14 Carpet at Threshold

Figure 15 Damaged VCT

Figure 16 Damaged VCT

Figure 17 Cracked Concrete Floor

Figure 18 Stained Grout at Tile Floor

Finish Ceilings

Ceilings are in poor condition with some visibly damaged or missing areas. Glue dots were observed above missing 12” tiles. The adhesive used typically tests positive for ACBM (Asbestos Containing Building Material). A large crack, presumably from water damage or building settling, was observed at the main entry ceiling.

Figure 19 Water Damaged Ceiling Tile

Figure 20 Missing Tiles w/ Glue Dots

Figure 21 Cracked Ceiling

Figure 22 Damaged Lobby Ceiling

Figure 23 Damaged Lobby Ceiling

Stairs, Railings, and Guardrails

Stairs are in fair condition. The main entry landing contains cracking from a vehicle that crashed through the building.

Handrails and guardrails are in fair condition although they do meet current code requirements for height and railing continuity.

Figure 24 Stair, at Basement

Figure 25 Stair, at entry landing

Interior Doors, Frames, and Hardware

Interior doors are in poor condition. Door issues focus mostly on ADA compliance. The majority of hardware is knob-type instead of the ADA required lever-type handles. In several locations, door approach clearances do not meet the minimum ADA requirement. In addition, door frames in many areas are scratched and/or dented.

Occupant Safety Concern: The lobby area door into administration is of particular concern. Current law enforcement best practices include a secure, ballistic rated assembly between public and staff areas. Administrative staff at the Lincoln County Sheriff's office are currently vulnerable to threats by the public that include use of force or firearms due to the limitation of door frame, door panel, and hardware.

Figure 26 Non-ballistic rated door at lobby

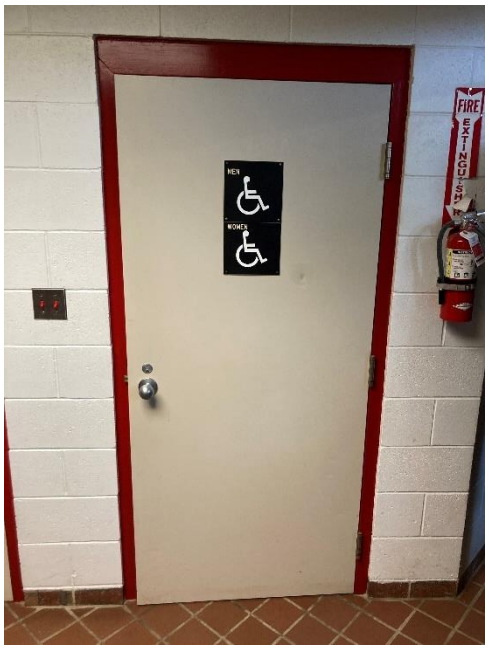

Figure 27 Knob hardware on ADA toilet room

<u>Interior Glazing at Doors and Walls</u>
Glazing is in fair condition overall with the notable exception of the lobby transaction window.

Occupant Safety Concern: Lobby transaction window. Current law enforcement best practice includes a secure, ballistic rated assembly between public and staff areas. Administrative staff at the Lincoln County Sheriff's office are currently vulnerable to threats by the public that include use of force or firearms.

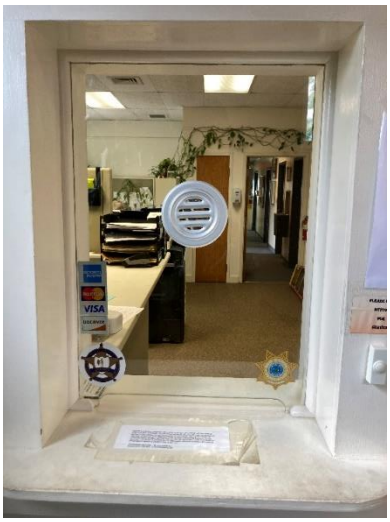

Figure 28 Transaction Window, Public/Threat Side

Figure 29 Transaction Window, Staff Side

Operational Deficiencies

In addition to concerns about the building's interior finish are operational deficiencies that limit the Sheriff's Department to perform their law enforcement tasks safely, professionally, and efficiently. The following is a list of operationally deficient areas within the building.

- Lobby and building entry area are difficult to access, are not easily observed by staff, and lack space for visitors to wait.
- Staff administration area adjacent to the lobby is vulnerable to ballistic and use of force threats.
- Building entry/access points are, in general, vulnerable due to exposure and should be hardened.
- Interview room is awkwardly laid out and cluttered, creating the potential for injury in the event an interviewee gets overly anxious or violent.
- Evidence area: including drop off, processing, and storage utilize available spaces and are not organized in an optimal configuration.
- The Patrol area is completely disconnected from Administration and Investigation. The additional time required to navigate the building prevents Sheriff's Deputies from quickly returning to their patrol routes within the communities they serve.

SUMMARY OF OPINIONS

All interior improvements should be done in coordination with remedial work to the building exterior to reduce further impact from moisture and building settling. In general, a complete interior demolition is recommended so that repairs and improvements can meet current operational needs to the extent possible. However, given the overcrowded condition of the current facility, it is unlikely that repairs to systems and finishes alone will address the safety, health, and operational needs of staff and visitors.

List of Recommendations

1. Add a main entry addition to create a secure entrance and elevator.
2. Change all door hardware to lever-type with locksets that maximize occupant safety and security.
3. Renovate interior space to accommodate ADA compliant spaces such as corridor widths, door approach clearances, and maneuvering area for wheelchairs.
4. Remove all non-load bearing partitions and rebuild in a configuration that better suits occupant needs.
5. Rework former jail area, to the extent possible, improve flow and storage for evidence as well as office areas.
6. Repair all interior finish faces of exterior walls and replace all wall base.
7. Remove all finish flooring throughout the building and abate as necessary. Repair and epoxy seal cracked floor slabs, apply moisture mitigation, and install all new floor finishes as appropriate to various building areas.
    a. Entries: walk off mat and/or porcelain tile.
    b. Evidence and shower areas: epoxy flooring or safety sheet flooring.
    c. Office areas: carpet tile of LVT.
    d. Toilet rooms: LVT or sheet linoleum.

8. Remove all finish ceilings, abate as necessary. Replace ceilings with painted drywall or ACT as required to meet program needs of spaces.
9. Replace existing stair railings and guardrails with code-compliant versions.
10. Replace damaged or broken tiles at entry landing and stair treads.
11. Replace all doors, frames, hardware, transaction windows, and access controls while replacing interior walls and partitions. Provide ballistic rated and/or shatter-proof glazing.
12. Address operational deficiencies as renovations and repairs are being made.

Appendix D

Mechanical, Electrical, Plumbing Conditions

PLUMBING

INTRODUCTION:

The purpose of this assessment is to provide a visual plumbing systems evaluation of the existing Lincoln County Sheriff's Office located at 42 Bath Road in Wiscasset, Maine. The building currently serves as a sheriff's office and an administration building and contains a defunct detention facility.

Plumbing systems are analyzed per the following applicable Codes and Standards:

- 2021 Uniform Plumbing Code.
- International Energy Conservation Code, 2015 edition.

REVIEW OF EXISTING DOCUMENTS

Moore/Weinrich and Woodward Architects, dated For Review September 15, 1983, full set of architectural, structural, plumbing, mechanical and electrical drawings for the detention facility.

EXISTING CONDITIONS ASSESSMENT

On August 16th, 2023, representatives from Harriman performed a visual evaluation of the building and its existing systems to review and document the extent and location of defects and deficiencies of the mechanical systems in both the detention facility and administration facility. This only included visual observations of the mechanical systems. The following is a synopsis of Harriman's observations:

Mechanical Room

Domestic hot water is generated by a 68 gallon Bock oil fired water heater. The water heater was installed in 2005 and is in good condition but is at the end of life at 18 years old. The exhaust flue discharges into the chimney with the building oil fired boiler. A small hot water return circulating pump maintains hot water to the fixtures and circulates back to the water heater. There is no thermostatic mixing valve on the hot water delivery from the water heater. Water is stored in the tank at 120 °f and delivered to the building. It is recommended the water heater store 140°f to prevent the growth of Legionella bacteria. A thermostatic mixing valve set to deliver 120°f is recommended.

Figure 1: Oil Fired Water Heater

Figure 2: Circulating Pump, No Mixing Valve

Roof

There is a plumbing vent that is located directly in front of the combustion air louver serving the mechanical room. The plumbing vent should be raised above the louver to prevent sewer gas odors from entering the building.

Figure 3: Plumbing Vent at Louver

Roof drains are blocked with debris on two of the roofs. There are no overflow scuppers at the edge of the roof. The depth of potential roof ponding over the parapet likely exceeds the allowable depth on the structure. The administration building has no interior roof drains. It has edge of roof scuppers with downspouts. One of the downspout discharges onto the small roof ponding with water.

Figure 4: Primary Roof Drain

Figure 5: Lower Roof Drain

Figure 6: Administation Building Roof Drainage to Scuppers and Downspouts

Water Service

The water service is located under the main entrance.
The water service is 2” with shut-off valve and 1-1/2” water meter.
There is no testable reduced pressure zone backflow preventer downstream of the water meter.

Figure 7: Water Service without Backflow Preventer

Decommissioned Cells/Restrooms Fixtures

The plumbing fixtures within the cells have been disconnected except for two locations. The

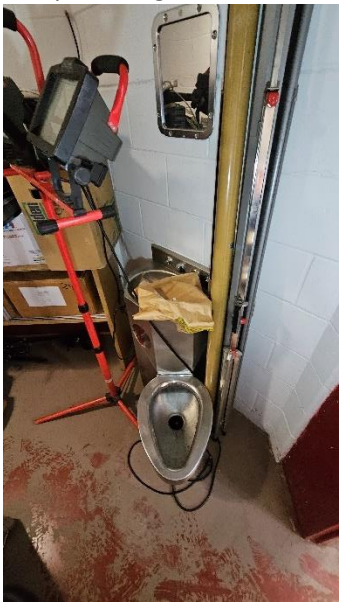

Figure 8: One Cell W/Fixture

Figure 9: Cell Shower Valve

Figure 10: Restroom with Fixture and Shower

The sewer stacks for the cell fixtures are disconnected from the fixtures and are capped with rubber caps. The rubber caps are not allowed for long term capping and are allowed only for temporary use.

Figure 11: Typ. Cell Stack

Figure 12: Typ. Cell Stack

Figure 13: Typ. Cell Stack Access Panel

Restrooms

None of the plumbing fixtures are ADA-compliant. The restroom fixtures are a mix of commercial and residential style fixtures. There is one operable shower for staff that is not ADA compliant.

Figure 12: Restroom Rear Addition

Figure 13:Restroom Ground Level Admin Bldg

Figure 14: Typ. Restroom on Second Floor

Drinking stations are not ADA compliant. Each floor should have a bi-level drinking station with a bottle filler.

Figure 15: Water Cooler on 2nd Flr

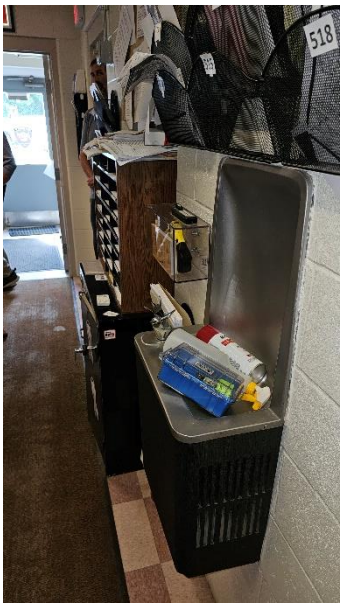

Figure 16: Water Cooler on Ground

DISCUSSIONS AND OPINIONS

The plumbing systems appear to be operating sufficiently. The fixtures and restrooms do not comply with accessibility requirements. Water heating equipment is near end of life.

SUMMARY OF OPINIONS

1. Replace the oil-fired water heater with an electric heat pump water heater.
2. Provide a thermostatic mixing valve on the hot water supply to the building.
3. Install a 2” reduced pressure zone backflow preventer downstream of the water meter.
4. Extend the plumbing vent at least four feet above the combustion air louver.
5. Clean debris from the roof drains.
6. Completely remove all cell fixtures and associated piping.
7. Provide ADA compliant restrooms on each level to support the number of occupants.
8. Provide ADA compliant shower for staff.
9. Provide a bi-level water cooled drinking station with bottle filler on each level.

MECHANICAL

INTRODUCTION:

The purpose of this assessment is to provide a visual mechanical systems evaluation of the existing Lincoln County Sheriff's Office located at 42 Bath Road in Wiscasset, Maine. The building currently serves as a sheriff's office and an administration building and contains a defunct detention facility.

Mechanical systems are analyzed per the following applicable Codes and Standards:

- International Energy Conservation Code, 2015 edition.
- Maine Uniform Building and Energy Code (MUBEC).

REVIEW OF EXISTING DOCUMENTS

Moore/Weinrich and Woodward Architects, dated For Review September 15, 1983, full set of architectural, structural, plumbing, mechanical and electrical drawings for the detention facility.

EXISTING CONDITIONS ASSESSMENT

On August 16th, 2023, representatives from Harriman performed a visual evaluation of the building and its existing systems to review and document the extent and location of defects and deficiencies of the mechanical systems in both the detention facility and administration facility. This only included visual observations of the mechanical systems. The following is a synopsis of Harriman's observations:

Detention Facility and Mechanical Room

The detention facility currently is being conditioned by a heating ventilator unit (HV-1), cabinet unit heaters, perimeter hot water baseboard, and localized exhaust fan systems. HV-1 has been modified to have a dual circuit DX cooling system. The centralized control room has a ducted single zone air conditioning unit (AC-1).

The heating ventilator unit (HV-1) is in the 1st floor mechanical room. HV-1 is connected to a Z-Duct air to air heat exchanger and has a hot water reheat coil in the air handler unit section. There is additional duct mounted hot water reheat coils for zones to the corridors and cell blocks in the ventilator supply ductwork. HV-1 also has a dual circuit DX coil served by two 4-ton condensing units on the roof. One condensing unit is from 1993 and the other unit is newer from 2006. HV-1 was original to the building age. Both condensing units were operating at the time of the site visit

Figure 1: Heating Ventilator HV-1

Figure 2: Z-Duct Air to Air Heat Exchanger

Figure 3: Condensing Units serving HV-1

The centralized control room is served by AC-1. AC-1 has a DX cooling coil, hot water heating coil and ducted outside air for ventilation air. The 2-ton air handler was manufactured in 1984 and condensing unit in 1994. AC-1 was not operating during the time of the site visit.

Figure 4: Air Handler Unit AC-1

Figure 5: 2-Ton Condensing Unit Serving AC-1

The boiler plant is a 500 MBH HB Smith 25 series sectional boiler with an oil-fired burner and is original to the building, nearly 40 years old. The boiler and fuel pumps are located in the 1st floor mechanical room and the 2,000 gallon oil tank is underground in the front of the building. Regular maintenance seemed to be performed and recorded up until 2009. Records show that the boiler burner motor was replaced in 2012 and the hydronic pump motor was replaced in 2016. The boiler plant serves the unit ventilators, baseboard, air handler reheat coils (HV-1 and AC-1), and cabinet unit heaters. Portions of hot water piping were left uninsulated. The boiler plant was not operating at the time of the site visit.

Figure 6: Oil-Fired HB Smith 25 Series Boiler Plant

The sheriff's office spaces located on the ground floor that communicate to the detention center have heating provided by cabinet unit heaters and perimeter baseboard. The vehicle sallyport is heated with a ceiling hung unit heater. Ventilation air through infiltration with inline exhaust fans (EF-9 and EF-10). A window unit air conditioner was being used to condition the main sheriff's office.

Bathrooms are exhausted through HV-1, inline fans, or roof mounted fans.

Administration Building

The administration offices are located on the 1st floor above the main sheriff's offices. Air conditioning and ventilation air are provided by a 6.5-ton York rooftop unit (AC-2) located on the roof of the administration offices. Based on the serial number, AC-2 was manufactured in 2001. Heating is provided by perimeter hot water baseboards and cabinet unit heaters served by the boiler plant located in the 1st floor mechanical room.

Bathrooms are exhausted through a roof mounted exhaust fan (EF-1). There is a dark room that is being exhausted through a mounted exhaust fan (EF-3).

Figure 7: AC-2, EF-1 (Left), and EF-3 (Right) Serving Administration Building

DISCUSSIONS AND OPINIONS

Overall, most of the mechanical equipment is past their life expectancy and should be replaced. Building conditions are reportedly humid and uncomfortable. Mechanical systems are constant volume with dated controls that do not provide zones for cooling. This could cause systems to conflict with heating zones and increase energy costs. Main duct work is undersized for both HV-1 and AC-2 which can cause balancing and sound issues. Hot water and refrigerant piping insulation are damaged or incomplete. Most duct work and piping are concealed behind concrete plank ceilings and CMU blocks with limited access to valves and dampers in the detention facility areas.

Figure 8: Unfinished Insulated Piping With Valve Access Above Hard Ceiling

Figure 9: Typical Detention Facility Construction (Supply Grille Top Right, Ductwork Behind CMU Block)

The mechanical room currently does not have an exhaust system to keep the room from overheating. The combustion air sizing and installation that serves the oil-fired boiler and domestic water heater is adequately sized but does not enter the room to comply with NFPA 31. The combustion air louver is terminated in front of a sanitary vent pipe which is in violation of the International Mechanical Code. The generator exhaust is wrapped with foil faced fiberglass insulation from the outlet of the generator to the muffler instead of insulation rated for exhaust pipe temperatures. If the generator is to be replaced and relocated outdoors, the exhaust pipe can be removed entirely.

Figure 10: Combustion Air Louver Termination in Front of Vent

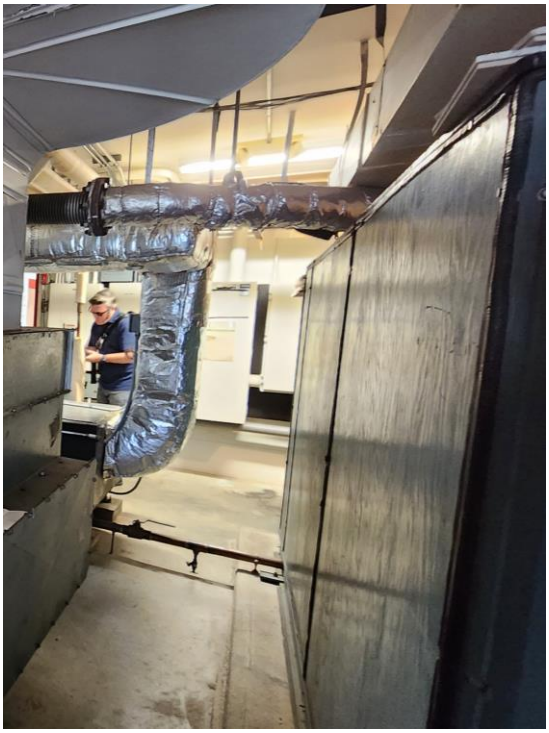

Figure 11: Generator Exhaust Pipe Wrapped with Foil Faced Fiberglass Wrap Insulation

<u>SUMMARY OF OPINIONS</u>

All mechanical demolition and construction work may require alterations or penetrations through prestressed concrete plank floors and concrete walls.

<u>Detention Facility and Mechanical Room</u>

1. Demolish HV-1, air to air heat exchanger, condensing units, associated duct work, reheat coils, piping, and controls.
2. Demolish AC-1, condensing unit, associated duct work, piping, and controls.
3. Demolish perimeter hydronic baseboard, cabinet unit heaters, unit heaters, and controls.
4. Demolish roof mounted and inline exhaust fans.
5. Demolish generator exhaust pipe, remote radiator and piping.
6. Demolish combustion duct work.
7. Provide 12.5-ton packaged heat pump rooftop unit with economizer, hot water reheat coil, duct work, piping, and controls.
8. Provide 12 VAV boxes with hydronic hot water reheat coils and controls.
9. Provide 750 MBH boiler plant with redundant pumps, hydronic specialties, expansion tanks and controls. Provide with supply and return piping and insulation to equipment, coils and terminal units.

10. Provide perimeter hydronic baseboard, cabinet unit heaters, unit heaters, and controls.
11. Provide exhaust fan, duct work and accessories for bathrooms and janitor closets.
12. Duct combustion air ductwork in compliance to NFPA 31. Refer to DIV 22 for vent piping scope.
13. Provide 250 CFM roof mounted exhaust fan for mechanical room ventilation with thermostat.

Administration Building

1. Demolish AC-2, duct work and controls.
2. Demolish hydronic piping, baseboard, cabinet unit heaters, and controls.
3. Demolish EF-1 and controls.
4. Provide 8-ton packaged heat pump rooftop unit with economizer, hot water reheat coil, duct work, piping, and controls.
5. Provide 8 VAV boxes with hydronic hot water reheat cols and controls.
6. Provide perimeter hydronic baseboard, cabinet unit heaters, and controls.
7. Provide 100 CFM roof mounted exhaust fan and controls.

ELECTRICAL

INTRODUCTION:

The purpose of this assessment is to provide a visual electrical systems evaluation of the existing Lincoln County Sheriff's Office located at 42 Bath Road in Wiscasset, Maine. The building currently serves as a sheriff's office and an administration building and contains a defunct detention facility.

Electrical systems are analyzed per the following applicable Codes and Standards:

- NFPA 70 National Electrical Code
- ASHRAE 90.1

REVIEW OF EXISTING DOCUMENTS

Moore/Weinrich and Woodward Architects, dated For Review September 15, 1983, full set of architectural, structural, plumbing, mechanical and electrical drawings for the detention facility.

EXISTING CONDITIONS ASSESSMENT

On August 16th, 2023, representatives from Harriman performed a visual evaluation of the building and its existing systems to review and document the extent and location of defects and deficiencies of the electrical systems in both the detention facility and administration facility. This only included visual observations of the electrical systems. The following is a synopsis of Harriman's observations:

Detention Facility and Electrical Room

The building is served by a 208Y/120V 3 Phase, 4 Wire, 400A electrical service. This service equipment is original to the building (1983) and is still in operation. There is a 150kW generator located in the electrical room adjacent to distribution panels and other electrical/mechanical equipment.

The electrical room equipment does not meet current setbacks defined by NFPA 70 Table 110.26(A)(1). The generator is located too close to the main distribution equipment and does not provide adequate walking space between equipment for regular maintenance and service.

Figure 1: Generator in wooden enclosure

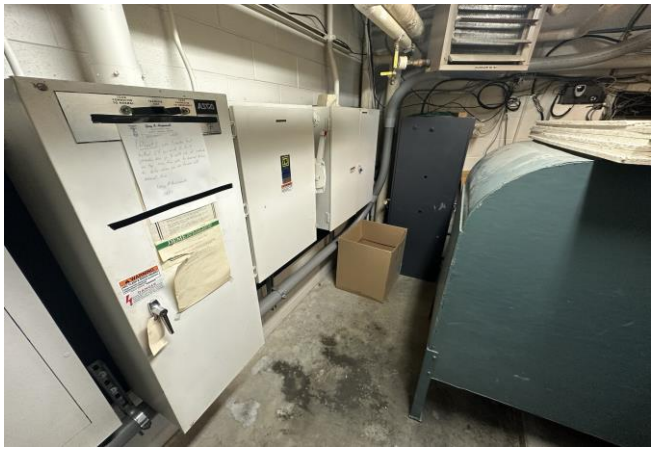

Figure 2: Service Entrance panels

Figure 3: Underground penetrations for electrical and communications service feeders

Based on visual inspection, it is not possible to determine if there is adequate ventilation to exhaust the generator fumes while in operation. There was no nameplate visible on the generator enclosure, it does not appear to meet current UL listing requirements.

Figure 4: Generator radiator/exhaust on roof

Figure 5: Rooftop equipment and electrical connections

The light fixtures in the electrical room are fluorescent lamp based, and do not provide code required levels of illumination necessary to safely navigate the space. No lighting controls (ceiling nor wall mounted occupancy sensors) were observed.

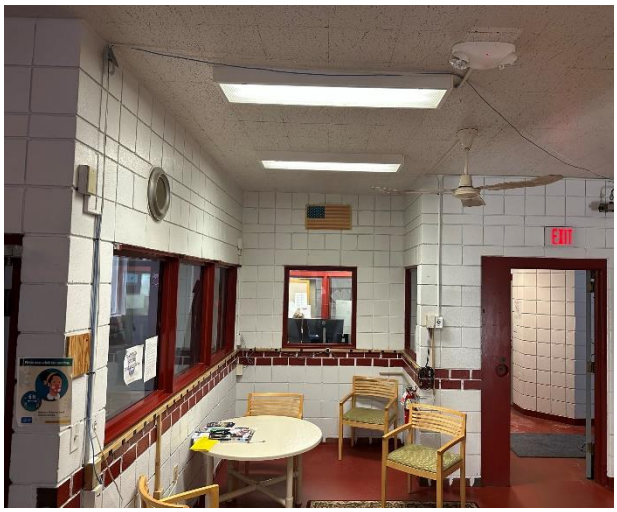

Figure 6: Detention area

Figure 7: Detention light fixture with reachable screws

The sheriff's office spaces located on the ground floor that communicate to the detention center have active security cameras and hardened devices. However, fixtures installed in detention areas appeared to be without anti-ligature means.

Light fixtures throughout the detention area are surface mounted with controls limited to single and 3-way toggle switches.

<u>Administration Building</u>

The administration offices are located on the 1st floor above the main sheriff's offices. This admin area contains IT equipment located in a conditioned room withing a lockable cabinet. The lighting throughout the administration area is fluorescent lamp based, with few means of control.

A lack of dedicated storage space has led to stacking boxes and other bins in front of and around electrical equipment. Rooms are not able to be modified easily due to CMU construction, which is financially prohibitive to modification.

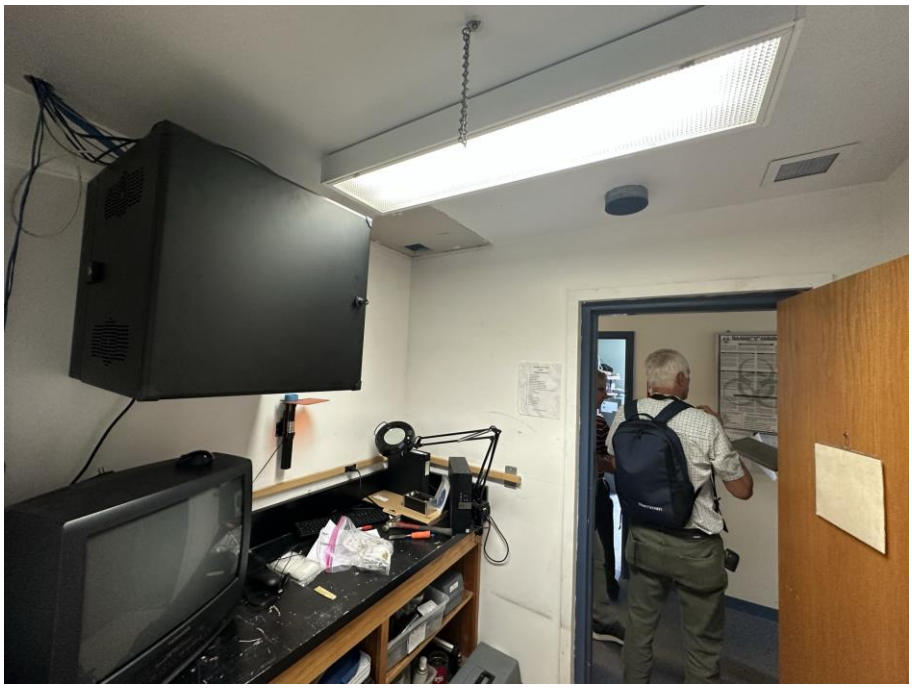

Figure 8: IT equipment in administration area

DISCUSSIONS AND OPINIONS

In general, the electrical distribution throughout the facility is outdated and requires replacement or significant maintenance. In some areas like the electrical room/mezzanine, it needs to be completely redesigned. Most electrical panels have a working space violation, and many of these panels are beyond their useful life and would be a hazard for electrical contractors to repair/replace parts.

The IT equipment should be located in a dedicated, conditioned, IT room. Currently the IT equipment located throughout the building are in shared locations which makes it more susceptible to accidental damage.

Figure 9: Non-UL receptacle installation

Figure 10: NEC Table 110.26(A)(1) working space violation

There are several instances of code violations throughout the facility. Due to the age of equipment (most of the distribution equipment is original to the building), it is recommended that a complete renovation down to the building's base structure be carried out, then rebuilt. This may not be financially viable, and thus the facility and its operations may consider relocation to another building or new building.

Several light fixtures in secure areas are accessible to inmates and are not secured to a maximum detention level of quality. Some fixtures are secured with a flat head bolt, that leads it to be much more easily accessible.

Figure 11: No exit signage

Figure 12: Circuit breakers secured with electrical tape – code violation

<u>SUMMARY OF OPINIONS</u>

All electrical demolition and construction work may require alterations or penetrations through prestressed concrete plank floors and concrete walls.

<u>Detention Facility and Electrical Room</u>

1. Demolish the electrical service entrance and its equipment, coordinate with CMP to design and building a new service entrance.
2. Remove/demolish the existing 150kW generator and enclosure, provide a new generator that is not located within the building.
3. Demolish all fluorescent light fixtures, switches, and timeclocks. Replace with new LEDs.
4. Provide lighting controls that comply with ASHRAE 90.1.
5. Reroute communications (coaxial) and IT cabling to avoid exterior exposure.
6. Demolish generator exhaust pipe, remove rooftop radiator and enclosure.
7. Provide new branch circuit panelboards for electrical distribution throughout the building.

Administration Building

1. Remove/replace existing fluorescent light fixtures with LEDs
2. Provide new switching control and occupancy sensors connected to new LED light fixtures
3. Consolidate IT equipment into dedicated, secured, IT room.
4. Provide additional storage spaces to avoid working space code violations by stacking boxes and other non-electrical items in front of panels.
5. Upgrade internet to fiber optic rather than standard copper cables

Appendix E

Soil Conditions

R.W. Gillespie & Associates, Inc.
Geotechnical Engineering • Environmental Consulting • Materials Testing Services

19 October 2023

Arno L. Skalski, LEEP AP
Gale Associates, Inc.
5 Moulton Street, Suite 201
Portland, Maine 04101

VIA EMAIL: als@gainc.com

Subject: Report of Geotechnical Engineering Evaluation
Lincoln County Sheriff's Office
Wiscasset, Maine
RWG&A Project No. 0851-063

Dear Mr. Skalski:

R. W. Gillespie & Associates, Inc. (RWG&A) is pleased to present this geotechnical engineering evaluation report for the Lincoln County Sheriff's Office at 42 Bath Road in Wiscasset, Maine. The purpose of the services is to obtain information regarding subsurface conditions and soil properties to base evaluations of the existing building's foundation support. The evaluation was undertaken at Gale Associates, Inc.'s (Gale's) request and in accordance with the amendment dated 17 August 2023 to the Subconsultant Agreement dated 18 April 2022.

BACKGROUND

On behalf of the County of Lincoln, Maine, Gale is assessing the site and the structural condition of the Lincoln County Sherriff's office building to determine what modifications are needed to retrofit the building to meet current building, energy, and accessibility code requirements. The existing building is two stories tall and is T-shaped.

Based on information in the project's Request for Proposal dated 11 April 2023, it is understood that the western portion of the building was erected in 1950 as an automobile filling station. In 1985, the County renovated the building, creating Lincoln County Jail and Sheriff's Office. A second story was added to the filling station structure, and the building was expanded to the east. The jail was relocated to another property in 2006, leaving the Lincoln County Sheriff's Department operation in the building.

The County reports that the existing building needs significant repairs and has roof leaks, nonuniform hallway widths, bowed and warped flooring, and a "bouncing floor." The County suspected some issues might be attributed to excessive settlement, evidenced by "foundation

issues, along with substantial cracking in the building facade and site retaining walls." The County further reported that some windows cannot open, others cannot be securely closed, and many office doors cannot open fully.

RWG&A's understanding of the building's condition and construction is based on an RWG&A representative's site visit with project team member on 16 August 2023 and building information from Gale. Information provided included the drawing set titled *Lincoln County Law Enforcement & Detention Facility,* prepared by Weinrich & Woodward Architects, prepared circa September 1983 (note 25 sheets).

SUBSURFACE EXPLORATIONS

The subsurface exploration program consisted of four soil borings designated B-1, B-2, B-3, and B-4. Figure 2, *Exploration Location Plan*, shows the approximate boring locations selected with Gale during the site visit. The locations shown in Figure 2 were estimated from features exposed at ground surface. Exploration locations should be considered accurate only to the degree implied by the methods used to locate them.

Northern Test Boring, Inc. of Gorham, Maine, drilled the borings on 07 September 2023 with a track-mounted drilling rig. The borings were drilled 10.3 to 27 feet below the ground surface. The borings were advanced with hollow-stem augers except in boring B-2, which was advanced using driven casing and rotary wash drilling methods. Boring B-1 was advanced to a firm stratum underlying silty clay deposits, and boring B-2, B-3, and B-4 were performed to auger, standard penetration test, or roller cone refusal.

Split-barrel soil sampling with standard penetration testing (ASTM D1586, *Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils*) was performed at about 2-foot intervals in the upper 10 feet and 5-foot intervals after that. A thin-walled tube sample was obtained from 15 to 17 feet in test boring B-2. Thin-walled tube sampling was performed per *ASTM D1587, Standard Practice for Thin-Walled Tube Geotechnical Sampling of Soils.* Field vane tests *(ASTM D2573, Standard Test Method for Field Vane Shear Test in Cohesive Soil*) of cohesive soils were also conducted in boring B-2.

Soil boring activities were coordinated and monitored by an RWG&A representative who also prepared the exploration logs. The soils were described per *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Logs of the borings are included in Appendix A. Stratification depths shown on the logs represent the estimated boundaries between the different soil types encountered; the actual transitions are more gradual and vary over short distances. Information presented on the logs should only be considered representative of subsurface conditions encountered within the vertical reach of the borings on the drill dates.

LABORATORY TESTING

Laboratory testing was performed on selected soil samples recovered from the explorations to assist in describing the soils and estimating engineering properties. The testing program included

particle-size analyses by sieve (coarse and fine aggregate) and hydrometer (soils finer than the #200 sieve) test methods, moisture content determinations, Atterberg Limits, consolidation, and Geonor vane shear tests. The tests were performed in general accordance with the following standard test methods:

- *ASTM C136 & C117, Standard Test Method for Sieve Analysis of Coarse & Fine Aggregate through #200 Sieve.*
- *ASTM D1140, Standard Test Method for Amount of Material in Soils Finer Than the No. 200 (75-µm) Sieve.*
- *ASTM D2216, Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.*
- *ASTM D2435, Standard Test Method for One-Dimensional Consolidation Properties of Soils.*
- *ASTM D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.*

The Geonor vane shear tests on the thin-walled tube samples from B-2 followed the manufacturer's recommended procedures; results are presented in the appendix. Results of moisture content tests are shown on the exploration logs. The particle-size analysis, Atterberg Limit tests, and consolidation test results are provided in Appendix B, *Laboratory Test Results*. All tests were conducted at the RWG&A soil and materials testing laboratory in Biddeford, Maine, which is accredited by the American Association of State Highway and Transportation Officials (AASHTO) for the tests performed.

SUBSURFACE CONDITIONS

The subsurface conditions encountered in the borings generally consisted of topsoil or asphalt over fill underlain by naturally deposited inorganic soils. Fill generally consisted of sand with varying coarse to fine gravel and silt. The naturally deposited soil consisted of coarse and fine-grained soils extending to refusal surfaces or the bottom of the exploration. Materials were locally absent depending on location. Appendix A provides information about subsurface conditions at specific locations and depths.

Generalized soil descriptions with ranges of thicknesses encountered in the explorations are summarized below:

Unit	Encountered Thickness (feet)	Generalized Description
Topsoil	0.5	Very loose, moist, organic soil with sand, and trace fine roots. The topsoil was locally rich in organic matter and small roots. Encountered at B-1.
Asphaltic Pavement	0.2 to 0.3	Encountered at B-2, B-3, and B-4.

Unit	Encountered Thickness (feet)	Generalized Description
Fill	1.8 to 4.8	Moist sand with trace silt to little silt and gravel. Not encountered at B-1.
Sand to Sand with Gravel (SP)	1.5 to 3	Medium dense, moist sand with trace silt and trace to little gravel. Not encountered at B-4.
Silty Sand with Gravel (SM)	8	Medium dense, moist sand with little silt and trace gravel. Encountered at B-1.
Clayey Silt with Sand (ML) to Silty Clay (CL)	5.3 to 18.5	Loose to medium dense, moist to wet silt with some clay, trace to little medium to fine sand to very soft to soft, wet, silty clay with some silt, trace fine sand, olive-brown to gray, moist to wet.

Refusal surfaces were encountered at B-1, B-2, B-3, and B-4 at depths 10.3 to 27 feet below the ground surface. Refusal might have been on bedrock, cobbles, or boulders.

Groundwater

Free water was not observed in the boreholes. The absence of free water data implies no groundwater data is available, but does not necessarily mean that groundwater will not be encountered at these locations within the vertical reaches of the explorations in the future. The observed water level at boring locations was influenced by the exploration methods and subsurface soils (e.g., slow groundwater response due to low soil permeability) and is considered unrepresentative of stabilized groundwater levels when observed.

RWG&A measured water levels in three vertical PVC pipes adjacent to the building's northeast corner. The measured water level in one of the PVC pipes was 3.6 feet below the local ground surface, which corresponds to about elevation 85.5 feet based on grades and datum shown in the 1985 design drawings. Depth to free water was not observed in the other two PVC pipes which had bottoms at or about elevation 87 feet. Groundwater likely perches on the underlying fine-grained silt and clay deposits. Groundwater levels at the site will fluctuate due to season, temperature, rainfall, nearby underground utilities, and construction activity; therefore, water levels during and following construction will vary from those observed in the explorations and in the PVC pipes.

ENGINEERING EVALUATIONS

General

This project's engineering evaluations are based on the subsurface explorations, laboratory testing data, and the site and building design and construction information available to RWG&A when this report was prepared. Building design information unavailable when this report was prepared included but not necessarily limited to geotechnical engineering reports, foundation type and dimensions supporting the east vertical addition, foundation reactions and existing ground floor and foundation wall levelness. RWG&A should review the following engineering evaluations to confirm their continued applicability if additional information about as-built and subsurface conditions becomes available.

Summary of Foundation and Ground Floor Slab Design Information

The building has a basement level at elevation 89.08 feet (local datum) that daylights on the south side and has one above-grade level. The record design drawings indicate the building as a slab-on-grade ground floor that extended 0 to 10 feet below the pre- and post-construction ground surface. Final exterior design grades abutting the 1985 east building addition were lower than pre-construction grades, and ranged from 0 to about 5 feet above the ground floor level. The design called for a shallow drainage swale around the north and east sides of the addition.

Structural drawings indicate that the east building addition is supported on continuous and isolated spread footings. The drawings indicate that the exterior wall bottom of footings are about 5 feet below the ground floor level, and internal footing bottoms are about 2.2 feet below ground floor level. The design drawings indicate that the addition foundation design was based on an allowable soil bearing pressure of 3,000 pounds per square foot and called for foundation perimeter foundation underdrain with an invert of elevation 86.0 feet.

Site Observations

Lincoln County representatives indicated areas of water intrusion along the building's east wall proximate to where exterior design grades are at or above the ground floor level. Based on site observations made during the site visit, it appears that exterior grades pitch toward the building and would cause surface water to pool or flow against the building. Based on the observed conditions, water intrusion along the building's east wall appears to be associated with surface water drainage.

RWG&A observed exposed wall and ground floor surfaces in toured parts of the building. The basement ground floor slab appeared to be in good condition for its age and absent of significant crack damage. Lincoln County officials indicated three areas in the basement level where structural repairs were made. The repairs consisted of floor-to-ceiling angle iron at inside joints where internal doorway walls met the exterior wall. The repairs were reportedly made about ten years ago; information related to the intent of the repairs was unavailable when this report was repaired, but visually appears to restrain the walls and/or to cover cracks for security purposes.

RWG&A observed diagonally oriented cracks in interior masonry walls near the aforementioned repaired areas. Exterior brickwork adjacent to these areas appeared to be in good condition. The cracks more-or-less followed joints in concrete masonry units and ranged in width from hairline to about 1/8 inch but generally ranged from about 1/32 to 1/16 inch wide. Angular distortion is the amount of differential settlement over a horizontal distance. Table 1, *Severity of Cracking Damage*, provides a summary of the severity of damage, description of damage type, and typical crack widths that should be expected for varying amounts of differential settlement distortion.

The observed crack damage is consistent with negligible to slight damage corresponding with angular distortions between adjacent foundations of less than 1/175. As indicated in Table 1, sticking doors and windows would be expected. If the crack damage is due to ground settlement only, as opposed to superstructure conditions, about 1-1/2 inches of differential settlement would be expected. Further evaluation of actual settlement amounts would require a level survey of the top of the foundations and the ground floor slab.

Evaluation of Subsurface Information

The subsurface exploration and laboratory testing information indicate glaciomarine deposits of the Presumpscot Formation underlie the building site. Peat deposits, organic matter, debris, uncontrolled fill, and other deleterious materials were not encountered in the borings.

Based on the design drawings, the foundations in the west addition likely bear on loose to medium dense sand to clayey silt deposits that overlie silty clay deposits. A consolidation test indicates that the silty clay deposits are overconsolidated with an overconsolidation ratio greater than two under natural conditions (i.e., the silty clay deposits have geologically experienced more than two times the in-situ stress at the sample location). Estimated total settlement amounts using the design allowable bearing pressure of 3,000 pounds per square foot and footing dimensions shown in the design drawings are less than 1 inch for footings bearing on undisturbed natural ground. Based on the estimated settlement amounts, building conditions other than subsurface conditions could be contributing to observed building damage.

All other factors equivalent, such as foundation dimensions and subsurface conditions, differential settlement amounts depend on variations in actual contact pressure. Actual bearing pressures are sometimes less than design allowable bearing pressures due to using a standardized footing dimension for construction or building code required minimum footing widths. The actual service life contact pressures in the building are uncertain.

Differential settlement estimates of the 1985 addition construction would require service life foundation reactions for dead, live, and snow loads at the various foundation locations. Settlement evaluations of the modified pre-1985 building would require as-built dimensions information about that building's foundations and pre- and post-1985 vertical addition services life loads.

Conclusions

- Water intrusion in the east part of the building appears associated with surface water ponding or flowing against the building due to site grading. Groundwater could also be a contributing factor if foundation drains are not free-flowing.

- Inorganic fill and naturally deposited inorganic soils were encountered in the soil borings. Silty sand, silt, and clay deposits were encountered at anticipated foundation subgrade levels.

- The crack damage observed inside the building is considered negligible to slight. It is consistent with angular distortions less than about 1/175 (i.e., 1 inch over 15 to 20 feet). Estimated total settlement based on the subsurface data acquired and an allowable bearing pressure of 3,000 pounds per square foot is less than 1 inch. Building conditions other than subsurface conditions could be contributing to observed building damage.

CLOSURE

This report has been prepared for specific application to Lincoln County Sheriff's Office at 42 Bath Road in Wiscasset, Maine, for Gale Associates, Inc.'s exclusive use. This work has been completed in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. If other information about subsurface or foundation construction and design conditions becomes available, RWG&A should be provided an opportunity to review the information and re-evaluate the opinions and conclusions presented in this report.

RWG&A has enjoyed working with Gale Associates, Inc. on this project. Please contact us if you have any questions or if we may be of further service.

Sincerely,
R. W. GILLESPIE & ASSOCIATES, INC.

STATE OF MAINE
ERIK J. WIBERG
No. 9173
LICENSED PROFESSIONAL ENGINEER

Erik J. Wiberg
Digitally signed by Erik J. Wiberg
Date: 2023.10.19 16:02:35 -04'00'

Temitope Omokinde
Geotechnical Engineer

Erik J. Wiberg, P.E.
Principal Geotechnical Engineer

TO/EJW:fg

Enclosures:
- Table 1, Severity of Cracking Damage
- Figure 1, Locus Map
- Figure 2, Exploration Location Plan
- Appendix A, Exploration Logs
- Appendix B, Laboratory Test Results

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TABLE I
SEVERITY OF CRACKING DAMAGE

Damage category (1)	Description of typical damage (2)	Approx. crack width (3)	Maximum Differential Settlement, Δ (4)	Differential Movement Between Adjacent Foundations δ/*L* (5)
Negligible	Hairline cracks	< 0.1 mm	<3 cm (1.2 in.)	<1/300
Very slight	Very slight damage includes fine cracks that can be easily treated during normal decoration, perhaps an isolated slight fracture in building, and cracks in external brickwork visible on close inspection.	1 mm	3-4 cm (1.2 - 1.5 in.)	1/300 to 1/240
Slight	Slight damage includes cracks that can be easily filled and redecoration would probably be required; several slight fractures may appear showing on the inside of the building; cracks that are visible externally and some repointing may be required; doors and windows may stick.	3 mm	4-5 cm (1.5 - 2.0 in.)	1/240 to 1/175
Moderate	Moderate damage includes cracks that require some opening up and can be patched by a mason; recurrent cracks that can be masked by suitable linings; repointing of external brickwork and possibly a small amount of brickwork replacement may be required; doors and windows stick; service pipes may fracture; weathertightness is often impaired.	5 to 15 mm or a number of cracks > 3 mm	5-8 cm (2.0 - 3.0 in.)	1/175 to 1/120
Severe	Severe damage includes large cracks requiring extensive repair work involving breaking out and replacing sections of walls (especially over doors and windows); distorted windows and door frames; noticeably sloping floors; leaning or bulging walls; some loss of bearing in beams; disrupted service pipes.	15 to 25 mm but also depends on number of cracks	8-13 cm (3.0 - 5.0 in.)	1/120 to 1/70
Very severe	Very severe damage often requires a major repair job involving partial or complete rebuilding; beams lose bearing; walls lean and require shoring; windows are broken with distortion; there is danger of structural instability.	Usually >5 mm but also depends on number of cracks	> 13 cm (>5 in.)	>1/70

From Day (1999). *Geotechnical and Foundation Engineering Design and Construction*, page 7.9, Table 7.2.

N

0 2000 3000 4000

SCALE, FEET

SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE OF WISCASSET, ME, DATED 2021, AND WESTPORT, ME, DATED 2021.

FIGURE 1
LOCUS MAP
GEOTECHNICAL ENGINEERING EVALUATION
LINCOLN COUNTY SHERIFF'S OFFICE
WISCASSET, MAINE

OCTOBER 2023 PROJECT NO. 0851-063

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Environmental Consulting • www.rwgillespie.com

G:\PROJECTS\0800\0851\0851-063 Wiscasset Sheriffs Office\Drafting\FIG 1, LOCUS MAP 0851-063.dwg, 10/09/2023 10:29:40 AM

LEGEND:

B-1 APPROXIMATE LOCATION OF SOIL BORING DRILLED 07 SEPTEMBER 2023.

N

0 40 60 80

SCALE, FEET

SOURCE:
© GOOGLE EARTH 2020 IMAGE.

FIGURE 2
EXPLORATION LOCATION PLAN
GEOTECHNICAL ENGINEERING EVALUATION
LINCOLN COUNTY SHERIFF'S OFFICE
WISCASSET, MAINE

OCTOBER 2023 PROJECT NO. 0851-063

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G:\PROJECTS\0800\0851\0851-063 Wiscasset Sheriffs Office\Drafting\FIG 2, ELP 0851-063.dwg, 10/16/2023 10:33:19 AM

APPENDIX A

EXPLORATION LOGS

Geotechnical Engineering Evaluation
Lincoln County Sheriff's Office
Bath Road
Wiscasset, Maine

RWG&A, Inc. soil descriptions are based on the following criteria. Descriptive terminology is used to denote the grain size and percentage of each component. The soil descriptions are based on visual-manual classification procedures, Standard Penetration Test results, and the results of laboratory testing on selected soil samples, where available. The Unified Soil Classification Group Symbol will be indicated in capital letters.

COMPONENT DEFINITIONS BY GRADATION SIEVE LIMITS

Materials	Definitions	Fractions	Upper	Lower
Boulders	Material too large to pass through an opening 12 in. square.			
Cobbles	Material passing through a 12 in. opening and retained on the 3 in. sieve.			
Gravel	Material passing the 3 in. sieve and retained on 1/4" (No. 4 sieve).	Coarse Fine	3 in. 3/4 in.	3/4 in. 1/4 in.
Sand	Material passing the No. 4 sieve and retained on the No. 200 sieve.	Coarse Medium Fine	No. 4 (1/4") No. 10 (1/8") No. 40 (1/32")	No. 10 (1/8") No. 40 (1/32") No. 200
Silt	Material passing the No. 200 sieve which is usually non-plastic in character and exhibits little or no strength when air dried.		No. 200	
Clay	Material passing the No. 200 sieve which can also be made to exhibit plasticity within a certain range of moisture contents and which exhibits considerable strength when air dried.		No. 200	

SOIL DESCRIPTION

General

Soils are described as to the Unified Soil Classification Systems Group Symbol, density or consistency, color, grain size distribution and other pertinent properties such as plasticity and dry strength. The RWG&A order of descriptors is as follows:

1. USCS Group Name and Symbol, or Fill
2. Density or Consistency
3. Moisture
4. Grain Size & Constituent percentages
5. Other pertinent descriptors
6. Color

DESCRIPTIVE TERMINOLOGY DENOTING COMPONENT PROPORTIONS

Descriptive Terms	Range of Proportions
Noun (major component)	∃50%
Adjective (secondary component)	20 - 50%
Some (third component)	25 - 45%
Little (second or third component)	15 - 25%
Few (second or third component)	5 - 15%
Trace	0 - 5%
With	Amount of component not determined. Used as a conjunction only. Does not indicate component percentile

OTHER DESCRIPTIVE TERMS

Where appropriate, geological classifications are also used (Glacial Till, etc.)

TYPICAL DESCRIPTIONS

SAND WITH SILT (SP-SM): Medium dense, moist, coarse to medium sand, few silt, brown.
FILL; Loose, dry, fine sand, some gravel and silt, with brick and concrete fragments, dark brown.
SILTY CLAY (CL); Very stiff, moist, silty clay, olive-brown.

DENSITY OR CONSISTENCY OF SOILS

COHESIVE SOILS

Consistency of Cohesive Soils	Standard Penetration Test (Blows Per Foot) (N)	Undrained Shear Strength (TSF)
Very Soft	0 - 2	Below 0.13 (250 psf)
Soft	2 - 4	0.13 to 0.25 (to 500 psf)
Medium	4 - 8	0.25 to 0.5 (to 1,000 psf)
Stiff	8 - 15	0.5 to 1.0 (to 2,000 psf)
Very Stiff	15 - 30	1.0 to 2.0 (to 4,000 psf)
Hard	Over 30	over 2.0 (over 4,000 psf)

Consistency of cohesive soils is based upon field vane shear, torvane, or pocket penetrometer, or laboratory vane shear or Unconsolidated-Undrained Triaxial Compression tests. Consistency of cohesive soils is based upon the Standard Penetration test when no other data is available.

COHESIONLESS SOILS

Density of Cohesionless Soils	Standard Penetration Test (Blows per Foot) (in)
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	over 50

PENETRATION RESISTANCE

STANDARD PENETRATION TEST (ASTM D1586) - a 2.0-inch diameter, 1-3/8 inch inside diameter split barrel sample is driven into soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The total number of blows required for penetration from 6 to 18 inches is the Standard Penetration Resistance (N).

COBBLES AND BOULDERS

The percentage of cobbles and boulders is estimated visually where possible.

Descriptive Term	Estimated Percentage
Very Few	0 - 10%
Few	10 - 25%
Common	25 - 40%
Numerous	40 - 50%

If the percentage cannot be determined, as in a typical test boring, then use "with" to indicate the presence of cobbles and/or boulders. (i.e., gravelly sand with cobbles and boulders).

FILLS

The following terminology is used to denote size range of man-made materials within fill deposits:

Size Range	Comparative Soil Terms
<No. 200 Sieve	Silt - size
No. 200 to 1/4 in.	Sand - size
1/4 in. to 3 in.	Gravel - size
3 in. to 12 in.	Cobble - size
>12 in.	Boulder - size

SUPPLEMENTAL SOIL DESCRIPTION TERMINOLOGY

Term	Example	
Seam	Typically 1/16 to 1/2 inch thick	1/4 inch sand seams
Layer	Greater than 1/2 inch thick	2-inch sand layers
Occasional	One or less per foot of thickness	
Frequent	More than one per foot of thickness	
Interbedded	Alternating soil layers of different composition	
Varved	Alternating thin seams of silt and clay	
Mottled	Variations in color	

© R. W. Gillespie & Associates, Inc. 2008-12-17

R.W. Gillespie & Associates
- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

Boring Log: B-1
Total Depth (ft): 27
Sheet 1 of 1

Project Name: Lincoln County Sheriff's Office
RWG&A Project No. 0851-063-23
Location: Wiscasset, Maine
Client: Gale Associates
RWG&A Representative: Temitope Omokinde
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with soil
Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors
Drill Rig: Rubber Tire Rig
Driller Rep.: Mike Nadeau
Date Started: 09/07/23
Date Completed: 09/07/23
Surface Elevation:
Drilling Method: HSA
Casing Type:

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	TOPSOIL AND ORGANIC MATERIAL (6 inches).	10	1 4 9 9	13		
			S-2	SAND (SP); Medium dense, moist, coarse to fine sand, trace root, trace silt, brown.	24	8 7 6 5	13		
				SILTY SAND WITH GRAVEL (SM); Medium dense, moist, coarse to fine sand, few coarse to fine gravel, little silt, gray.					
5			S-3	Becomes loose.	10	2 2 4 6	6		
			S-4		24	6 5 5 6	10		
10			S-5	CLAYEY SILT (ML); Loose, moist, trace fine sand, little to some clay, brownish gray. Pocket Penetrometer: Undrained Shear Strength: Su=1ksf Becomes soft (inferred from drilling resistance).	24	3 3 3 3	6	29.1	GS, MC
15			S-6	SILTY CLAY (CL); Very soft, wet, some silt, trace of fine sand, gray. Hydraulic push probe starts.	24	1 1 1 1	2		
20									
25									
				Bottom of exploration at 27.0'; Probe refusal to hydraulic push. Firm stratum encountered.					
30									

Notes:

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

Boring Log: B-2

Total Depth (ft): 23.6

Sheet 1 of 1

Project Name: Lincoln County Sheriff's Office
RWG&A Project No. 0851-063-23
Location: Wiscasset, Maine
Client: Gale Associates
RWG&A Representative: Temitope Omokinde
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with soil and asphalt
Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors
Drill Rig: Rubber Tire Rig
Driller Rep.: Mike Nadeau
Date Started: 09/07/23
Date Completed: 09/07/23
Surface Elevation:
Drilling Method: HSA and Rotary Wash
Casing Type: 4" Diameter Steel

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	ASPHALT (3 inches).	10	3 7 9	15		
				FILL; Sand with gravel, moist, coarse to fine sand, little coarse to fine sand, little coarse to fine gravel.					
			S-2	SAND WITH GRAVEL (SP); Medium dense, moist, coarse to fine sand, little coarse to fine gravel, brown.	20	11 8 9	17		
5			S-3	CLAYEY SILT WITH SAND (ML); Loose to medium dense, moist, some coarse to fine sand, little to some clay, brownish gray.	18	8 7 5	9		
			S-4		24	4 5 4	12		
10			S-5	Becomes soft.	18	5 6 6 7	4		
				Rotary wash indicates silty clay.					
15			U-1	SILTY CLAY (CL); Soft, wet, some silt, gray.	23			34.9	MC, HYD, CON, ATT
			FV-1	Field Vane: Undrained Shear Strength: Su = 438 psf, residual = 40 psf					
			FV-2	Field Vane: Undrained Shear Strength: Su = 418 psf, residual = 40 psf					
20									
				Bottom of exploration at 23.6'; Roller cone refusal on possible bedrock, boulder or cobbles.					
25									
30									

Notes: Rotary wash begins at 10 feet. Field vane dimension 3 inches by 5 inches.

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

Boring Log: B-3

Total Depth (ft): 12.6

Sheet 1 of 1

Project Name: Lincoln County Sheriff's Office
RWG&A Project No. 0851-063-23
Location: Wiscasset, Maine
Client: Gale Associates
RWG&A Representative: Temitope Omokinde
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with soil and asphalt
Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors
Drill Rig: Rubber Tire Rig
Driller Rep.: Mike Nadeau
Date Started: 09/07/23
Date Completed: 09/07/23
Surface Elevation:
Drilling Method: HSA
Casing Type:

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	ASPHALT (2.5 inches).	15	10 10 9 9	19		
				FILL; Sand with gravel, moist, coarse to fine sand, little coarse to fine gravel, trace silt, brown.					
			S-2	SAND (SP); Medium dense, moist, coarse to fine sand, trace of coarse to fine gravel, trace silt, brown.	18	8 8 5 6	13		
5			S-3	CLAYEY SILT (ML); Loose to medium dense, moist, silt with some clay, trace medium to fine sand, brownish gray.	18	5 5 6 7	11	26	GS, MC, HYD
			S-4		12	8 8 5 5	13		
10			S-5		6	4 4 5 5	9		
				Bottom of exploration at 12.6'; Auger refusal on possible bedrock, boulder or cobbles.					
15									
20									
25									
30									

Notes:

R.W. Gillespie & Associates

- Geotechnical Engineering
- Environmental Consulting
- Materials Testing Services

Boring Log: B-4

Total Depth (ft): 10.3

Sheet 1 of 1

Project Name: Lincoln County Sheriff's Office
RWG&A Project No. 0851-063-23
Location: Wiscasset, Maine
Client: Gale Associates
RWG&A Representative: Temitope Omokinde
Boring Location: See Exploration Location Plan
Boring Abandonment Method: Backfill with soil and asphalt
Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors
Drill Rig: Rubber Tire Rig
Driller Rep.: Mike Nadeau
Date Started: 09/07/23
Date Completed: 09/07/23
Surface Elevation:
Drilling Method: HSA
Casing Type:

DEPTH, FT.	SYMBOL	SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N VALUE	MOISTURE CONTENT %	LAB TESTS
0			S-1	ASPHALT (2 inches).	10	5 8 9	17		
				FILL; Sand with gravel, moist, coarse to fine sand, little to some coarse to fine gravel, trace silt, brown.					
			S-2		10	9 7 6	13		
5			S-3	CLAYEY SILT WITH SAND (ML); Loose, moist, little fine sand, little to some clay, brownish gray. Pocket Penetrometer: Undrained Shear Strength: Su=1ksf	18	7 4 4	7		
			S-4		24	3 4 5	9		
10			S-5		3	5 5 4 5 50/4"	50		
				Bottom of exploration at 10.3'; SPT refusal on possible bedrock, boulder or cobbles.					
15									
20									
25									
30									

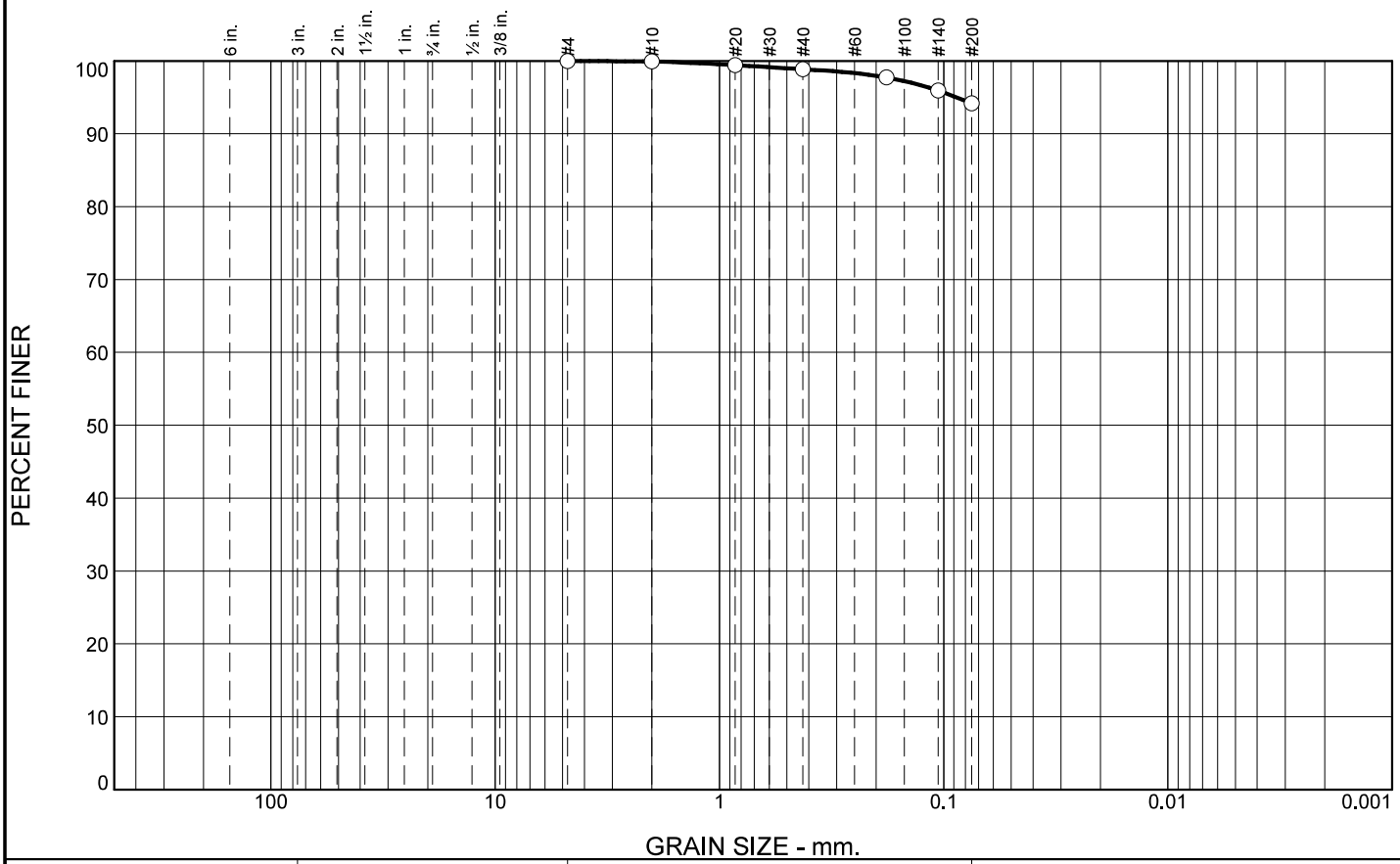
Notes:

APPENDIX B

LABORATORY TEST RESULTS

Geotechnical Engineering Evaluation
Lincoln County Sheriff's Office
Bath Road
Wiscasset, Maine

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	1.0	4.7	94.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.4		
#40	98.9		
#80	97.7		
#140	95.9		
#200	94.2		

* (no specification provided)

Soil Description

silt

Atterberg Limits

PL= LL= NV PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Moisture Content: 29.1%

Location: B-1
Sample Number: S-5 **Depth:** 10-12' **Date:** 09/21/2023

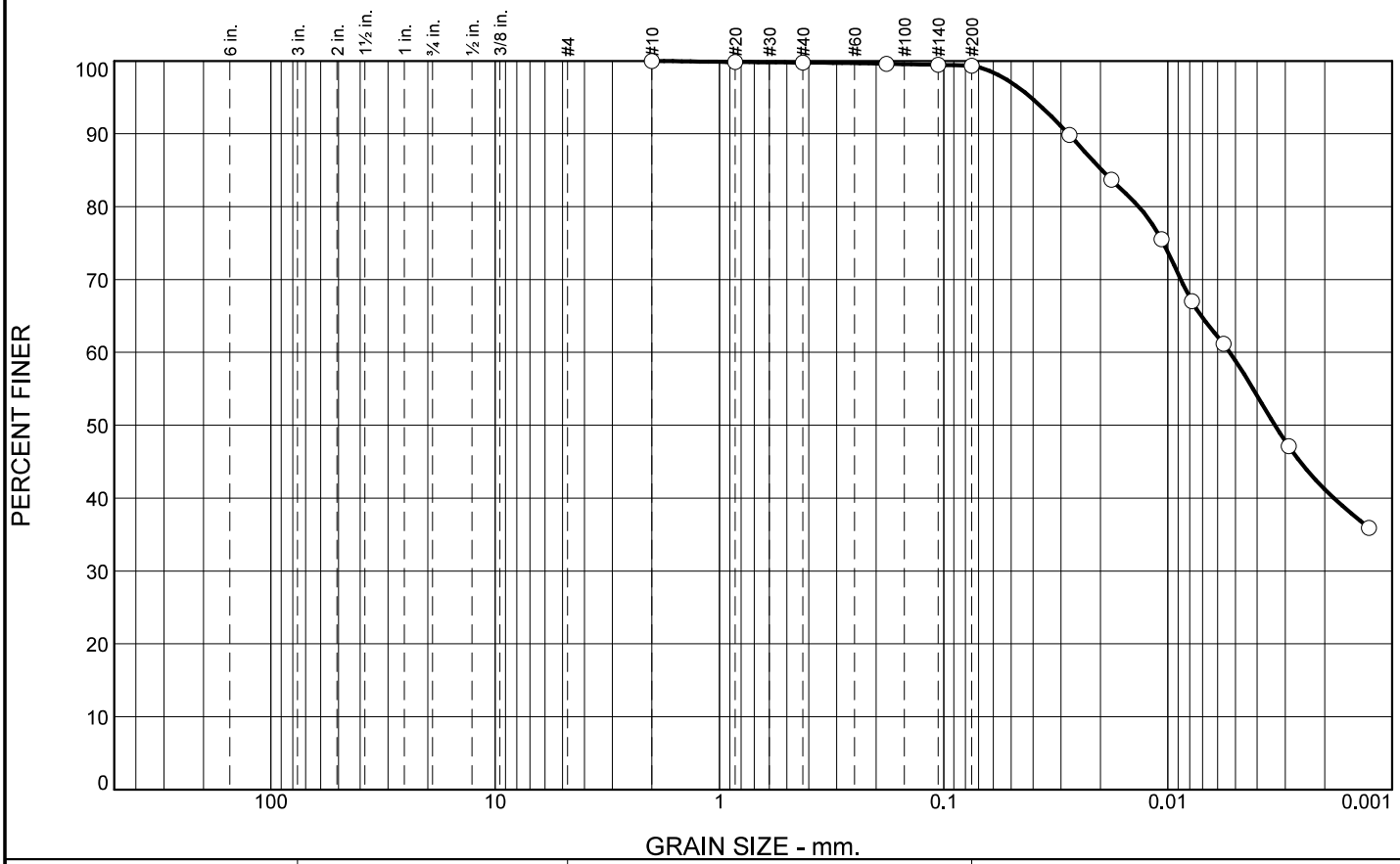
R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Gale Associates , Inc.
Project: Lincoln County Sherriff's Office
Wiscasset, ME
Project No: 0851-063 **Lab No.** 17685-02

Tested By: CAG **Checked By:** MTG

MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	0.4	58.2	41.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	99.8		
#80	99.6		
#140	99.5		
#200	99.4		
0.0275 mm.	89.9		
0.0179 mm.	83.7		
0.0107 mm.	75.5		
0.0078 mm.	67.0		
0.0057 mm.	61.2		
0.0029 mm.	47.1		
0.0013 mm.	35.9		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 20.2 LL= 37.4 PI= 17.2

Coefficients

D_{90}= 0.0278 D_{85}= 0.0197 D_{60}= 0.0053
D_{50}= 0.0033 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(18)

Remarks

Moisture Content: 33.0%

Location: Boring B-2
Sample Number: U-1 **Depth:** 15-16.9 **Date:** 09/22/2023

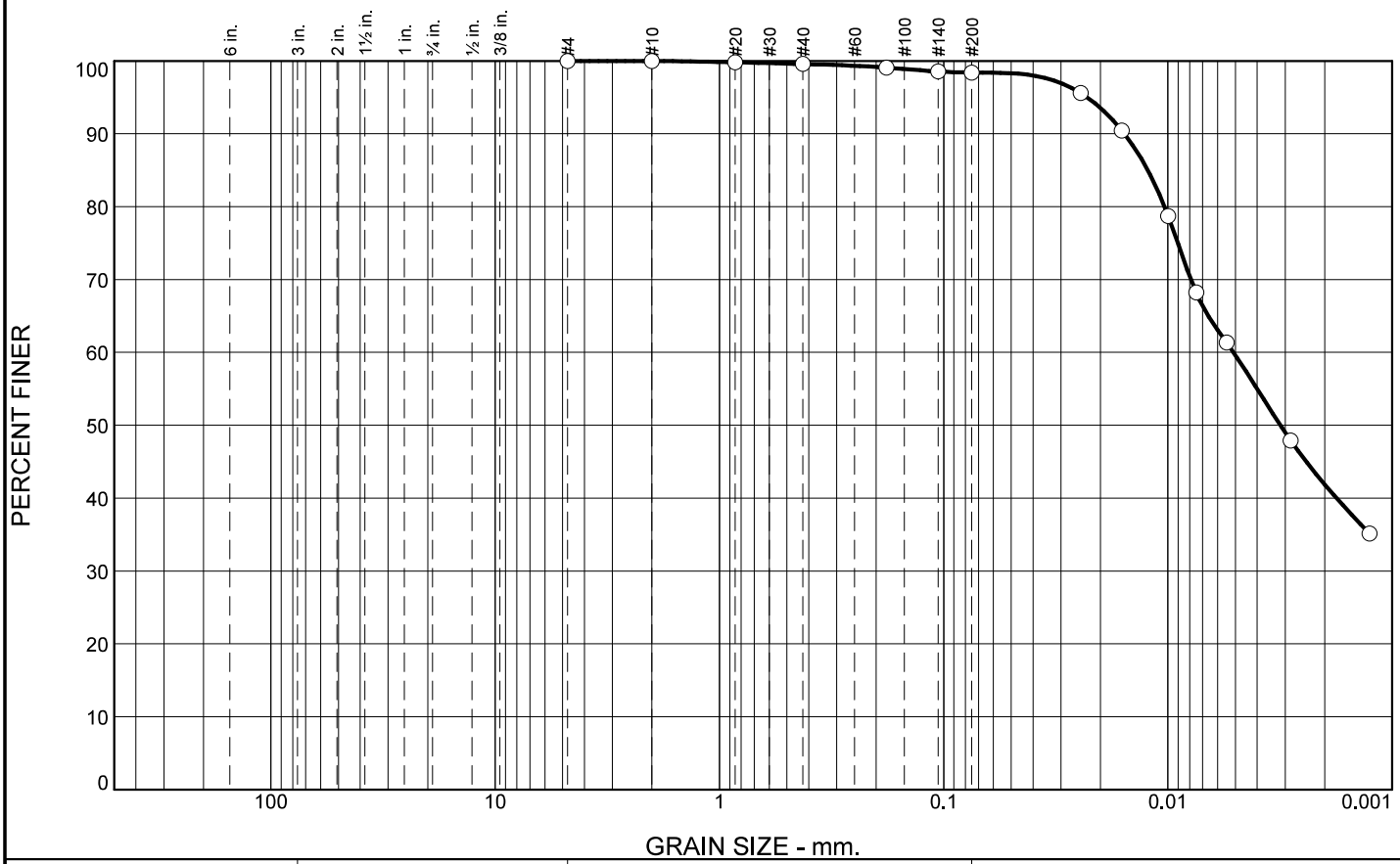
R.W. Gillespie & Associates, Inc.
Biddeford, Maine

Client: Gale Associates , Inc.
Project: Lincoln County Sherriff's Office
Wiscasset, ME
Project No: 0851-063 **Lab No.** 17685-01

Tested By: CAG/SJV **Checked By:** MTG

MTG

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.4	1.2	56.5	41.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.6		
#80	99.1		
#140	98.5		
#200	98.4		
0.0245 mm.	95.6		
0.0161 mm.	90.5		
0.0100 mm.	78.7		
0.0075 mm.	68.2		
0.0055 mm.	61.4		
0.0028 mm.	47.9		
0.0013 mm.	35.1		

* (no specification provided)

Soil Description

silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0156 D_{85}= 0.0123 D_{60}= 0.0051
D_{50}= 0.0032 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Moisture Content: 25.6%

Location: B-3
Sample Number: S-3 **Depth:** 5-7' **Date:** 09/21/2023

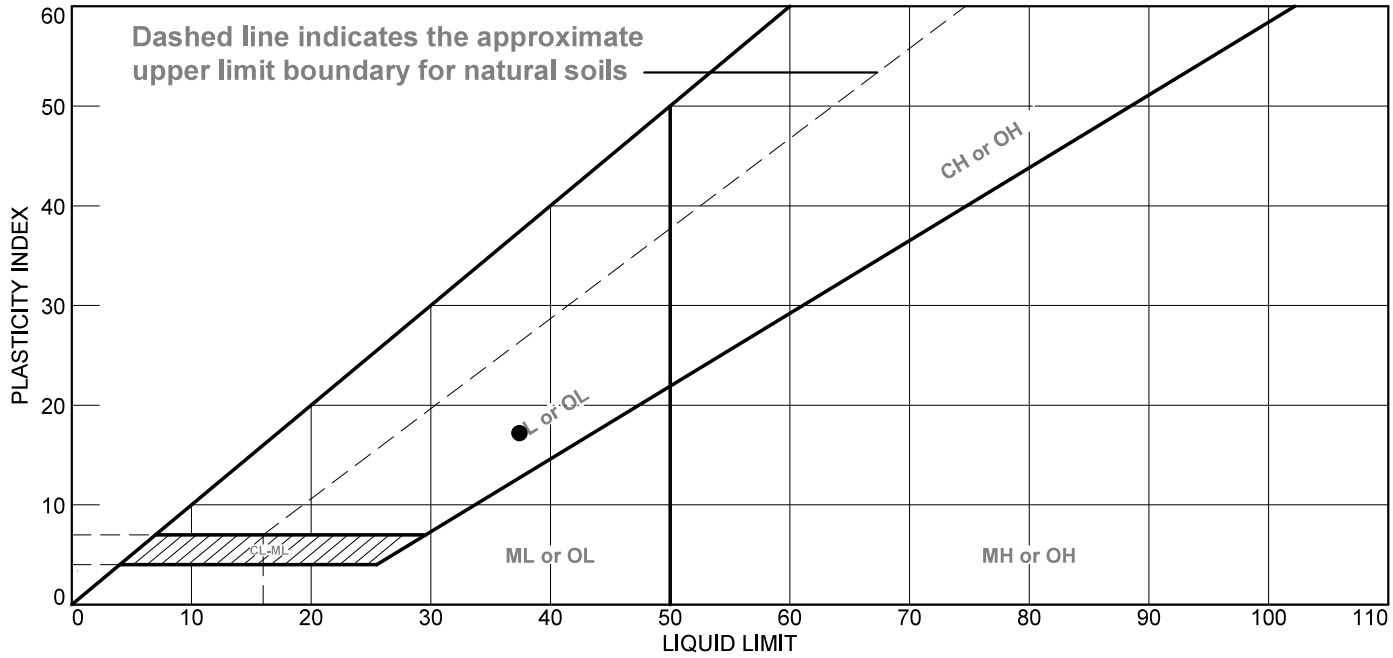
R.W. Gillespie & Associates, Inc.
Biddeford, Maine

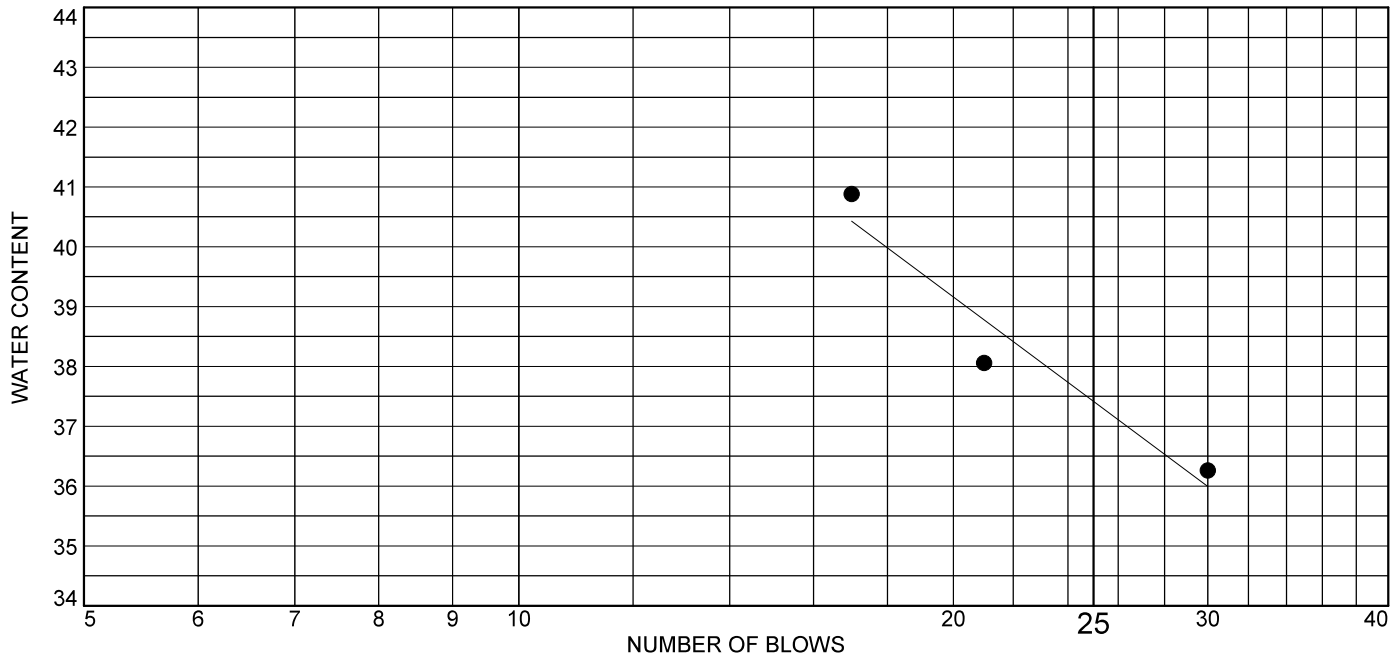
Client: Gale Associates , Inc.
Project: Lincoln County Sherriff's Office
Wiscasset, ME
Project No: 0851-063 **Lab No.** 17685-03

Tested By: CAG/SJV **Checked By:** MTG

MTG

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	lean clay	37.4	20.2	17.2	99.8	99.4	CL

Project No. 0851-063 **Client:** Gale Associates , Inc.

Project: Lincoln County Sherriff's Office

Wiscasset, ME

Location: Boring B-2

Sample Number: U-1 **Depth:** 15-16.9

R.W. Gillespie & Associates, Inc.

Biddeford, Maine

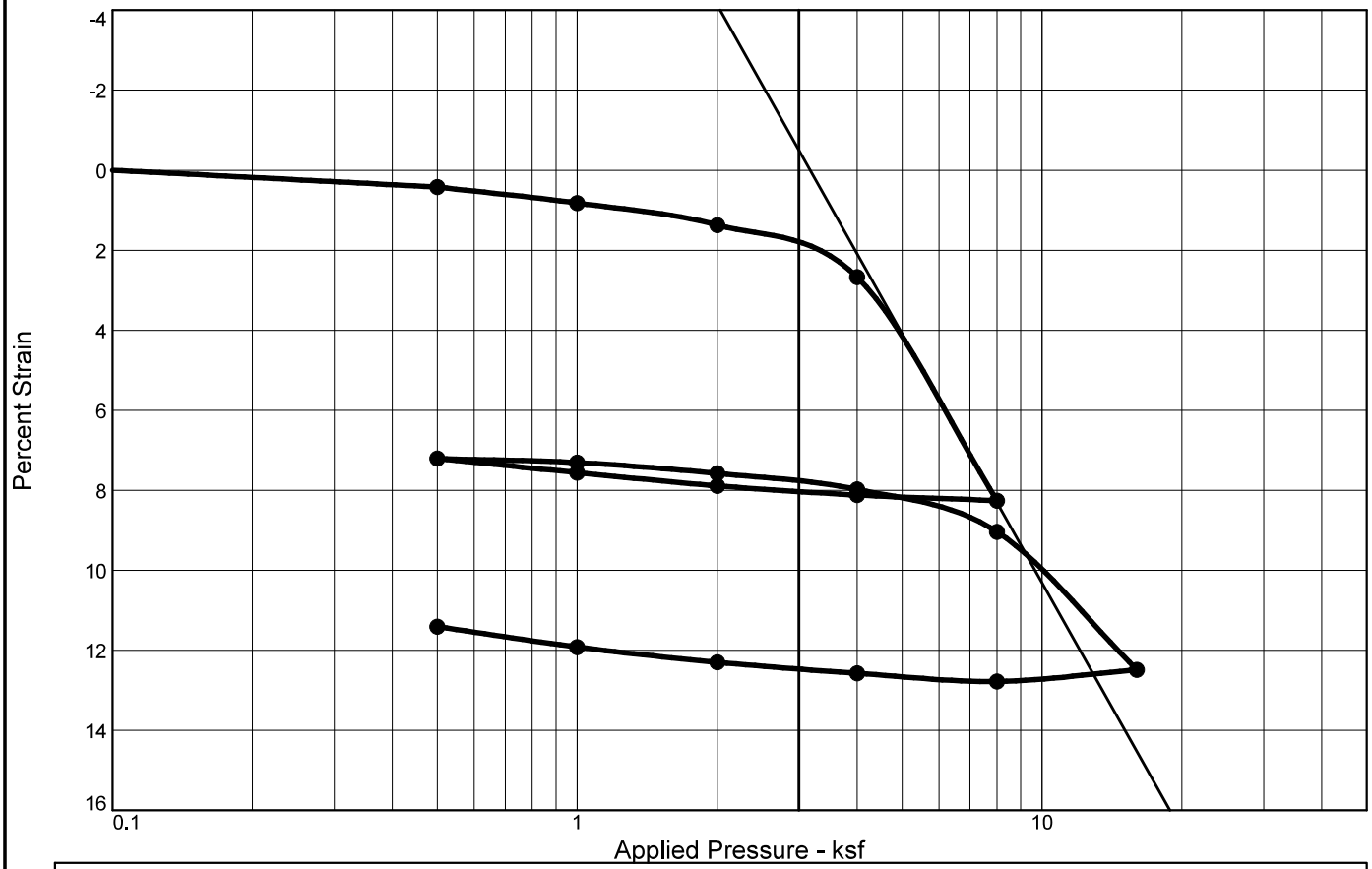
Remarks:

Lab No. 17685-01

Tested By: CAG **Checked By:** MTG

MTG

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (ksf)	C_v (ft.^{2}/day)	C_α	No.	Load (ksf)	C_v (ft.^{2}/day)	C_α	No.	Load (ksf)	C_v (ft.^{2}/day)	C_α
1	0.50	2.528		8	1.00	0.519		15	8.00	0.457	
2	1.00	1.392		9	0.50	0.217		16	4.00	1.192	
3	2.00	2.018		10	1.00	1.293		17	2.00	0.563	
4	4.00	0.953		11	2.00	0.969		18	1.00	0.302	
5	8.00	0.189		12	4.00	1.491		19	0.50	0.114	
6	4.00	4.309		13	8.00	0.836					
7	2.00	1.728		14	16.00	0.361					

Natural Saturation	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P_c (ksf)	C_c	C_r	Initial Void Ratio
100.6 %	34.9 %	87.1	37.4	17.2	2.70	1.26	3.9	0.40	0.02	0.936

MATERIAL DESCRIPTION	USCS	AASHTO
lean clay	CL	A-6(18)

Project No. 0851-063 **Client:** Gale Associates , Inc.

Project: Lincoln County Sherriff's Office
Wiscasset, ME

Location: Boring B-2 **Depth:** 15-16.9 **Sample Number:** U-1

R.W. Gillespie & Associates, Inc.

Biddeford, Maine

Remarks:
0.0011" of Seating Displacement

Lab No. 17685-01

Tested By: AGS/CAG **Checked By:** MTG

MTG

Laboratory Vane Shear Test Results

ASTM D4648 Standard Test Method for Laboratory Miniature Vane Shear Test for Saturated Fine-Grained Clayey Soil

Project: Lincoln County Sheriff's Office
Client: Gale Associates, Inc.
Project No.: 0851-063

Location: Wiscasset, ME
Date: 9/12/2023
Test Depth: 15.10 to 15.80

Boring/Sample No.	B-2				Lab No.	17685-01	
Test No.	Test Depth (ft)	Vane Size	Max. Torque (Undisturbed) (kg-cm)	Max. Torque (Remolded) (kg-cm)	Undrained Shear Strength (psf)	Undrained Shear Strength (psf)	Moisture Content
1	**15.1**	L	74	15	773	157	35%
2	**15.3**	L	67	12	699	125	32%
3	**15.8**	L	59	12	616	125	33%

Vane Size	
	(mm)
S	16 x 32
M	20 x 40
L	24.5 x 50.8

Tested By: AGS

Checked By: MTG

R.W. Gillespie & Associates

20 Pomerleau St., Suite 100, Biddeford ME 04005, 207-286-8008 / 177 Shattuck Way, Suite 1 West, Newington NH 03801, 603-427-02

MTG

Appendix F

HAZARDOUS BUILDING MATERIALS

400 Commercial Street, Suite 404
Portland, ME 04101
207.772.2891

October 10, 2023

Project 211.06085.009

Arno L. Skalski, LEED AP
Gale Associates, Inc.
5 Moulton Street, Suite 201
Portland, ME

Re: Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

Dear Mr. Skalski:

Ransom Consulting, LLC (Ransom) has prepared this report presenting the results of the Hazardous Building Materials Inventory (HBMI) performed at the Lincoln County Sheriff's Building located at 42 Bath Road in Wiscasset, Maine (the "Site"). The Site property is currently developed with a two-story commercial structure with a slab-on-grade foundation originally constructed in the 1950s with an addition in 1985. The HBMI included sampling for asbestos-containing materials (ACM), a lead-based paint (LBP) survey, sampling of caulk for polychlorinated biphenyls (PCBs), an inventory of "universal" waste, and a mold and moisture intrusion assessment as part of a larger study examining options for renovation or replacement. The work discussed herein was performed in accordance with Ransom's Proposed Scope of Work and Cost Estimate, dated May 23, 2023.

EXECUTIVE SUMMARY

Ransom understands the Site building is being evaluated to determine options for renovation and repair or replacement of the building. Given the age and construction of the Site building, there is potential for ACM, LBP, and PCBs to be present in the building materials. To address these concerns, Ransom conducted an inspection for the presence of these materials as well as an inventory of other potentially hazardous building components and moisture intrusion issues at the Site during the HBMI conducted on August 16 and 17, 2023. Based on the results of this inspection, Ransom draws the following conclusions:

1. ACM was identified at the Site. Materials identified as ACM that may be impacted by the proposed renovations should be properly removed and disposed of by a licensed abatement contractor prior to demolition or renovation activities.

2. Ransom identified a vibration gasket present on the air handler in the mechanical room as presumed ACM (PACM). Ransom was unable to collect a sample of this material without damaging the unit.

3. Ransom was unable to access the area beneath the elevated floor in the command/control room. Additional ACM may be present in this area.

4. Building plans reviewed by Ransom identified a "fire curtain" located in secure heating, ventilation, and air conditioning (HVAC) vents on the ground floor. Ransom was unable to remove the vent covers to inspect this material. This material is considered PACM until it can be accessed and sampled.

5. The painted surfaces sampled contained lead at concentrations which would delineate the materials as "lead-based" according to U.S. Housing and Urban Development (HUD) guidelines. These guidelines apply to federal housing projects and are referenced for comparison purposes only. Facility maintenance staff or redevelopment contractors may perform maintenance, renovation, or demolition on surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with the Occupational Safety and Health Administration's (OSHA) lead standards.

6. Ransom collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above the Toxic Substances Control Act (TSCA) threshold of 50 milligrams per kilogram (mg/kg).

7. Ransom inventoried items at the Site during the course of this investigation that may contain PCBs, mercury, or heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

8. Evidence of water intrusion and mold growth was observed on the first and/or ground floor of the Site building. The source of water intrusion into the building should be further investigated and mitigated. All mold impacted building materials should be abated.

SITE DESCRIPTION

The Site is located on the south side of Bath Road at the intersection with Gardiner Road and is identified by the address 42 Bath Road in Wiscasset, Maine. The Site location is shown on the attached Figure 1. The Site is currently developed with a two-story masonry municipal structure with a slab-on-grade foundation, occupying a footprint of approximately 8,400 square feet. The Site building was initially constructed in the 1950's with an addition in 1985. Key Site features, including the locations of samples testing positive for asbestos are provided in Figures 2 and 3. A photograph log documenting our key findings is included as Attachment A.

LIMITATIONS

This hazardous building materials inventory is subject to certain limitations, which must be considered when interpreting the results. The information presented in this report is based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Conclusions represent the professional judgment of

Ransom based on the data obtained from the work and the site conditions encountered at the time the work was performed and are not to be construed as legal advice.

In addition to these general stipulations, additional site-specific limitations are as follows:

1. Our survey was conducted utilizing limited destructive inspection and sampling techniques, using hand tools only. Limited additional suspect materials may be present in concealed or inaccessible spaces, including wall and ceiling cavities, subflooring layers, inside machinery/mechanical units, etc., which may be disturbed as part of the future renovations. Specifically, Ransom was unable to access the area below the elevated floor in the command-and-control room. ACM may be present in this space.

2. The scope of our inspection was limited to observation of aboveground conditions, and may not identify subterranean materials such as foundation sealants, underground steam lines, asbestos-cement utility piping, etc.

3. Our inspection was conducted on behalf of Gale Associates Inc. (Gale) and is representative of conditions observed at the time of this report. No reliance shall be made by other users, for additional purposes, or for other future demolition/renovation projects at the Site.

4. Sampling of roofing materials were excluded from Ransom's scope of work.

HISTORICAL DOCUMENTATION

Ransom was provided with a set of plans associated with the 1985 addition to the Site building. Heating, ventilation, and air conditioning (HVAC) plans identified a "1.5-hour curtain-type fire damper" in the secure HVAC vents on the ground floor of the Site building. Ransom was unable to disassemble the vents to perform an inspection of this material. This material is considered presumed ACM (PACM) until it can be sampled to determine asbestos content.

ASBESTOS-CONTAINING MATERIALS

Ransom conducted an inspection of the Site for the presence of ACM on August 16 and 17, 2023. The scope of the ACM inspection included the identification, quantification, and sampling of accessible suspect building materials on the Site building's interior and exterior. The inspection was conducted by Eriksen Phenix and Wesley Harden of Ransom, both of whom are certified by the State of Maine and accredited by the United States Environmental Protection Agency (U.S. EPA) as an asbestos inspector. Copies of Mr. Phenix's and Mr. Harden's most recent training certificates and state asbestos inspector certifications are provided as Attachment B.

In the State of Maine, Occupational Safety and Health Administration (OSHA), the U.S. EPA, and the Maine Department of Environmental Protection (MEDEP) regulate the release of asbestos into the environment and protecting workers from exposure to airborne asbestos fibers. OSHA defines ACM as

"any material containing more than one percent asbestos." MEDEP defines ACM as "any material containing asbestos in quantities greater than or equal to one percent by volume as determined by weight, visual evaluation, and/or point count analysis." Bulk samples of friable miscellaneous materials (e.g., plaster, and pressed fiber ceiling tile) were analyzed using the *Method for the Determination of Asbestos in Bulk Building Materials*, EPA/600/R-93/116 (1993) via polarized light microscopy (PLM) visual estimation. Non-friable organically bound (NOB) materials (e.g., floor tiles, caulks and mastics) were analyzed using PLM NOB–EPA 600/R-93/116 using the gravimetric reduction method (GRM). Samples were analyzed by Optimum Analytical and Consulting, LLC (Optimum) of Salem, New Hampshire. Optimum is a Maine-licensed asbestos analytical laboratory and is also certified to perform bulk sample analysis by the National Voluntary Laboratory Accreditation Program (NVLAP). Copies of Optimum's relevant certifications are provided in Attachment B.

The following is a brief discussion of each ACM identified.

Identified Asbestos-Containing Materials

1. Black window caulk (sample set 019): Asbestos-containing window caulking was identified on the interior of windows on the ground floor of the Site building.

2. White window caulk (sample set 033): Asbestos-containing white window caulk was identified on the exterior of windows on the 1985 section of the Site building.

3. Beige/brown window caulk (sample set 034): Asbestos-containing beige/brown window caulk was identified on the exterior of windows on the 1950s section of the Site building.

Presumed Asbestos-Containing Materials

1. Vibration gasket: A vibration gasket was observed on HVAC equipment present in the mechanical room. The vibration gasket could not be sampled without causing damage to the equipment. This vibration gasket is considered PACM until analytical testing proves otherwise.

2. Curtain Fire Damper: Plans reviewed by Ransom identified a "1.5-hour curtain-type fire damper" in the secure HVAC vents on the ground floor of the Site building. Ransom was unable to disassemble the vents in order to perform an inspection of this material. This material is considered PACM until it can be sampled to determine asbestos content.

The MEDEP requires consultants to advise the building owner or owner's agent whenever the asbestos analytical laboratory has reported suspect ACM above one percent but below ten percent asbestos. The owner or owner's agent may either elect to treat these materials as positive for asbestos, or have the samples re-analyzed using an alternate method as listed below:

1. PLM EPA/600R-93/116 – Point Count (friable ACM); or

2. Transmission electron microscopy (TEM):

a. U.S. EPA NOB EPA/600/R-93/116b §2.5; or
b. TEM Chatfield Method.

Each of the materials identified during Ransom's investigation fall within this range. Based on the nature of the materials identified and the concentrations of asbestos fiber detected, re-analysis is not recommended at this time.

Re-analysis of samples testing negative for asbestos is not required.

A listing of each sample collected, analytical results, and estimated quantities of confirmed ACM can be found in Table 1.

A copy of the laboratory analytical report can be found in Attachment C.

Asbestos fibers present potential health hazards when they become airborne. Federal regulations suggest that ACM may be managed in-place as long as it remains intact, undamaged, and in good condition. Current regulations require that asbestos-containing building materials be removed, if they will be disturbed by demolition, renovation, or other building maintenance activities. ACM abatement should be performed using approved methods in accordance with applicable federal and state regulations and should be removed by a licensed asbestos abatement contractor and in accordance with a project design prepared by a certified asbestos abatement project designer, except where exempt from applicable rules.

Asbestos-containing asphalt-based roofing materials, as well as exterior caulks, glazings, and sealants are exempt from MEDEP asbestos abatement regulations, provided that these materials are removed wholly intact and are not sawed, sanded, grinded, cut, or drilled during demolition or renovation. This is still considered OSHA classified asbestos work, and it is generally recommended that licensed asbestos abatement contractors conduct the removal of all ACM identified. Additionally, these exempt materials still require disposal as an asbestos-containing material. Please note that sampling of roofing materials for ACM was NOT included in the scope of work for this HBMI.

LEAD-BASED PAINT

An inspection for the presence of LBP was conducted using a direct-reading x-ray fluorescence (XRF) analyzer manufactured by Innov-X. The inspection included XRF readings collected from walls, windows, doors, casings/jambs, and other miscellaneous surfaces on a variety of substrates including wood, metal, concrete, asphalt, and drywall.

Ransom collected a total of 53 XRF readings for lead content from various building components and surfaces within the Site building. XRF analyzer readings ranged from below the instrument's detection limit (BDL) to 923 milligram per square centimeter (mg/cm^2). Sample results including those building components that were positive for lead paint are provided in Table 2.

Please note that the LBP sampling conducted during this HBMI does not constitute a U.S. EPA/Department of Housing and Urban Development(HUD)-compliant lead survey.

HUD has established a standard for characterizing LBP as any paint containing 1.0 milligram per square centimeter (mg/cm^2) lead as tested using an XRF analyzer, or 0.5 percent lead by weight for paint chips. These materials are considered to be "lead-based paint" according to Section 1017 of the *Residential Lead-Based Paint Hazard Reduction Act of 1992* (also referred to as Title X). HUD LBP guidelines only apply to housing funded by the federal government. While they are not regulatory considerations in commercial applications, these guidelines are a useful reference for assessing hazards associated with lead in paint in non-residential settings. When paint contains lead in concentrations greater than 1.0 mg/cm^2 or 0.5 percent by weight, special care should be taken when conducting activities that impact this paint.

Handling of components coated with lead-containing paint *at any concentration* requires compliance with the OSHA lead standard (*Lead in Construction*, 29 CFR 1926.62). When surfaces covered in paint containing lead are impacted by abrasive blasting, torch burning, or similar activities that generate significant dust or fumes, hazardous airborne concentrations can be generated even if the lead content is below the HUD standard. Under the existing conditions, facility maintenance staff or contractors may perform demolition, renovation, abatement, stabilization, cleanup, and daily operations in buildings that have lead-based paint or lead-containing paint, provided that the requirements in the OSHA lead standard are met.

Please note that the receiving facility for renovation/demolition wastes from the Site may require representative sampling of the debris to determine the quantity of lead that would be expected to leach into the environment if the debris were disposed of in a landfill. The representative sample(s) would be analyzed by toxicity characteristic leaching procedure (TCLP), and if concentrations are 5 milligrams per liter (mg/l) or greater, the debris must be disposed of as hazardous waste. If concentrations are less than 5 mg/l, the debris is not regulated, and materials may be disposed of as general construction debris.

POLYCHLORINATED BIPHENYLS IN BUILDING MATERIALS

PCBs may be present in building materials (most typically including caulks and paints) in buildings constructed or renovated between 1950 and 1978. Building materials with concentrations of PCBs greater than or equal to 50 mg/kg are considered an "Unauthorized Use" of PCBs under *Part 761—Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*, and are classified as "PCB Bulk Product Waste" when they enter the construction/ demolition waste stream. The definition of PCB Bulk Product Waste also includes building materials that have been coated or serviced with PCBs. Masonry, wood, metals, and other building materials that are purposely coated with PCB-containing products are regulated as PCB Bulk Product Waste if the product coating the building materials contains PCBs at concentrations $\geq$ 50 mg/kg *and* the affected building materials are removed from use with the coating product adhered to the substrate.

To evaluate the potential presence of PCBs in building materials, Ransom collected four bulk samples of caulks and paints from the Site building for confirmatory laboratory analysis. These samples were placed in laboratory-supplied glassware, placed in a cooler with ice, and delivered under chain-of-custody to Alpha for PCB analysis via U.S. EPA Method 8082A and using the Soxhlet extraction method, U.S. EPA Method 3540C.

Laboratory analytical results for total PCBs did not identify PCB concentrations above the laboratory reporting limit. Therefore, no "Unauthorized Use" PCB materials were identified under 40 CFR §761 at the Site building during Ransom's HBMI.

Laboratory results from PCB testing are provided in Table 3 and a copy of the laboratory analytical data report is included as Attachment C.

OTHER HAZARDOUS AND POTENTIALLY HAZARDOUS MATERIALS

Ransom conducted an inventory of hazardous and potentially hazardous building equipment and fixtures identified at the Site, typically classified, handled, and disposed as "universal" wastes. An inventory of all other hazardous and potentially hazardous materials identified at the Site can be found in Table 4. Specifically, Ransom's survey identified the following universal waste items:

Polychlorinated Biphenyls

PCB-containing oil is sometimes found in compressor oils, hydraulics fluids, and the dielectric fluid of older electrical transformers and the capacitors associated with older fluorescent light ballasts. Although electrical equipment is currently required to be properly labeled indicating the presence or absence of PCBs, this has not always been the case. Ransom observed 92 fluorescent light ballasts within the Site building which may have PCB-containing components. No overt evidence of a release of PCBs from the fixtures (i.e., leaking fluid) was observed. Fixtures/ballasts were not visually inspected for the presence of a "No PCBs" label due to safety concerns. When a "No PCBs" label is not observed, Ransom must presume that those fluorescent light ballasts contain PCBs.

Ransom recommends that ballasts be inspected for the "No PCBs" label prior to demolition or renovation activities. Fluorescent light ballasts without the "No PCBs" label are presumed to contain PCBs and should be managed as hazardous waste and recycled or disposed of in accordance with applicable federal and state regulations. The cost of disposal of these ballasts (approximately $12 each) is several times less than the cost of testing the capacitor fluid for PCB content (approximately $75 each).

Mercury-Containing Components

Mercury-containing components such as fluorescent light tubes, compact fluorescent light bulbs (CFLs) and thermostat switches are classified as Universal Waste and are regulated by the U.S. EPA under 40 CFR Parts 260–273. The Universal Waste Rule provides streamlined management requirements tailored to several different kinds of waste. The types of waste covered by the Universal Waste Rule are frequently thrown in the trash by unregulated households and small businesses. Classifying an item as a Universal Waste provides flexibility for its proper management and can prevent the item from entering municipal waste streams. Instead, it can be readily collected and disposed of at a hazardous waste facility. Ransom observed 190 fluorescent light tubes and one thermostat switch that may contain mercury.

Components presumed to contain mercury should be removed and recycled in accordance with Universal Waste regulations prior to proposed redevelopment activities that may impact them.

Other Heavy Metals

Ransom observed 16 emergency and/or exit lighting systems which are typically powered by one or more heavy metals-containing batteries. Any such units should be identified and salvaged for proper recycling if future renovation or demolition is to impact them.

A full line-item listing of hazardous and potentially hazardous materials identified during Ransom's survey is provided in Table 4.

MOLD AND MOISTURE INTRUSION ASSESSMENT

In conjunction with the HMBI, Ransom conducted a mold and moisture intrusion assessment at the Site on August 16, 2023; this assessment included a determination of the extents of the mold/microbial impacts at the Site, identification of water intrusion issues, and recommendations for remedial actions that may be necessary. The weather at the time of our reconnaissance was cloudy with a slight breeze, and a temperature of approximately 74 degrees Fahrenheit. A photolog has been included as Attachment A. The following paragraphs present a summary of our observations as well as a description of mold remediation and historic water intrusion issues which have occurred at the Site building.

Ground Floor East Perimeter Wall

The interior of the Site building is primarily constructed of cement walls and floors. The exterior walls of the eastern portion of the Site building are primarily brick. A thin brick mortar layer is present where the interior cement walls meet the floors. According to Michelle Richardson, the Finance Director and Lincoln County Treasurer, water intrusion has been observed coming in from the brick mortar layer across the entire length of the east perimeter wall on the ground floor over the past 5 years. Lincoln County personnel indicated that water coming in from the east wall pools in the evidence room and former day rooms in the spring during snowmelt or rainy weather conditions.

Along the length of the Site building's east wall on the ground floor, Ransom observed the presence of water staining on the cement floors, and chipped/blistered paint on the bottom of the perimeter concrete walls. The brick mortar layer on the interior and exterior of the ground floor east wall is damaged and disintegrates if touched. Ransom did not observe microbial growth along the east wall on the ground floor of the Site building. During Ransom's assessment, the foundation line appeared to be below the exterior grade along the eastern Site building exterior. Ransom also did not observe roof runoff drains along the building exterior (potentially indicating water intrusion/impacts and/or drainage issues along the building exterior).

Ground Floor Former Kitchen Addition

According to Lincoln County personnel, water intrusion has been observed over the past few months coming in from the air exhaust vent on the ceiling of the former kitchen addition during rainy weather conditions. During the Site assessment, Ransom observed buckets placed under the air vent to catch dripping water. Dust and debris were observed inside of the air vent. At the time of the Site assessment, the inside of the air vent did not feel damp or wet to the touch. Ransom did not observe water dripping

from the air vent. No microbial growth was observed on the ceiling, walls, or floor near the air vent; however, a few of the floor tiles in the former kitchen addition appeared cracked and stained (possibly from when the room was used as an active kitchen). No cracks or water staining was observed on the ceiling of the former kitchen addition during the mold assessment. An ALORAIR Cleanshield HEPA 550 Air Scrubber unit has reportedly been running in the entryway of the room since the water intrusion was observed.

Attic/Storage

Microbial growth was observed on the exposed ceiling insulation and the wood framing in the attic/storage room on the first floor. Ransom observed a slight musty/moldy odor in the attic during the site assessment. Ransom was not able to observe damage or leaks in the ceiling due to the insulation, ceiling height, and storage within the room. Ransom did not remove materials or move heavy items to inspect conditions of subfloor and/or remaining wall cavities, or window conditions in the Site building.

Water damaged/stained ceiling tiles were observed (two in the north ground floor hallway and one in the patrol room) during the site assessment. The ceiling tiles did not feel damp or wet to the touch. No musty/moldy odors were observed in these rooms.

Indoor Air Quality Parameters

Ransom used a TSI Q-Trak 7575 indoor air meter to measure carbon dioxide (CO_2), carbon monoxide (CO), temperature, and relative humidity within occupied spaces of the building. Ransom also measured air quality readings from the exterior of the building to establish what could be considered anthropogenic background levels.

Ransom compared these results to values outlined in a U.S. EPA document titled "A Standard EPA Protocol for Characterizing Indoor Air Quality in Large Office Buildings" dated February 2003. According to the document, the recommendations for the indoor air quality parameters are as follows:

1. Temperature: 18 to 27°C (65 to 80°F);
2. Relative Humidity: 20% to 80% and may vary by season and geographic region;
3. CO: Not to exceed the National Ambient Air Quality Standards (NAAQS) 8-hour time weighted average of 9 parts per million (ppm); and
4. CO_2: 350 to 900 ppm, not to exceed 1,500 ppm.

Indoor air quality parameters were recorded at 45 locations throughout the Site building. Based on the readings, Ransom concludes that:

1. The indoor air temperature in the control communications room (80.5°F) was above the recommended air quality parameter of 80°F; however, these temperatures observed onsite are not expected to represent a significant health hazard.

2. The indoor air concentration of CO_2 in the northern hallway (1,090 ppm), the western restroom (1,124 ppm), the patrol room (1,115 ppm), the lieutenant's office (1,119 ppm), the sergeant's office (1,080 ppm), and the patrol room entryway (1,124 ppm) exceeded the recommended air quality parameter of 900 ppm. CO_2 is a colorless, odorless gas which is a common byproduct of combustion (i.e., oil-fired heating systems). At high levels (>5,000 ppm), carbon dioxide can cause headache, dizziness, nausea, and other symptoms. The concentrations observed onsite on August 16, 2023, are not expected to represent a significant health hazard to occupants, but may suggest inadequate ventilation (i.e., not enough exterior/fresh air being introduced into the rooms).

3. All other air quality parameters measured on August 16, 2023, were within the recommended range of values outlined by the U.S. EPA.

Moisture Meter

Ransom utilized a Delmhorst J-200 pin-probe type moisture meter to measure moisture levels from interior wooden and drywall surfaces of the Site building. In general, wooden materials with moisture contents below 15% are considered "dry." For the purposes of this assessment, we have assumed that any wooden materials with moisture contents that exceed 15% are considered to be "elevated" and, therefore, represent a potential source of microbial growth.

Drywall materials with moisture contents below 1% indicate a sufficiently dry moisture level. For the purposes of this assessment, we have assumed that drywall materials (i.e., ceiling tiles) with moisture contents that exceed 1% are considered "elevated." Moisture readings collection points were biased towards areas which had apparent water damage or microbial growth, and which were able to be sampled with the pin-type meter (this type of moisture meter is not recommended for use on surfaces which cannot be penetrated by the needle-like probes or are not wood or drywall/sheetrock [i.e. concrete, insulation, etc.]).

A total of 15 moisture readings were recorded from moldy or water damaged/stained interior surfaces observed in the Site building; 10 readings recorded on the moldy wood framing in the attic/storage area ranged from 7.4 to 9.4%; and 5 readings recorded on water damaged/stained ceiling tiles on the ground floor were each 0.1%. At the time of our reconnaissance, none of the building materials evaluated had moisture contents which would suggest a potential source for mold growth; however, based on our observations, it appeared that historic water intrusion events or poor indoor air quality caused moisture issues which resulted in microbial growth on wooden surfaces and on the insulation throughout the attic/storage space (and those surfaces have since dried).

Air Sampling

Ransom collected five air samples: AIR01 was collected in the attic/storage space; AIR02 was collected in the evidence room; AIR03 was collected in the former kitchen addition; AIR04 was collected from the patrol room due to it reportedly being the most heavily used/occupied space in Site building; and AIR05 was collected outdoors approximately 12 feet north of the Site building entrance to document background conditions. Microbial growth was observed on the insulation and wooden framing in the vicinity of AIR01; water intrusion/staining was observed along the bottom of the perimeter wall in the evidence

room in the vicinity of AIR02; and traces of microbial growth were observed in the air vent in the vicinity of AIR03. Samples were collected by drawing air through an AIR-O-Cell spore trap sampler, using a sampling pump provided and calibrated by the laboratory. Samples were submitted to SGS Galson Industrial Hygiene Laboratory in East Syracuse, New York (Galson). Galson analyzed the samples using their "Standard Mold Screen" analytical method. Locations of air samples are shown on Figures 4 and 5. Air sample results for mold analysis are summarized in Table 5, and the laboratory analytical report is provided in Attachment C.

A discussion of the air sampling results is as follows:

1. While there are no enforceable regulatory or occupational standards for airborne mold exposure, a "clean" non-HVAC supplied building is generally considered to be one that has fewer than 2,000 total spores per cubic meter (spores/m^3) in indoor air[1]. One of the interior air samples had total spore concentrations which exceeded this threshold: AIR03, collected from the former kitchen addition, had spore concentrations of approximately 12,000 total spores/m^3. The overall spore concentration in the indoor air sample was slightly less than the total spore count of the outdoor air sample (13,000 spores/m^3), which represents the "background" concentration at the Site. Typical outdoor/background concentrations may range from 500 to over 10,000 total spores/m^3 in rural/forested areas (areas similar to the Site). It is also worth noting that three of the four interior air samples collected (AIR01, AIR02, and AIR04) had total spore counts which were less than the recommended threshold. As such, these air samples are not a significant concern to human health.

2. The predominant type/species of mold spores in indoor air samples are Aspergillus/ Penicillium (A/P), Basidiospores, and Cladosporium. A/P is a common type of allergenic mold which is typically found within a building interior (i.e., not typically found in the outdoor environment). Basidiospores are reproductive spores produced by fungi, are typically found outdoors, and are generally considered less hazardous than some other species of mold. A high level of interior Basidiospores may not indicate active mold growth and may be an indication of outside air infiltrating the building. Cladosporium is another common type of allergenic mold produced by fungi and can be found both indoors and outdoors; this type of mold may be indicative of an interior source or may increase in conjunction with rising outdoor concentrations.

3. The predominant type/species of mold spores identified in the outdoor air sample are Basidiospores and Cladosporium. It is likely that the Basidiospores and Cladosporium detected in the interior air samples are due to air infiltration into the building and are not due to an interior mold source.

Swab Sampling

Ransom collected two swab samples: SWAB01 was collected in the attic/storage space from the wood framing that was supporting the insulation; and SWAB02 was collected inside the air exhaust vent on the

[1] "Air-O-Cell Method Interpretation Guide," Environmental Analysis Associates, January 2011.

ceiling of the former kitchen addition. Samples were collected using sterile environmental swab samplers provided by Galson. Each sample was collected by swabbing a known area until it was visually clean and returning the swab to its sterile tube. Samples were shipped to Galson for Standard Mold Screen Analysis. Microbial growth was observed in both swab sample locations. See Figures 4 and 5 for swab sampling locations. Swab sample results are summarized in Table 6.

Based on the swab testing results, Ransom concludes the following:

1. The swab sample results show that "heavy" concentrations of A/P and "light" concentrations of Mycelial Fragments were detected on the wood framing in the attic/storage space of the Site building. As outlined above, A/P is a common type of allergenic mold which is typically unique to a building interior; the fact that these spores were not identified in the corresponding air sample (AIR01) at high concentrations suggests that they are not becoming airborne or impacting indoor air. Mycelial fragments are components of fungal growth (similar to roots and branches of a tree) and are common to find in outdoor air and in indoor dust. "Light" concentrations detected are not considered a significant health concern.

2. Mycelial Fragments, A/P, and Cladosporium were detected in "light" concentrations in the air exhaust vent of the former kitchen addition. As outlined above, "light" concentrations detected are not considered a significant health concern.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this HBMI, including the mold and moisture assessment, Ransom makes the following conclusions and recommendations.

1. ACMs were identified at the Site building. Materials identified as ACM that may be impacted by future renovation or demolition activities at the Site building should be properly removed for off-Site disposal, prior to or concurrent with such activities.

2. Painted surfaces sampled during the course of this HBMI exhibited lead at concentrations which would delineate the materials as "lead-based" according to HUD guidelines. These guidelines apply to federal housing projects and are referenced herein for comparison purposes only. General and/or demolition contractors may perform demolition of surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with OSHA's lead standards.

3. Ransom collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above the TSCA threshold of 50 mg/kg.

4. During this investigation, Ransom also inventoried and field-verified quantities of universal waste items at the Site, including fluorescent bulbs, thermostats, emergency exit

lights/signs and electronic ballasts, that may contain mercury, PCBs, or heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

5. Ransom measured indoor air quality parameters throughout the Site building; indoor air concentrations of CO_2 in the northern hallway, western restroom, the patrol room, the lieutenant's office the sergeant's office, and the patrol room entryway exceeded the recommended air quality parameter of 900 ppm. A technician should be contracted to inspect the ventilation system in the Site building. The performance of the system should be evaluated to confirm adequate ventilation is being provided (which could impact CO_2 levels).

6. According to Lincoln County personnel, water intrusion has been observed coming in from the brick mortar layer across the entire length of the east perimeter wall on the ground floor over the past 5 years, causing water to pool in the evidence room and the former day rooms in the spring during snowmelt or rainy weather conditions. Along the east perimeter wall, Ransom observed the presence of water staining on the cement floors, and chipped/blistered paint on the bottom of the perimeter east wall. The brick mortar layer on the interior and exterior of the ground floor east perimeter wall is damaged and disintegrates if touched. Ransom did not observe microbial growth along the east wall on the ground floor of the Site building. During Ransom's assessment, the foundation line appeared to be below the exterior grade along the eastern Site building exterior. Ransom also did not observe roof runoff drains along the building exterior (potentially indicating water intrusion/impacts and/or drainage issues along the building exterior). A structural engineer should be contracted to inspect the brick mortar layer on the ground floor east perimeter wall to determine if repairs can be made.

7. According to Lincoln County personnel, water intrusion has been observed coming in from the air exhaust vent on the ceiling of the former kitchen addition during rainy weather conditions. No microbial growth was observed on the ceiling, walls, floor, or inside the air vent. A technician should be contracted to inspect the ventilation system in the former kitchen addition. The source of water intrusion into the kitchen should be determined and mitigated.

8. Microbial growth was observed on the exposed ceiling insulation and the wood framing in the attic/storage space. Ransom observed a slight musty/moldy odor in the attic during the site assessment. Ransom was not able to observe damage or leaks in the ceiling due to the insulation, ceiling height, and storage within the room. The source of water intrusion into the attic should be determined and mitigated. All mold impacted building materials should be abated.

Arno L. Skalski, LEED AP
Gale Associates Inc

If you have any questions regarding the information in this report, please do not hesitate to contact any of the undersigned.

Sincerely,

RANSOM CONSULTING, LLC

Wesley Harden, L.G.
Hazardous Materials Specialist

Eriksen P. Phenix, L.G.
Senior Project Manager

Brian R. Pettengill, P.G.
Principal/Vice President

WEH/MKH/EPP/BRP:ags
Attachments

RANSOM Consulting, LLC

Regional Locator Map

Notes

1. Data Source: The National Map.
2. USGS Quad Names: Wiscasset, Maine
3. Latitude: 44°0'16.829"N
   Longitude: 69°40'10.516"W

Scale and Orientation

0 1,000 2,000

1 inch = 2,000 feet

Prepared For

Gale Associates Inc.
6 Bedford Farms Drive
Bedford, New Hampshire

Site Address

Lincoln County Sheriff's Building HBMI
42 Bath Road
Wiscasset, Maine

211.06085	Oct 2023

Figure 1

Site Location Map

X:\Ransom_NewEngland\Maine\Wiscasset_ME\42BathRd\42BathRd_WiscassetME_HBMI-F1_SLM.mxd

400 Commercial Street, Suite 404
Portland, ME 04101
207.772.2891

October 10, 2023

Project 211.06085.009

Arno L. Skalski, LEED AP
Gale Associates, Inc.
5 Moulton Street, Suite 201
Portland, ME

Re: Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

Dear Mr. Skalski:

Ransom Consulting, LLC (Ransom) has prepared this report presenting the results of the Hazardous Building Materials Inventory (HBMI) performed at the Lincoln County Sheriff's Building located at 42 Bath Road in Wiscasset, Maine (the "Site"). The Site property is currently developed with a two-story commercial structure with a slab-on-grade foundation originally constructed in the 1950s with an addition in 1985. The HBMI included sampling for asbestos-containing materials (ACM), a lead-based paint (LBP) survey, sampling of caulk for polychlorinated biphenyls (PCBs), an inventory of "universal" waste, and a mold and moisture intrusion assessment as part of a larger study examining options for renovation or replacement. The work discussed herein was performed in accordance with Ransom's Proposed Scope of Work and Cost Estimate, dated May 23, 2023.

EXECUTIVE SUMMARY

Ransom understands the Site building is being evaluated to determine options for renovation and repair or replacement of the building. Given the age and construction of the Site building, there is potential for ACM, LBP, and PCBs to be present in the building materials. To address these concerns, Ransom conducted an inspection for the presence of these materials as well as an inventory of other potentially hazardous building components and moisture intrusion issues at the Site during the HBMI conducted on August 16 and 17, 2023. Based on the results of this inspection, Ransom draws the following conclusions:

1. ACM was identified at the Site. Materials identified as ACM that may be impacted by the proposed renovations should be properly removed and disposed of by a licensed abatement contractor prior to demolition or renovation activities.

2. Ransom identified a vibration gasket present on the air handler in the mechanical room as presumed ACM (PACM). Ransom was unable to collect a sample of this material without damaging the unit.

3. Ransom was unable to access the area beneath the elevated floor in the command/control room. Additional ACM may be present in this area.

4. Building plans reviewed by Ransom identified a "fire curtain" located in secure heating, ventilation, and air conditioning (HVAC) vents on the ground floor. Ransom was unable to remove the vent covers to inspect this material. This material is considered PACM until it can be accessed and sampled.

5. The painted surfaces sampled contained lead at concentrations which would delineate the materials as "lead-based" according to U.S. Housing and Urban Development (HUD) guidelines. These guidelines apply to federal housing projects and are referenced for comparison purposes only. Facility maintenance staff or redevelopment contractors may perform maintenance, renovation, or demolition on surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with the Occupational Safety and Health Administration's (OSHA) lead standards.

6. Ransom collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above the Toxic Substances Control Act (TSCA) threshold of 50 milligrams per kilogram (mg/kg).

7. Ransom inventoried items at the Site during the course of this investigation that may contain PCBs, mercury, or heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

8. Evidence of water intrusion and mold growth was observed on the first and/or ground floor of the Site building. The source of water intrusion into the building should be further investigated and mitigated. All mold impacted building materials should be abated.

SITE DESCRIPTION

The Site is located on the south side of Bath Road at the intersection with Gardiner Road and is identified by the address 42 Bath Road in Wiscasset, Maine. The Site location is shown on the attached Figure 1. The Site is currently developed with a two-story masonry municipal structure with a slab-on-grade foundation, occupying a footprint of approximately 8,400 square feet. The Site building was initially constructed in the 1950's with an addition in 1985. Key Site features, including the locations of samples testing positive for asbestos are provided in Figures 2 and 3. A photograph log documenting our key findings is included as Attachment A.

LIMITATIONS

This hazardous building materials inventory is subject to certain limitations, which must be considered when interpreting the results. The information presented in this report is based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed. Conclusions represent the professional judgment of

Ransom based on the data obtained from the work and the site conditions encountered at the time the work was performed and are not to be construed as legal advice.

In addition to these general stipulations, additional site-specific limitations are as follows:

1. Our survey was conducted utilizing limited destructive inspection and sampling techniques, using hand tools only. Limited additional suspect materials may be present in concealed or inaccessible spaces, including wall and ceiling cavities, subflooring layers, inside machinery/mechanical units, etc., which may be disturbed as part of the future renovations. Specifically, Ransom was unable to access the area below the elevated floor in the command-and-control room. ACM may be present in this space.

2. The scope of our inspection was limited to observation of aboveground conditions, and may not identify subterranean materials such as foundation sealants, underground steam lines, asbestos-cement utility piping, etc.

3. Our inspection was conducted on behalf of Gale Associates Inc. (Gale) and is representative of conditions observed at the time of this report. No reliance shall be made by other users, for additional purposes, or for other future demolition/renovation projects at the Site.

4. Sampling of roofing materials were excluded from Ransom's scope of work.

HISTORICAL DOCUMENTATION

Ransom was provided with a set of plans associated with the 1985 addition to the Site building. Heating, ventilation, and air conditioning (HVAC) plans identified a "1.5-hour curtain-type fire damper" in the secure HVAC vents on the ground floor of the Site building. Ransom was unable to disassemble the vents to perform an inspection of this material. This material is considered presumed ACM (PACM) until it can be sampled to determine asbestos content.

ASBESTOS-CONTAINING MATERIALS

Ransom conducted an inspection of the Site for the presence of ACM on August 16 and 17, 2023. The scope of the ACM inspection included the identification, quantification, and sampling of accessible suspect building materials on the Site building's interior and exterior. The inspection was conducted by Eriksen Phenix and Wesley Harden of Ransom, both of whom are certified by the State of Maine and accredited by the United States Environmental Protection Agency (U.S. EPA) as an asbestos inspector. Copies of Mr. Phenix's and Mr. Harden's most recent training certificates and state asbestos inspector certifications are provided as Attachment B.

In the State of Maine, Occupational Safety and Health Administration (OSHA), the U.S. EPA, and the Maine Department of Environmental Protection (MEDEP) regulate the release of asbestos into the environment and protecting workers from exposure to airborne asbestos fibers. OSHA defines ACM as

"any material containing more than one percent asbestos." MEDEP defines ACM as "any material containing asbestos in quantities greater than or equal to one percent by volume as determined by weight, visual evaluation, and/or point count analysis." Bulk samples of friable miscellaneous materials (e.g., plaster, and pressed fiber ceiling tile) were analyzed using the *Method for the Determination of Asbestos in Bulk Building Materials*, EPA/600/R-93/116 (1993) via polarized light microscopy (PLM) visual estimation. Non-friable organically bound (NOB) materials (e.g., floor tiles, caulks and mastics) were analyzed using PLM NOB–EPA 600/R-93/116 using the gravimetric reduction method (GRM). Samples were analyzed by Optimum Analytical and Consulting, LLC (Optimum) of Salem, New Hampshire. Optimum is a Maine-licensed asbestos analytical laboratory and is also certified to perform bulk sample analysis by the National Voluntary Laboratory Accreditation Program (NVLAP). Copies of Optimum's relevant certifications are provided in Attachment B.

The following is a brief discussion of each ACM identified.

Identified Asbestos-Containing Materials

1. Black window caulk (sample set 019): Asbestos-containing window caulking was identified on the interior of windows on the ground floor of the Site building.

2. White window caulk (sample set 033): Asbestos-containing white window caulk was identified on the exterior of windows on the 1985 section of the Site building.

3. Beige/brown window caulk (sample set 034): Asbestos-containing beige/brown window caulk was identified on the exterior of windows on the 1950s section of the Site building.

Presumed Asbestos-Containing Materials

1. Vibration gasket: A vibration gasket was observed on HVAC equipment present in the mechanical room. The vibration gasket could not be sampled without causing damage to the equipment. This vibration gasket is considered PACM until analytical testing proves otherwise.

2. Curtain Fire Damper: Plans reviewed by Ransom identified a "1.5-hour curtain-type fire damper" in the secure HVAC vents on the ground floor of the Site building. Ransom was unable to disassemble the vents in order to perform an inspection of this material. This material is considered PACM until it can be sampled to determine asbestos content.

The MEDEP requires consultants to advise the building owner or owner's agent whenever the asbestos analytical laboratory has reported suspect ACM above one percent but below ten percent asbestos. The owner or owner's agent may either elect to treat these materials as positive for asbestos, or have the samples re-analyzed using an alternate method as listed below:

1. PLM EPA/600R-93/116 – Point Count (friable ACM); or

2. Transmission electron microscopy (TEM):

a. U.S. EPA NOB EPA/600/R-93/116b §2.5; or
b. TEM Chatfield Method.

Each of the materials identified during Ransom's investigation fall within this range. Based on the nature of the materials identified and the concentrations of asbestos fiber detected, re-analysis is not recommended at this time.

Re-analysis of samples testing negative for asbestos is not required.

A listing of each sample collected, analytical results, and estimated quantities of confirmed ACM can be found in Table 1.

A copy of the laboratory analytical report can be found in Attachment C.

Asbestos fibers present potential health hazards when they become airborne. Federal regulations suggest that ACM may be managed in-place as long as it remains intact, undamaged, and in good condition. Current regulations require that asbestos-containing building materials be removed, if they will be disturbed by demolition, renovation, or other building maintenance activities. ACM abatement should be performed using approved methods in accordance with applicable federal and state regulations and should be removed by a licensed asbestos abatement contractor and in accordance with a project design prepared by a certified asbestos abatement project designer, except where exempt from applicable rules.

Asbestos-containing asphalt-based roofing materials, as well as exterior caulks, glazings, and sealants are exempt from MEDEP asbestos abatement regulations, provided that these materials are removed wholly intact and are not sawed, sanded, grinded, cut, or drilled during demolition or renovation. This is still considered OSHA classified asbestos work, and it is generally recommended that licensed asbestos abatement contractors conduct the removal of all ACM identified. Additionally, these exempt materials still require disposal as an asbestos-containing material. Please note that sampling of roofing materials for ACM was NOT included in the scope of work for this HBMI.

LEAD-BASED PAINT

An inspection for the presence of LBP was conducted using a direct-reading x-ray fluorescence (XRF) analyzer manufactured by Innov-X. The inspection included XRF readings collected from walls, windows, doors, casings/jambs, and other miscellaneous surfaces on a variety of substrates including wood, metal, concrete, asphalt, and drywall.

Ransom collected a total of 53 XRF readings for lead content from various building components and surfaces within the Site building. XRF analyzer readings ranged from below the instrument's detection limit (BDL) to 923 milligram per square centimeter (mg/cm^2). Sample results including those building components that were positive for lead paint are provided in Table 2.

Please note that the LBP sampling conducted during this HBMI does not constitute a U.S. EPA/Department of Housing and Urban Development(HUD)-compliant lead survey.

HUD has established a standard for characterizing LBP as any paint containing 1.0 milligram per square centimeter (mg/cm^2) lead as tested using an XRF analyzer, or 0.5 percent lead by weight for paint chips. These materials are considered to be "lead-based paint" according to Section 1017 of the *Residential Lead-Based Paint Hazard Reduction Act of 1992* (also referred to as Title X). HUD LBP guidelines only apply to housing funded by the federal government. While they are not regulatory considerations in commercial applications, these guidelines are a useful reference for assessing hazards associated with lead in paint in non-residential settings. When paint contains lead in concentrations greater than 1.0 mg/cm^2 or 0.5 percent by weight, special care should be taken when conducting activities that impact this paint.

Handling of components coated with lead-containing paint *at any concentration* requires compliance with the OSHA lead standard (*Lead in Construction*, 29 CFR 1926.62). When surfaces covered in paint containing lead are impacted by abrasive blasting, torch burning, or similar activities that generate significant dust or fumes, hazardous airborne concentrations can be generated even if the lead content is below the HUD standard. Under the existing conditions, facility maintenance staff or contractors may perform demolition, renovation, abatement, stabilization, cleanup, and daily operations in buildings that have lead-based paint or lead-containing paint, provided that the requirements in the OSHA lead standard are met.

Please note that the receiving facility for renovation/demolition wastes from the Site may require representative sampling of the debris to determine the quantity of lead that would be expected to leach into the environment if the debris were disposed of in a landfill. The representative sample(s) would be analyzed by toxicity characteristic leaching procedure (TCLP), and if concentrations are 5 milligrams per liter (mg/l) or greater, the debris must be disposed of as hazardous waste. If concentrations are less than 5 mg/l, the debris is not regulated, and materials may be disposed of as general construction debris.

POLYCHLORINATED BIPHENYLS IN BUILDING MATERIALS

PCBs may be present in building materials (most typically including caulks and paints) in buildings constructed or renovated between 1950 and 1978. Building materials with concentrations of PCBs greater than or equal to 50 mg/kg are considered an "Unauthorized Use" of PCBs under *Part 761—Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*, and are classified as "PCB Bulk Product Waste" when they enter the construction/ demolition waste stream. The definition of PCB Bulk Product Waste also includes building materials that have been coated or serviced with PCBs. Masonry, wood, metals, and other building materials that are purposely coated with PCB-containing products are regulated as PCB Bulk Product Waste if the product coating the building materials contains PCBs at concentrations $\geq$ 50 mg/kg *and* the affected building materials are removed from use with the coating product adhered to the substrate.

To evaluate the potential presence of PCBs in building materials, Ransom collected four bulk samples of caulks and paints from the Site building for confirmatory laboratory analysis. These samples were placed in laboratory-supplied glassware, placed in a cooler with ice, and delivered under chain-of-custody to Alpha for PCB analysis via U.S. EPA Method 8082A and using the Soxhlet extraction method, U.S. EPA Method 3540C.

Laboratory analytical results for total PCBs did not identify PCB concentrations above the laboratory reporting limit. Therefore, no "Unauthorized Use" PCB materials were identified under 40 CFR §761 at the Site building during Ransom's HBMI.

Laboratory results from PCB testing are provided in Table 3 and a copy of the laboratory analytical data report is included as Attachment C.

OTHER HAZARDOUS AND POTENTIALLY HAZARDOUS MATERIALS

Ransom conducted an inventory of hazardous and potentially hazardous building equipment and fixtures identified at the Site, typically classified, handled, and disposed as "universal" wastes. An inventory of all other hazardous and potentially hazardous materials identified at the Site can be found in Table 4. Specifically, Ransom's survey identified the following universal waste items:

Polychlorinated Biphenyls

PCB-containing oil is sometimes found in compressor oils, hydraulics fluids, and the dielectric fluid of older electrical transformers and the capacitors associated with older fluorescent light ballasts. Although electrical equipment is currently required to be properly labeled indicating the presence or absence of PCBs, this has not always been the case. Ransom observed 92 fluorescent light ballasts within the Site building which may have PCB-containing components. No overt evidence of a release of PCBs from the fixtures (i.e., leaking fluid) was observed. Fixtures/ballasts were not visually inspected for the presence of a "No PCBs" label due to safety concerns. When a "No PCBs" label is not observed, Ransom must presume that those fluorescent light ballasts contain PCBs.

Ransom recommends that ballasts be inspected for the "No PCBs" label prior to demolition or renovation activities. Fluorescent light ballasts without the "No PCBs" label are presumed to contain PCBs and should be managed as hazardous waste and recycled or disposed of in accordance with applicable federal and state regulations. The cost of disposal of these ballasts (approximately $12 each) is several times less than the cost of testing the capacitor fluid for PCB content (approximately $75 each).

Mercury-Containing Components

Mercury-containing components such as fluorescent light tubes, compact fluorescent light bulbs (CFLs) and thermostat switches are classified as Universal Waste and are regulated by the U.S. EPA under 40 CFR Parts 260–273. The Universal Waste Rule provides streamlined management requirements tailored to several different kinds of waste. The types of waste covered by the Universal Waste Rule are frequently thrown in the trash by unregulated households and small businesses. Classifying an item as a Universal Waste provides flexibility for its proper management and can prevent the item from entering municipal waste streams. Instead, it can be readily collected and disposed of at a hazardous waste facility. Ransom observed 190 fluorescent light tubes and one thermostat switch that may contain mercury.

Components presumed to contain mercury should be removed and recycled in accordance with Universal Waste regulations prior to proposed redevelopment activities that may impact them.

Other Heavy Metals

Ransom observed 16 emergency and/or exit lighting systems which are typically powered by one or more heavy metals-containing batteries. Any such units should be identified and salvaged for proper recycling if future renovation or demolition is to impact them.

A full line-item listing of hazardous and potentially hazardous materials identified during Ransom's survey is provided in Table 4.

MOLD AND MOISTURE INTRUSION ASSESSMENT

In conjunction with the HMBI, Ransom conducted a mold and moisture intrusion assessment at the Site on August 16, 2023; this assessment included a determination of the extents of the mold/microbial impacts at the Site, identification of water intrusion issues, and recommendations for remedial actions that may be necessary. The weather at the time of our reconnaissance was cloudy with a slight breeze, and a temperature of approximately 74 degrees Fahrenheit. A photolog has been included as Attachment A. The following paragraphs present a summary of our observations as well as a description of mold remediation and historic water intrusion issues which have occurred at the Site building.

Ground Floor East Perimeter Wall

The interior of the Site building is primarily constructed of cement walls and floors. The exterior walls of the eastern portion of the Site building are primarily brick. A thin brick mortar layer is present where the interior cement walls meet the floors. According to Michelle Richardson, the Finance Director and Lincoln County Treasurer, water intrusion has been observed coming in from the brick mortar layer across the entire length of the east perimeter wall on the ground floor over the past 5 years. Lincoln County personnel indicated that water coming in from the east wall pools in the evidence room and former day rooms in the spring during snowmelt or rainy weather conditions.

Along the length of the Site building's east wall on the ground floor, Ransom observed the presence of water staining on the cement floors, and chipped/blistered paint on the bottom of the perimeter concrete walls. The brick mortar layer on the interior and exterior of the ground floor east wall is damaged and disintegrates if touched. Ransom did not observe microbial growth along the east wall on the ground floor of the Site building. During Ransom's assessment, the foundation line appeared to be below the exterior grade along the eastern Site building exterior. Ransom also did not observe roof runoff drains along the building exterior (potentially indicating water intrusion/impacts and/or drainage issues along the building exterior).

Ground Floor Former Kitchen Addition

According to Lincoln County personnel, water intrusion has been observed over the past few months coming in from the air exhaust vent on the ceiling of the former kitchen addition during rainy weather conditions. During the Site assessment, Ransom observed buckets placed under the air vent to catch dripping water. Dust and debris were observed inside of the air vent. At the time of the Site assessment, the inside of the air vent did not feel damp or wet to the touch. Ransom did not observe water dripping

from the air vent. No microbial growth was observed on the ceiling, walls, or floor near the air vent; however, a few of the floor tiles in the former kitchen addition appeared cracked and stained (possibly from when the room was used as an active kitchen). No cracks or water staining was observed on the ceiling of the former kitchen addition during the mold assessment. An ALORAIR Cleanshield HEPA 550 Air Scrubber unit has reportedly been running in the entryway of the room since the water intrusion was observed.

Attic/Storage

Microbial growth was observed on the exposed ceiling insulation and the wood framing in the attic/storage room on the first floor. Ransom observed a slight musty/moldy odor in the attic during the site assessment. Ransom was not able to observe damage or leaks in the ceiling due to the insulation, ceiling height, and storage within the room. Ransom did not remove materials or move heavy items to inspect conditions of subfloor and/or remaining wall cavities, or window conditions in the Site building.

Water damaged/stained ceiling tiles were observed (two in the north ground floor hallway and one in the patrol room) during the site assessment. The ceiling tiles did not feel damp or wet to the touch. No musty/moldy odors were observed in these rooms.

Indoor Air Quality Parameters

Ransom used a TSI Q-Trak 7575 indoor air meter to measure carbon dioxide (CO_2), carbon monoxide (CO), temperature, and relative humidity within occupied spaces of the building. Ransom also measured air quality readings from the exterior of the building to establish what could be considered anthropogenic background levels.

Ransom compared these results to values outlined in a U.S. EPA document titled "A Standard EPA Protocol for Characterizing Indoor Air Quality in Large Office Buildings" dated February 2003. According to the document, the recommendations for the indoor air quality parameters are as follows:

1. Temperature: 18 to 27°C (65 to 80°F);
2. Relative Humidity: 20% to 80% and may vary by season and geographic region;
3. CO: Not to exceed the National Ambient Air Quality Standards (NAAQS) 8-hour time weighted average of 9 parts per million (ppm); and
4. CO_2: 350 to 900 ppm, not to exceed 1,500 ppm.

Indoor air quality parameters were recorded at 45 locations throughout the Site building. Based on the readings, Ransom concludes that:

1. The indoor air temperature in the control communications room (80.5°F) was above the recommended air quality parameter of 80°F; however, these temperatures observed onsite are not expected to represent a significant health hazard.

2. The indoor air concentration of CO_2 in the northern hallway (1,090 ppm), the western restroom (1,124 ppm), the patrol room (1,115 ppm), the lieutenant's office (1,119 ppm), the sergeant's office (1,080 ppm), and the patrol room entryway (1,124 ppm) exceeded the recommended air quality parameter of 900 ppm. CO_2 is a colorless, odorless gas which is a common byproduct of combustion (i.e., oil-fired heating systems). At high levels (>5,000 ppm), carbon dioxide can cause headache, dizziness, nausea, and other symptoms. The concentrations observed onsite on August 16, 2023, are not expected to represent a significant health hazard to occupants, but may suggest inadequate ventilation (i.e., not enough exterior/fresh air being introduced into the rooms).

3. All other air quality parameters measured on August 16, 2023, were within the recommended range of values outlined by the U.S. EPA.

Moisture Meter

Ransom utilized a Delmhorst J-200 pin-probe type moisture meter to measure moisture levels from interior wooden and drywall surfaces of the Site building. In general, wooden materials with moisture contents below 15% are considered "dry." For the purposes of this assessment, we have assumed that any wooden materials with moisture contents that exceed 15% are considered to be "elevated" and, therefore, represent a potential source of microbial growth.

Drywall materials with moisture contents below 1% indicate a sufficiently dry moisture level. For the purposes of this assessment, we have assumed that drywall materials (i.e., ceiling tiles) with moisture contents that exceed 1% are considered "elevated." Moisture readings collection points were biased towards areas which had apparent water damage or microbial growth, and which were able to be sampled with the pin-type meter (this type of moisture meter is not recommended for use on surfaces which cannot be penetrated by the needle-like probes or are not wood or drywall/sheetrock [i.e. concrete, insulation, etc.]).

A total of 15 moisture readings were recorded from moldy or water damaged/stained interior surfaces observed in the Site building; 10 readings recorded on the moldy wood framing in the attic/storage area ranged from 7.4 to 9.4%; and 5 readings recorded on water damaged/stained ceiling tiles on the ground floor were each 0.1%. At the time of our reconnaissance, none of the building materials evaluated had moisture contents which would suggest a potential source for mold growth; however, based on our observations, it appeared that historic water intrusion events or poor indoor air quality caused moisture issues which resulted in microbial growth on wooden surfaces and on the insulation throughout the attic/storage space (and those surfaces have since dried).

Air Sampling

Ransom collected five air samples: AIR01 was collected in the attic/storage space; AIR02 was collected in the evidence room; AIR03 was collected in the former kitchen addition; AIR04 was collected from the patrol room due to it reportedly being the most heavily used/occupied space in Site building; and AIR05 was collected outdoors approximately 12 feet north of the Site building entrance to document background conditions. Microbial growth was observed on the insulation and wooden framing in the vicinity of AIR01; water intrusion/staining was observed along the bottom of the perimeter wall in the evidence

room in the vicinity of AIR02; and traces of microbial growth were observed in the air vent in the vicinity of AIR03. Samples were collected by drawing air through an AIR-O-Cell spore trap sampler, using a sampling pump provided and calibrated by the laboratory. Samples were submitted to SGS Galson Industrial Hygiene Laboratory in East Syracuse, New York (Galson). Galson analyzed the samples using their "Standard Mold Screen" analytical method. Locations of air samples are shown on Figures 4 and 5. Air sample results for mold analysis are summarized in Table 5, and the laboratory analytical report is provided in Attachment C.

A discussion of the air sampling results is as follows:

1. While there are no enforceable regulatory or occupational standards for airborne mold exposure, a "clean" non-HVAC supplied building is generally considered to be one that has fewer than 2,000 total spores per cubic meter (spores/m^3) in indoor air[1]. One of the interior air samples had total spore concentrations which exceeded this threshold: AIR03, collected from the former kitchen addition, had spore concentrations of approximately 12,000 total spores/m^3. The overall spore concentration in the indoor air sample was slightly less than the total spore count of the outdoor air sample (13,000 spores/m^3), which represents the "background" concentration at the Site. Typical outdoor/background concentrations may range from 500 to over 10,000 total spores/m^3 in rural/forested areas (areas similar to the Site). It is also worth noting that three of the four interior air samples collected (AIR01, AIR02, and AIR04) had total spore counts which were less than the recommended threshold. As such, these air samples are not a significant concern to human health.

2. The predominant type/species of mold spores in indoor air samples are Aspergillus/ Penicillium (A/P), Basidiospores, and Cladosporium. A/P is a common type of allergenic mold which is typically found within a building interior (i.e., not typically found in the outdoor environment). Basidiospores are reproductive spores produced by fungi, are typically found outdoors, and are generally considered less hazardous than some other species of mold. A high level of interior Basidiospores may not indicate active mold growth and may be an indication of outside air infiltrating the building. Cladosporium is another common type of allergenic mold produced by fungi and can be found both indoors and outdoors; this type of mold may be indicative of an interior source or may increase in conjunction with rising outdoor concentrations.

3. The predominant type/species of mold spores identified in the outdoor air sample are Basidiospores and Cladosporium. It is likely that the Basidiospores and Cladosporium detected in the interior air samples are due to air infiltration into the building and are not due to an interior mold source.

Swab Sampling

Ransom collected two swab samples: SWAB01 was collected in the attic/storage space from the wood framing that was supporting the insulation; and SWAB02 was collected inside the air exhaust vent on the

[1] "Air-O-Cell Method Interpretation Guide," Environmental Analysis Associates, January 2011.

ceiling of the former kitchen addition. Samples were collected using sterile environmental swab samplers provided by Galson. Each sample was collected by swabbing a known area until it was visually clean and returning the swab to its sterile tube. Samples were shipped to Galson for Standard Mold Screen Analysis. Microbial growth was observed in both swab sample locations. See Figures 4 and 5 for swab sampling locations. Swab sample results are summarized in Table 6.

Based on the swab testing results, Ransom concludes the following:

1. The swab sample results show that "heavy" concentrations of A/P and "light" concentrations of Mycelial Fragments were detected on the wood framing in the attic/storage space of the Site building. As outlined above, A/P is a common type of allergenic mold which is typically unique to a building interior; the fact that these spores were not identified in the corresponding air sample (AIR01) at high concentrations suggests that they are not becoming airborne or impacting indoor air. Mycelial fragments are components of fungal growth (similar to roots and branches of a tree) and are common to find in outdoor air and in indoor dust. "Light" concentrations detected are not considered a significant health concern.

2. Mycelial Fragments, A/P, and Cladosporium were detected in "light" concentrations in the air exhaust vent of the former kitchen addition. As outlined above, "light" concentrations detected are not considered a significant health concern.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this HBMI, including the mold and moisture assessment, Ransom makes the following conclusions and recommendations.

1. ACMs were identified at the Site building. Materials identified as ACM that may be impacted by future renovation or demolition activities at the Site building should be properly removed for off-Site disposal, prior to or concurrent with such activities.

2. Painted surfaces sampled during the course of this HBMI exhibited lead at concentrations which would delineate the materials as "lead-based" according to HUD guidelines. These guidelines apply to federal housing projects and are referenced herein for comparison purposes only. General and/or demolition contractors may perform demolition of surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with OSHA's lead standards.

3. Ransom collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above the TSCA threshold of 50 mg/kg.

4. During this investigation, Ransom also inventoried and field-verified quantities of universal waste items at the Site, including fluorescent bulbs, thermostats, emergency exit

lights/signs and electronic ballasts, that may contain mercury, PCBs, or heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

5. Ransom measured indoor air quality parameters throughout the Site building; indoor air concentrations of CO_2 in the northern hallway, western restroom, the patrol room, the lieutenant's office the sergeant's office, and the patrol room entryway exceeded the recommended air quality parameter of 900 ppm. A technician should be contracted to inspect the ventilation system in the Site building. The performance of the system should be evaluated to confirm adequate ventilation is being provided (which could impact CO_2 levels).

6. According to Lincoln County personnel, water intrusion has been observed coming in from the brick mortar layer across the entire length of the east perimeter wall on the ground floor over the past 5 years, causing water to pool in the evidence room and the former day rooms in the spring during snowmelt or rainy weather conditions. Along the east perimeter wall, Ransom observed the presence of water staining on the cement floors, and chipped/blistered paint on the bottom of the perimeter east wall. The brick mortar layer on the interior and exterior of the ground floor east perimeter wall is damaged and disintegrates if touched. Ransom did not observe microbial growth along the east wall on the ground floor of the Site building. During Ransom's assessment, the foundation line appeared to be below the exterior grade along the eastern Site building exterior. Ransom also did not observe roof runoff drains along the building exterior (potentially indicating water intrusion/impacts and/or drainage issues along the building exterior). A structural engineer should be contracted to inspect the brick mortar layer on the ground floor east perimeter wall to determine if repairs can be made.

7. According to Lincoln County personnel, water intrusion has been observed coming in from the air exhaust vent on the ceiling of the former kitchen addition during rainy weather conditions. No microbial growth was observed on the ceiling, walls, floor, or inside the air vent. A technician should be contracted to inspect the ventilation system in the former kitchen addition. The source of water intrusion into the kitchen should be determined and mitigated.

8. Microbial growth was observed on the exposed ceiling insulation and the wood framing in the attic/storage space. Ransom observed a slight musty/moldy odor in the attic during the site assessment. Ransom was not able to observe damage or leaks in the ceiling due to the insulation, ceiling height, and storage within the room. The source of water intrusion into the attic should be determined and mitigated. All mold impacted building materials should be abated.

Arno L. Skalski, LEED AP
Gale Associates Inc

If you have any questions regarding the information in this report, please do not hesitate to contact any of the undersigned.

Sincerely,

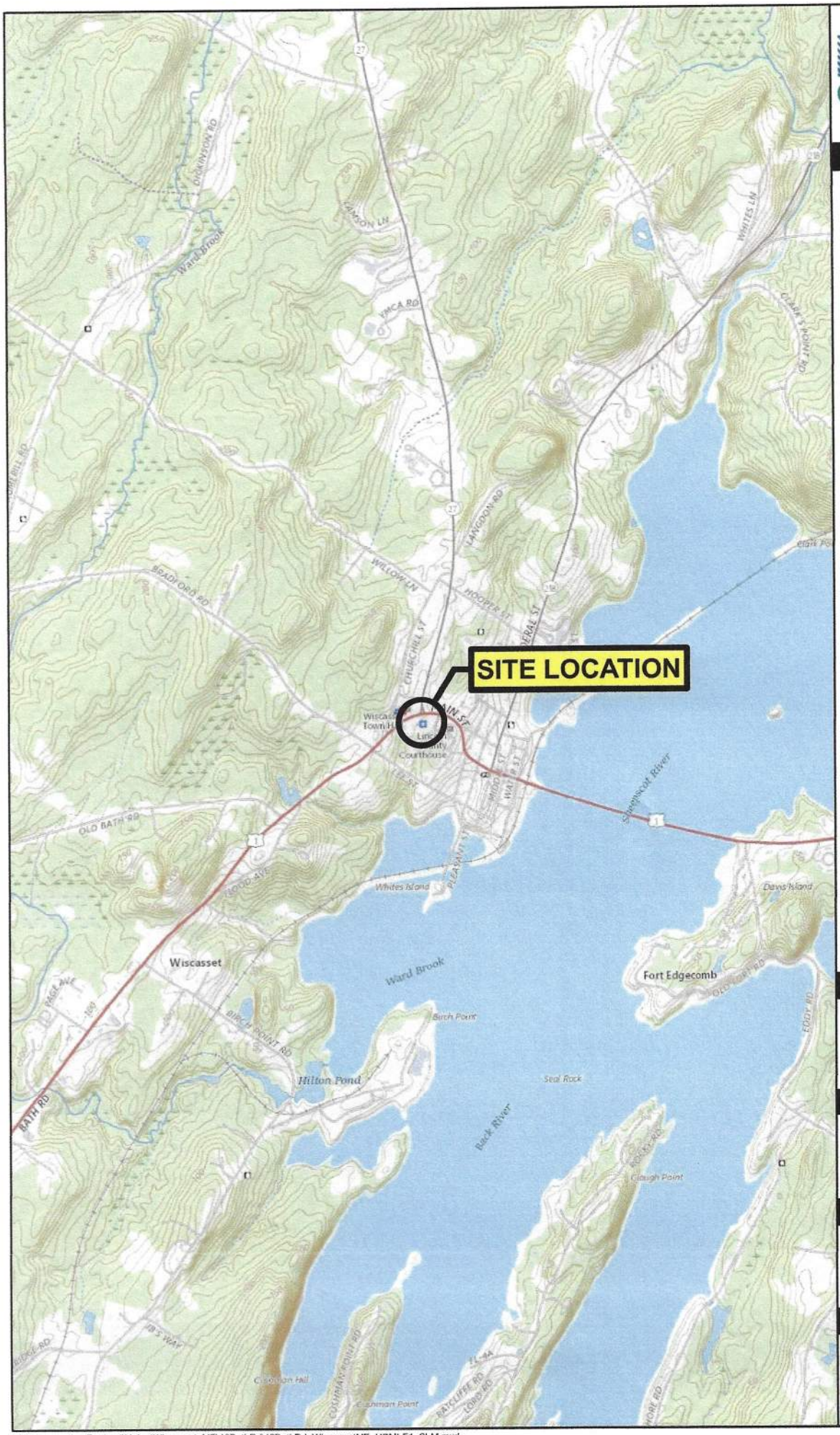
RANSOM CONSULTING, LLC

Wesley Harden, L.G.
Hazardous Materials Specialist

Eriksen P. Phenix, L.G.
Senior Project Manager

Brian R. Pettengill, P.G.
Principal/Vice President

WEH/MKH/EPP/BRP:ags
Attachments



RANSOM Consulting, LLC

Regional Locator Map

Notes

1. Data Source: The National Map.
2. USGS Quad Names: Wiscasset, Maine
3. Latitude: 44°0'16.829"N
   Longitude: 69°40'10.516"W

Scale and Orientation

0 1,000 2,000

1 inch = 2,000 feet

Prepared For

Gale Associates Inc.
6 Bedford Farms Drive
Bedford, New Hampshire

Site Address

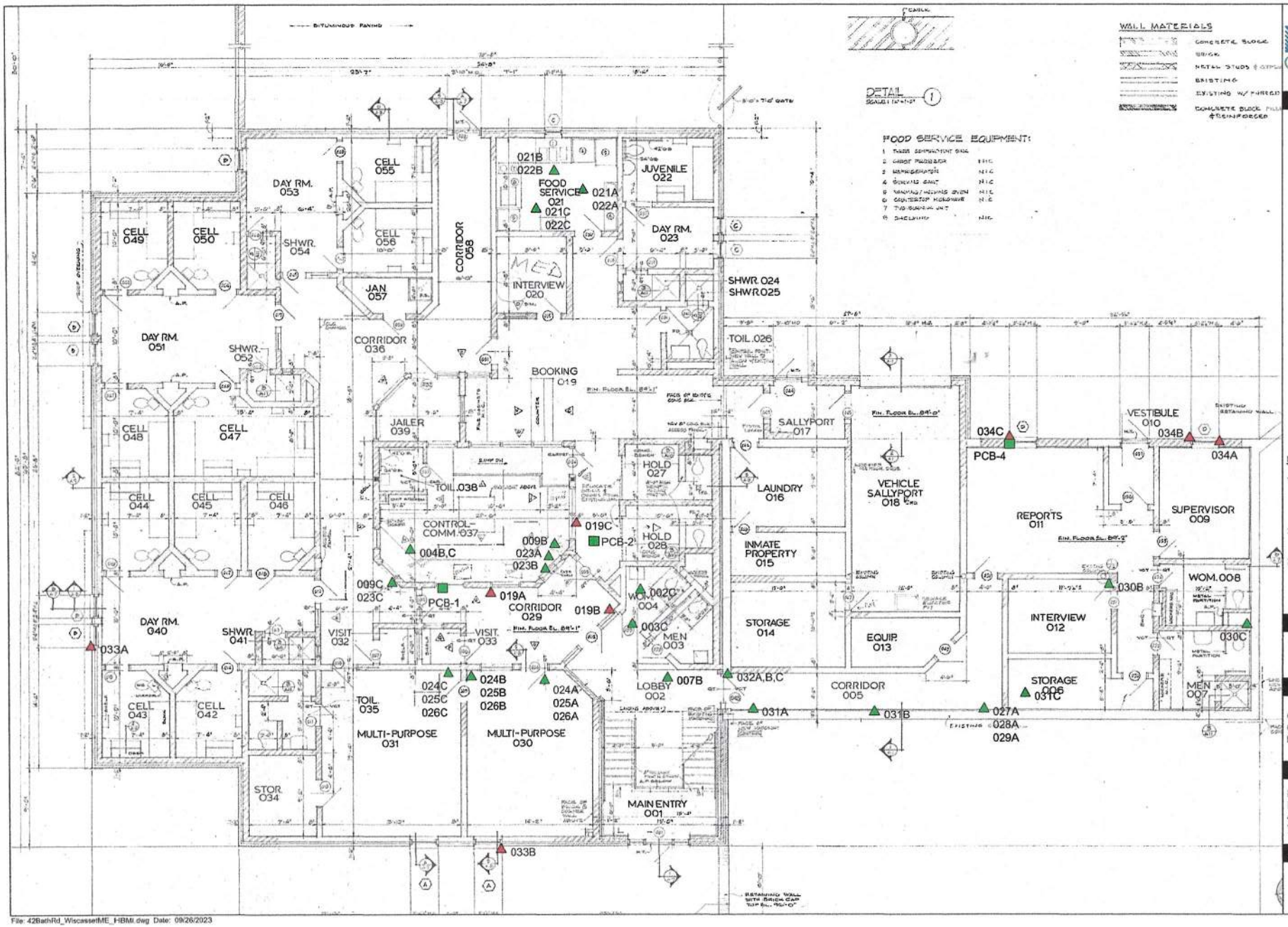
Lincoln County Sheriff's Building HBMI
42 Bath Road
Wiscasset, Maine

211.06085 | Oct 2023

Figure 1

Site Location Map

X:\Ransom_NewEngland\Maine\Wiscasset_ME\42BathRd\42BathRd_WiscassetME_HBMI-F1_SLM.mxd



File: 42BathRd_WiscassetME_HBMI.dwg Date: 09/26/2023

RANSOM Consulting, LLC

Legend & Notes

- Sample Testing Negative for Asbestos
- Sample Testing Positive for Asbestos
- Negative PCB sample location

Notes:

1. Site Plan based on measurements and observations made by Ransom Consulting, LLC.
2. Some features are approximate in location and scale.
3. This plan has been prepared for Gale Associates Inc. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation

0 5 10

1 inch = 10 feet

Prepared For

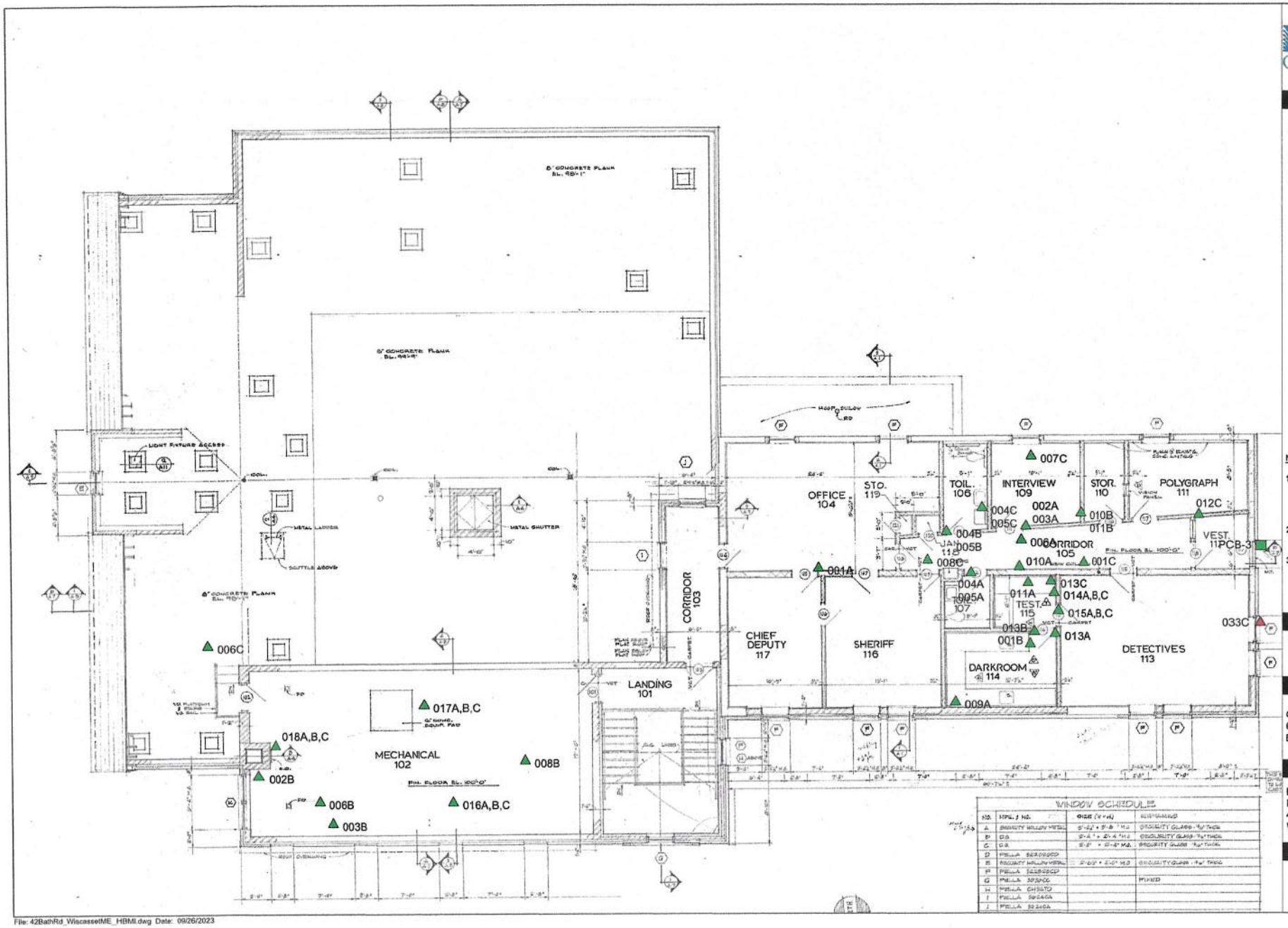
Gale Associates Inc.
6 Bedford Farms Drive
Bedford, New Hampshire

Site Address

Lincoln County Sheriff's Building HBMI
42 Bath Road
Wiscasset, Maine

211.06085 | Oct 2023

Figure 2
Ground Floor Plan



File: 42BathRd_WiscassetME_HBMI.dwg Date: 09/26/2023

RANSOM Consulting, LLC

Legend & Notes

- Sample Testing Negative for Asbestos
- Sample Testing Positive for Asbestos
- Negative PCB sample location

All piping in mechanical room and attic area observed to be insulated with fiberglass except expansion tank (017A,B,C) and boiler air intake (018A,B,C)

Notes:

1. Site Plan based on measurements and observations made by Ransom Consulting, LLC.
2. Some features are approximate in location and scale.
3. This plan has been prepared for Gale Associates Inc. All other uses are not authorized unless written permission is obtained from Ransom Consulting, LLC.

Scale and Orientation

0 5 10

1 inch = 10 feet

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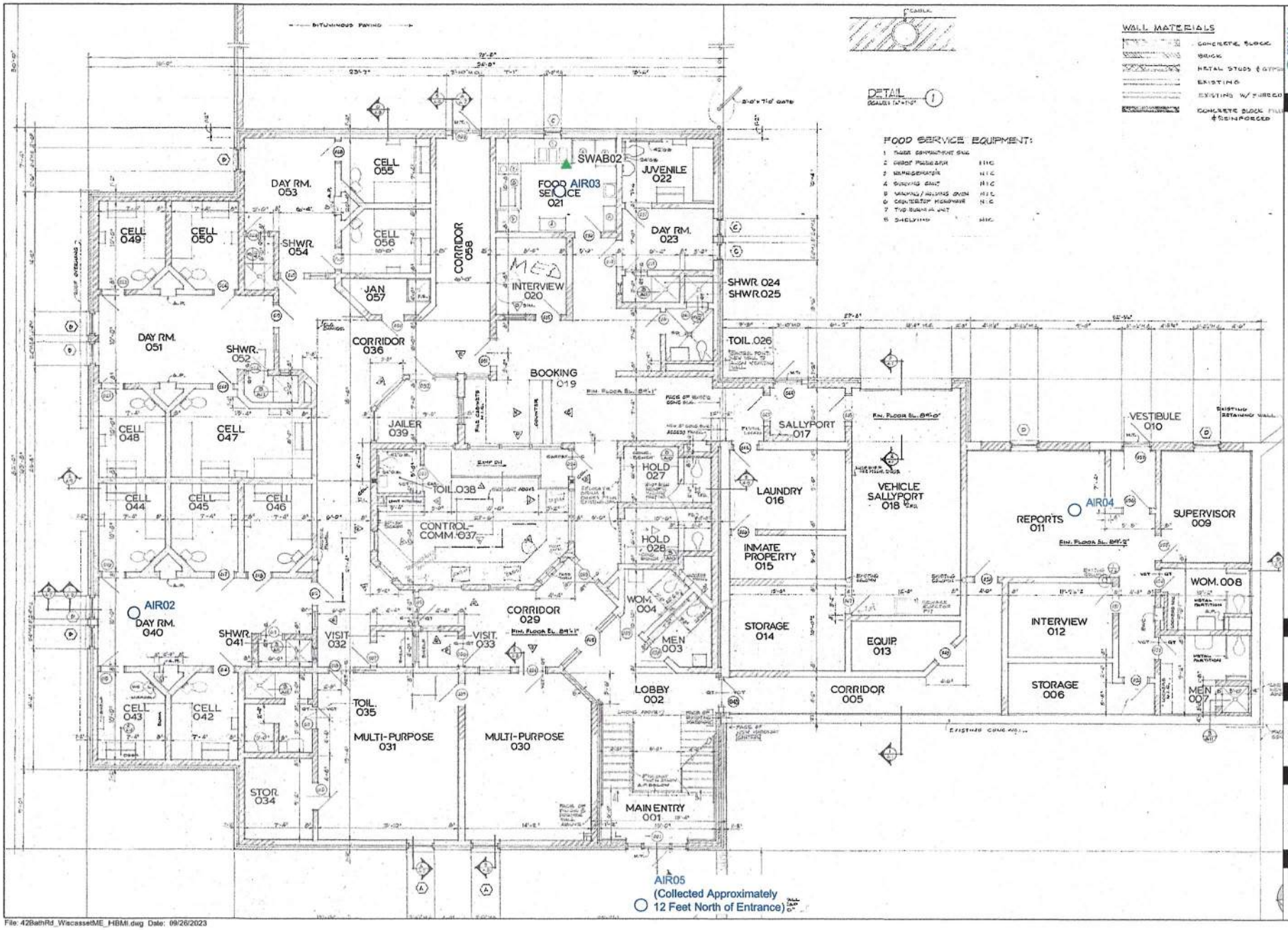
Bedford, New Hampshire

Site Address

Lincoln County Sheriff's Building HBMI
42 Bath Road
Wiscasset, Maine

211.06085 | Oct 2023

Figure 3
First Floor Plan



File: 42BathRd_WiscassetME_HBMI.dwg Date: 09/26/2023

RANSOM Consulting, LLC

Legend & Notes

- Approximate Air Sample Location
- Approximate Swab Sample Location

Notes:

1. Site Plan based on measurements and observations made by Ransom Consulting, LLC.
2. Some features are approximate in location and scale.
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Scale and Orientation

0 5 10

1 inch = 10 feet

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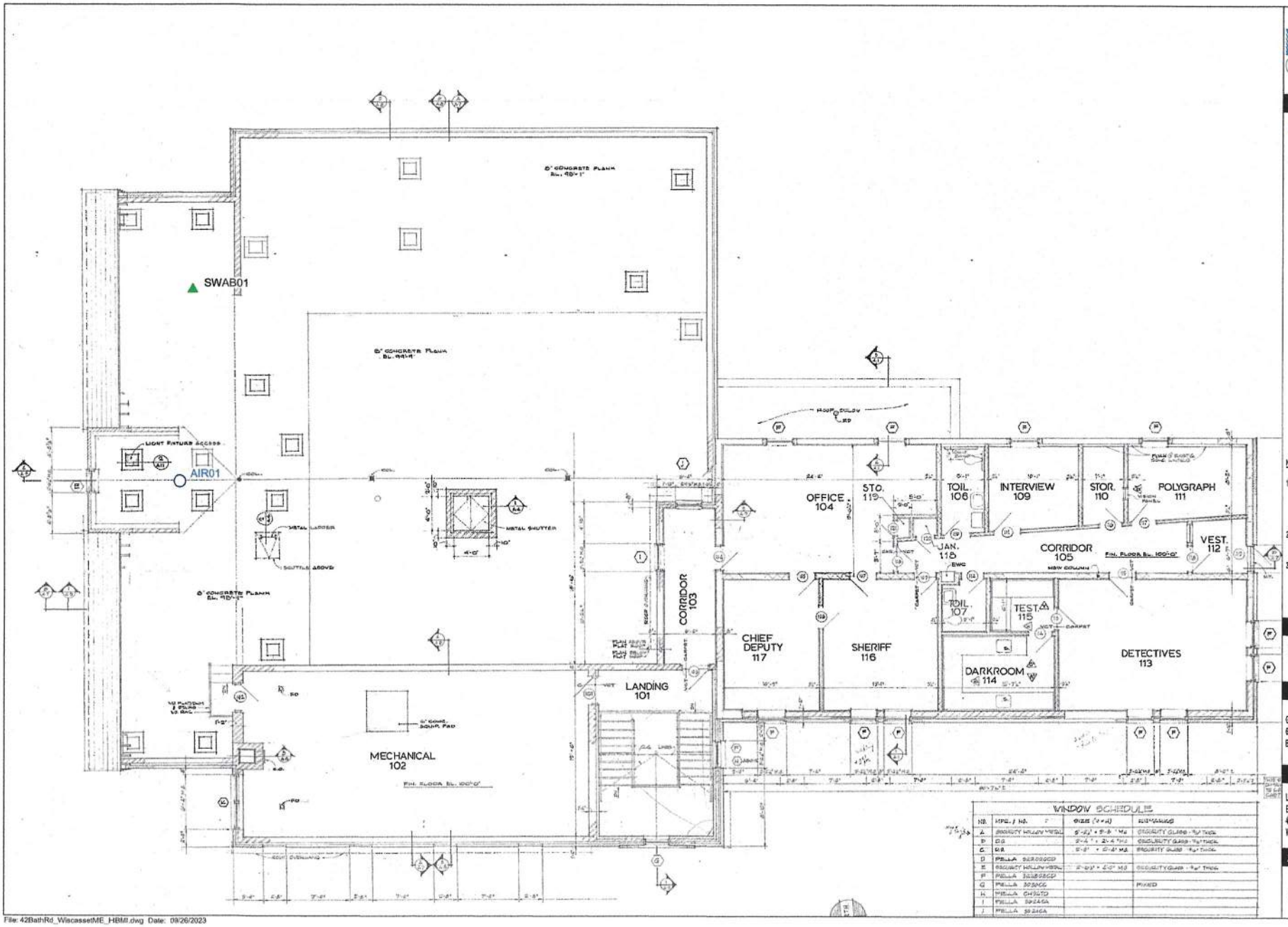
211.06085 | Oct 2023

Figure 4
Air and Swab Sampling Plan - Ground Floor



RANSOM Consulting, LLC

Legend & Notes

- Approximate Air Sample Location
- Approximate Swab Sample Location

Notes:

1. Site Plan based on measurements and observations made by Ransom Consulting, LLC.
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Figure 5
Air and Swab Sampling Plan - First Floor

File: 42BathRd_WiscassetME_HBMI.dwg Date: 09/26/2023

ATTACHMENT A

Photograph Log

Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

Photograph Log

Photo 1 (8/16/23): View of AIR01 collected in attic/storage space.

Photo 2 (8/16/23): View of possible microbial growth on insulation in attic/storage space.

Photo 3 (8/16/23): View of microbial growth observed on wood framing in attic/storage space.

Photo 4 (8/16/23): View of ground floor east perimeter wall in evidence room.

Photo 5 (8/16/23): Closer view of brick mortar layer between cement wall and floor on east perimeter wall.

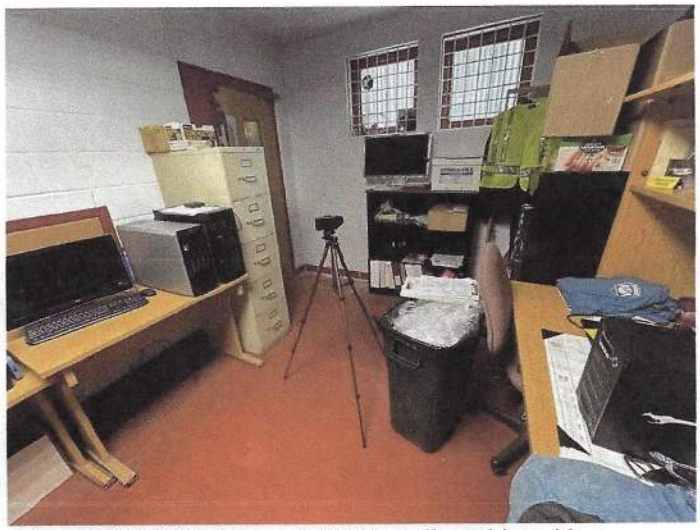

Photo 6 (8/16/23): View of AIR02, collected in evidence room

Photograph Log

Photo 7 (8/16/23): View of east perimeter wall exterior.

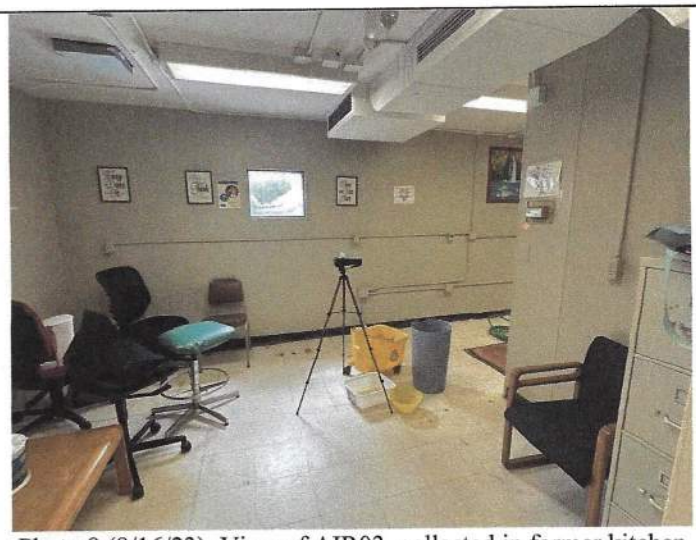

Photo 8 (8/16/23): View of AIR03, collected in former kitchen addition.

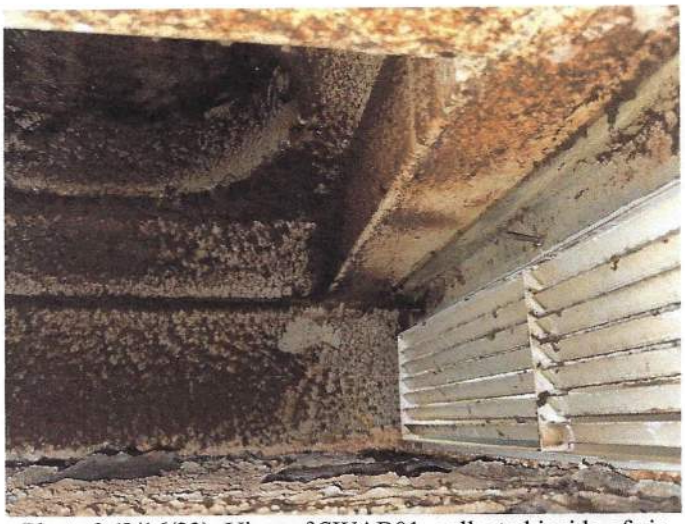

Photo 9 (8/16/23): View of SWAB01, collected inside of air vent on ceiling of former kitchen addition.

Photo 10 (8/16/23): View of AIR04, collected in Patrol Room.

Photo 11 (8/16/23): View of AIR05, collected outside approx. 12 feet north of building entrance.

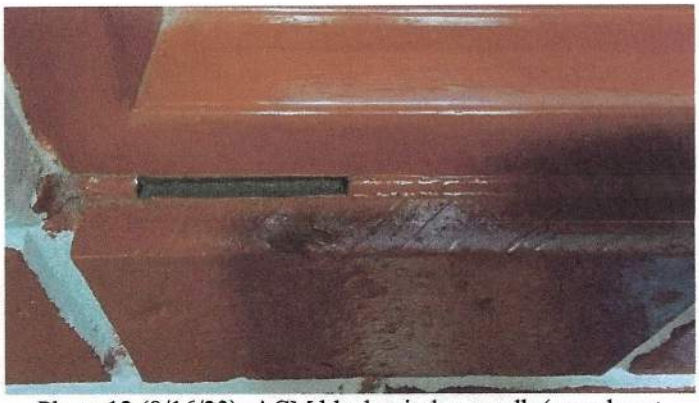

Photo 12 (8/16/23): ACM black window caulk (sample set 019ABC) located on interior windows on the ground floor.

Photo 13 (8/16/23): ACM window caulk (sample set 033ABC) located on the 1985 section of the Site building.

Photo 14 (8/16/23): ACM window caulk (sample set 034ABC) located on the 19XX section of the building.

ATTACHMENT B

Certifications

Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

R.J. ENTERPRISES, INC.

This is to certify that:

Wesley Harden

has completed the requisite 4-hour training, and has passed an examination for the

Asbestos Inspector Refresher

course pursuant Title II Toxic Substance Control Act, 15 U.S.C. 2646 and Maine State Regulations 06-096 CMR 425.5 (E)

1/27/2023	1/27/2024
DATE(S) OF TRAINING	EXPIRATION DATE
1/27/2023	96%
EXAM DATE	EXAM SCORE
AIR-23-1-1-17	
CERTIFICATE NUMBER	

ELIZABETH STORER, DIRECTOR OF TRAINING

ELIZABETH STORER, TRAINING INSTRUCTOR

TP-0031

TRAINING PROVIDER ID #

51 River Road, Brunswick, ME 04011 • Phone (207) 373-0344 • Fax (207) 373-1344

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

February 12, 2023

Ransom Consulting, LLC
400 Commercial Street, Suite 404
Portland, Maine 04101

Dear Licensee:

Asbestos application(s) for individual certification of the **one** employee(s) listed below have been received and **approved**. Individual certification numbers are listed below and wallet card(s) are enclosed. Card(s) are property of the individual to whom each is issued. Your responsibility as a licensee is to ensure delivery of the cards to persons in your employment. This letter should be retained for your company files as record of certification. Please attach 1 updated passport size photo with every application.

Remember, in Maine all **certified employees** working on an asbestos abatement project, whether conducting removal/repair, air monitoring, design, inspection, or analysis functions, **must work for a State of Maine licensed asbestos firm** and carry his/her wallet card(s) on the job site.

As a reminder, prior to renewing your asbestos certification, the State of Maine **requires** an annual refresher course to be taken before submitting a renewal application. A certificate shall expire one year from the last day of the month from the date of issuance, **or on the last day of the month that the training certificate expires**, whichever is sooner.

All our asbestos forms can be found at https://www.maine.gov/dep/waste/asbestos/forms.html
Thank you for your cooperation and your completed application(s).

Name	Category	Certification #	Exp. Date
Wesley E. Harden	Inspector	AI-0874	01/31/2024

Sincerely,

Sandra J. Moody

Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101433-0

Optimum Analytical & Consulting LLC

Salem, NH

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2023-04-01 through 2024-03-31

Effective Dates

For the National Voluntary Laboratory Accreditation Program

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

March 21, 2023

Attn.: Jamie Noel, Lab Director
Optimum Analytical
85 Stiles Road, Suite 201
Salem, NH 03079

Dear Ms. Noel:

This letter is in reference to your renewal application for licensure as an **Asbestos Analytical Laboratory (Bulk).**

This office has received and completed the review of your application and finds it to be in accordance with the requirements of Maine Asbestos Management Regulations Chapter 425, effective April 3, 2011.

Your application has been approved and your firm is licensed to provide asbestos analytical service(s) as described on the enclosed certificate.

Your renewal license number remains at **LB-0067** which is in effect for one year and will expire on March 31, 2024. A renewal application should be filed not less than thirty (30) days prior to expiration of this licensure. Thank you for your continued service to the people of the State of Maine.

If you have any questions please call me at (207) 242-0877.

Sincerely,

Sandra J. Moody

Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

Enclosure

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

March 21, 2023

Attn.: Jamie Noel, Lab Director
Optimum Analytical
85 Stiles Road, Suite 201
Salem, NH 03079

Dear Ms. Noel:

This letter is in reference to your renewal application for licensure as an **Asbestos Analytical Laboratory (Air).**

This office has received and completed the review of your application and finds it to be in accordance with the requirements of Maine Asbestos Management Regulations Chapter 425, effective April 3, 2011.

Your application has been approved and your firm is licensed to provide asbestos analytical service(s) as described on the enclosed certificate.

Your renewal license number remains at **LA-0065** which is in effect for one year and will expire on March 31, 2024. A renewal application should be filed not less than thirty (30) days prior to expiration of this licensure. Thank you for your continued service to the people of the State of Maine.

If you have any questions please call me at (207) 242-0877.

Sincerely,

Sandra J. Moody

Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

Enclosure

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

website: www.maine.gov/dep

State of Maine
Department of Environmental Protection

LICENSE

Optimum Analytical

Asbestos Analytical Laboratory
(Bulk)

License Number: LB-0067 **Expiration Date: 03/31/2024**

State of Maine
Department of Environmental Protection

LICENSE

Optimum Analytical

Asbestos Analytical Laboratory
(Air)

License Number: LA-0065 **Expiration Date: 03/31/2024**

INSTITUTE FOR ENVIRONMENTAL EDUCATION

This is to certify that

Eriksen P Phenix

Ransom Consulting LLC, Suite 404, Portland, ME 04101

has completed requisite training by Video Conference, and has passed an examination for reaccreditation as:

Asbestos Inspector Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

Course Location

Zoom Video Conference

Institute for Environmental Education 16 Upton Drive Wilmington, MA 01887

July 20, 2023
Course Dates

23-4810-106-503796
Certificate Number

July 20, 2023
Examination Date

July 20, 2024
Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887 Telephone 978.658.5272 www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

MELANIE LOYZIM
COMMISSIONER

July 29, 2023

Ransom Consulting LLC
400 Commercial Street, Suite 404
Portland, Maine 04101

Dear Licensee:

Asbestos application(s) for individual certification of the **one** employee(s) listed below have been received and **approved**. Individual certification numbers are listed below and wallet card(s) are enclosed. Card(s) are property of the individual to whom each is issued. Your responsibility as a **licensee is to ensure delivery of the cards to persons in your employment. This letter should be** retained for your company files as record of certification. Please attach 1 updated passport size photo with every application.

Remember, in Maine all **certified employees** working on an asbestos abatement project, whether conducting removal/repair, air monitoring, design, inspection, or analysis functions, **must work for a State of Maine licensed asbestos firm** and carry his/her wallet card(s) on the job site.

As a reminder, prior to renewing your asbestos certification, the State of Maine **requires** an annual refresher course to be taken before submitting a renewal application. A certificate shall expire one year from the last day of the month from the date of issuance, **or on the last day of the month that the training certificate expires**, whichever is sooner.

All our asbestos forms can be found at https://www.maine.gov/dep/waste/asbestos/forms.html
Thank you for your cooperation and your completed application(s).

Name	Category	Certification #	Exp. Date
Eriksen P. Phenix	Inspector	AI-0560	07/31/2024

Sincerely,

Sandra J. Moody

Sandra J. Moody, Environmental Specialist
Division of Remediation
Bureau of Remediation and Waste Management

ATTACHMENT C

Laboratory Reports

Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Road, Suite 201
Salem, NH 03079
603-458-5247

Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street
Portland ME 04101

Project Reference:	211.06085.009
Laboratory Batch #:	2348291
Date Samples Received:	08/21/2023
Date Samples Analyzed:	09/01/2023
Date of Final Report:	09/06/2023

SAMPLE IDENTIFICATION:

One Hundred Two (102) samples from Lincoln County Sheriff's Office, Wiscasset, Maine project were submitted by Client on 08/21/2023

This bulk sample(s) was delivered to Optimum Analytical Consulting, LLC (Optimum) located in Salem, New Hampshire for asbestos content determination.

ANALYTICAL METHOD:

Analytical procedures were performed in accordance with the U.S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS)(EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials). This report relates only to those samples analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites. Quantification of asbestos content was determined by Calibrated Visual Estimation. Optimum is not responsible for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

In any given material, fibers with a small diameter (<0.25µm) may not be detected by the PLM method. Floor tile and other resinous bound materials may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additionally, there is currently no approved EPA analytical method to reliably confirm vermiculite as non-asbestos containing. Additional analytical methods may be required. Optimum Analytical recommends using Transmission Electron Microscopy (TEM) or other approved methods for a more definitive analysis.

Optimum will retain all samples for a minimum of three months. Further analysis or return of samples must be requested within this three month period to guarantee their availability. This report may not be reproduced except in full, without the written approval of Optimum Analytical and Consulting, LLC.

The client/laboratory shall not use the NVLAP and AIHA Logo or this test report in a way that constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology or the American Industrial Hygiene Association.

Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Point Count = .25%, 1000 Point Count = 0.1%; Present or Absent are observations made during a qualitative analysis.

This report is considered preliminary until signed by both the Laboratory Analyst and Laboratory Director or Supervisor. If you have any questions regarding this report, please do not hesitate to contact us.

Jamie L. Noel
Laboratory Director

NVLAP Lab Code: 101433-0

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

CLIENT:	Ransom Environmental Consultants, Inc.
ADDRESS:	400 Commercial Street
CITY / STATE / ZIP:	Portland ME 04101
CONTACT:	Erik Phenix
DESCRIPTION:	PLM Analysis
LOCATION:	Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #:	2348291
PROJECT #:	211.06085.009
DATE COLLECTED:	
COLLECTED BY:	Client
DATE RECEIVED:	08/21/2023
ANALYSIS DATE:	09/01/2023
REPORT DATE:	09/06/2023
ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-001 001A	Administration Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-002 001B	Administration Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-003 001C	Administration Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-004 002A	1985 Section Drywall, White/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-005 002B	1985 Section Drywall, White/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-006 002C	1985 Section Drywall, White/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-007 003A	1985 Section Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-008 003B	1985 Section Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-009 003C	1985 Section Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-010 004A	Administration - Toilets Square Pattern Sheet Flooring, Beige/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	1% 15% 84%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-011 004B	Administration - Toilets Square Pattern Sheet Flooring, Beige/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	1% 15% 84%
2348291-012 004C	Administration - Toilets Square Pattern Sheet Flooring, Beige/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	1% 15% 84%
2348291-013 005A	Administration - Toilets Sheet Flooring Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	1% 2% 97%
2348291-014 005B	Administration - Toilets Sheet Flooring Mastic - Not Present,	LAYER 1 100%				
2348291-015 005C	Administration - Toilets Sheet Flooring Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	1% 2% 97%
2348291-016 006A	Throughout Building Duct Tape, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	85% 15%
2348291-017 006B	Throughout Building Duct Tape, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	85% 15%
2348291-018 006C	Throughout Building Duct Tape, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	85% 15%
2348291-019 007A	Throughout Building 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-020 007B	Throughout Building 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-021 007C	Throughout Building 2'x4' Ceiling Tile, Type 1, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-022 008A	Throughout Building 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-023 008B	Throughout Building 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-024 008C	Throughout Building 2'x4' Ceiling Tile, Type 2, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-025 009A	1985 Section 1'x1' Ceiling Tile, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-026 009B	1985 Section 1'x1' Ceiling Tile, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%
2348291-027 009C	1985 Section 1'x1' Ceiling Tile, Gray/White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	65% 15% 20%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-028 010A	Administration Vinyl Cove Base, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-029 010B	Administration Vinyl Cove Base, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-030 010C	Administration Vinyl Cove Base, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-031 011A	Administration Vinyl Covebase Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-032 011B	Administration Vinyl Covebase Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-033 011C	Administration Vinyl Covebase Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-034 012A	Administration Vinyl Covebase, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-035 012B	Administration Vinyl Covebase, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-036 012C	Administration Vinyl Covebase, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-037 013A	Administration Vinyl Covebase, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-038 013B	Administration Vinyl Covebase, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-039 013C	Administration Vinyl Covebase, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-040 014A	Administration Room 115 12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-041 014B	Administration Room 115 12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-042 014C	Administration Room 115 12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-043 015A	Administration Room 115 Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-044 015B	Administration Room 115 Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-045 015C	Administration Room 115 Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-046 016A	Mechanical Room Gasket, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-047 016B	Mechanical Room Gasket, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-048 016C	Mechanical Room Gasket, Black	LAYER 1 100%	None Detected		Cellulose Fiber	1%
					Binder/Filler	99%
2348291-049 017A	Mechanical Room LAYER 1 Expansion Tank Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber	45%
					Fibrous Glass	5%
					Binder/Filler	50%
	LAYER 2 Jacket, White	LAYER 2 100%	None Detected		Cellulose Fiber	5%
					Fibrous Glass	85%
					Binder/Filler	10%
2348291-050 017B	Mechanical Room LAYER 1 Expansion Tank Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber	45%
					Fibrous Glass	5%
					Binder/Filler	50%
	LAYER 2 Jacket, White	LAYER 2 100%	None Detected		Cellulose Fiber	5%
					Fibrous Glass	85%
					Binder/Filler	10%
2348291-051 017C	Mechanical Room LAYER 1 Expansion Tank Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber	45%
					Fibrous Glass	5%
					Binder/Filler	50%
	LAYER 2 Jacket - Not Present,	LAYER 2 100%				
2348291-052 018A	Mechanical Room LAYER 1 Large Diameter Pipe Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber	45%
					Fibrous Glass	5%
					Binder/Filler	50%
	LAYER 2 Jacket, White	LAYER 2 100%	None Detected		Cellulose Fiber	5%
					Fibrous Glass	45%
					Binder/Filler	50%
2348291-053 018B	Mechanical Room LAYER 1 Large Diameter Pipe Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber	45%
					Fibrous Glass	5%
					Binder/Filler	50%
	LAYER 2 Jacket, White	LAYER 2 100%	None Detected		Cellulose Fiber	5%
					Fibrous Glass	45%
					Binder/Filler	50%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-054 018C	Mechanical Room LAYER 1 Large Diameter Pipe Insulation, White	LAYER 1 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	45% 5% 50%
	LAYER 2 Jacket, White	LAYER 2 100%	None Detected		Cellulose Fiber Fibrous Glass Binder/Filler	5% 45% 50%
2348291-055 019A	Ground Floor-Interior Window and Door Caulk, Black	LAYER 1 100%	Chrysotile	2.51%	Cellulose Fiber Binder/Filler	1% 96.49%
2348291-056 019B	Ground Floor-Interior Window and Door Caulk, Black Note: Positive Stop	LAYER 1 100%				
2348291-057 019C	Ground Floor-Interior Window and Door Caulk, Black Note: Positive Stop	LAYER 1 100%				
2348291-058 020A	Ground Floor-Command/Control Room Mechanical Floor Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-059 020B	Ground Floor-Command/Control Room Mechanical Floor Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-060 020C	Ground Floor-Command/Control Room Mechanical Floor Mastic, Tan	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-061 021A	Ground Floor-Food Service 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-062 021B	Ground Floor-Food Service 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

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REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-063 021C	Ground Floor-Food Service 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-064 022A	Ground Floor-Food Service Mastic, Tan Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-065 022B	Ground Floor-Food Service Mastic, Tan Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-066 022C	Ground Floor-Food Service Mastic, Tan Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-067 023A	Ground And First Floors-1985 Section Glue Daubs, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-068 023B	Ground And First Floors-1985 Section Glue Daubs, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-069 023C	Ground And First Floors-1985 Section Glue Daubs, Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-070 024A	Ground Floor-Multi-Purpose Room 030 And 031 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-071 024B	Ground Floor-Multi-Purpose Room 030 And 031 12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
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DATE COLLECTED:
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REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-072	Ground Floor-Multi-Purpose Room 030 And 031					
024C	12"x12" Floor Tile, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-073	Ground Floor-Multi-Purpose Room 030 And 031					
025A	12"x12" Floor Tile Mastic, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-074	Ground Floor-Multi-Purpose Room 030 And 031					
025B	12"x12" Floor Tile Mastic, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-075	Ground Floor-Multi-Purpose Room 030 And 031					
025C	12"x12" Floor Tile Mastic, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-076	Ground Floor-Multi-Purpose Room 030 And 031					
026A	12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-077	Ground Floor-Multi-Purpose Room 030 And 031					
026B	12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-078	Ground Floor-Multi-Purpose Room 030 And 031					
026C	12"x12" Floor Tile, Blue	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-079	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule					
027A	12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC
85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
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ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-080 027B	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule 12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-081 027C	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule 12"x12" Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-082 028A	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule Mastic, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-083 028B	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule Mastic, Black Note: Insufficient amount of Mastic for Gravimetric Reduction.	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-084 028C	Ground Floor-Patrol Corridor, Storage,Interview, And Vestibule Mastic, Black	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-085 029A	Pink 12X12 Floor Tile 12x12 Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-086 029B	Pink 12X12 Floor Tile 12x12 Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-087 029C	Pink 12X12 Floor Tile 12x12 Floor Tile, Pink	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

CLIENT: Ransom Environmental Consultants, Inc.
ADDRESS: 400 Commercial Street
CITY / STATE / ZIP: Portland ME 04101
CONTACT: Erik Phenix
DESCRIPTION: PLM Analysis
LOCATION: Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #: 2348291
PROJECT #: 211.06085.009
DATE COLLECTED:
COLLECTED BY: Client
DATE RECEIVED: 08/21/2023
ANALYSIS DATE: 09/01/2023
REPORT DATE: 09/06/2023
ANALYST: Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-088	Ground Floor-Patrol Reports, Supervisor, And Interview					
030A	Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-089	Ground Floor-Patrol Reports, Supervisor, And Interview					
030B	Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-090	Ground Floor-Patrol Reports, Supervisor, And Interview					
030C	Carpet Mastic, Yellow	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-091	Patrol					
031A	Drywall, Gray/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-092	Patrol					
031B	Drywall, Gray/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-093	Patrol					
031C	Drywall, Beige/Brown	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	10% 90%
2348291-094	Patrol					
032A	Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-095	Patrol					
032B	Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%
2348291-096	Patrol					
032C	Joint Compound, White	LAYER 1 100%	None Detected		Cellulose Fiber Binder/Filler	1% 99%

OPTIMUM
Analytical and Consulting, LLC

85 Stiles Road, Suite 201, Salem, NH 03079 Phone: (603)-458-5247

BULK SAMPLE ANALYSIS REPORT
POLARIZED LIGHT MICROSCOPY

PLM (EPA-40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA-600/ R-93-116 Method for Determination of Asbestos in Bulk Building Materials) NVLAP Lab Code: 101433-0

CLIENT:	Ransom Environmental Consultants, Inc.
ADDRESS:	400 Commercial Street
CITY / STATE / ZIP:	Portland ME 04101
CONTACT:	Erik Phenix
DESCRIPTION:	PLM Analysis
LOCATION:	Lincoln County Sheriff's Office, Wiscasset, Maine

ORDER #:	2348291
PROJECT #:	211.06085.009
DATE COLLECTED:	
COLLECTED BY:	Client
DATE RECEIVED:	08/21/2023
ANALYSIS DATE:	09/01/2023
REPORT DATE:	09/06/2023
ANALYST:	Jamie Noel

REPORT OF ANALYSIS

Laboratory ID Sample No.	Sample Location Description	Layer No. Layer %	Asbestos Type	(%)	Non-Asbestos Components	(%)
2348291-097 033A	Exterior-1985 Section Window Caulk, Gray	LAYER 1 100%	Chrysotile	2.23%	Cellulose Fiber Binder/Filler	1% 96.77%
2348291-098 033B	Exterior-1985 Section Window Caulk, Gray Note: Positive Stop	LAYER 1 100%				
2348291-099 033C	Exterior-1985 Section Window Caulk, Gray Note: Positive Stop	LAYER 1 100%				
2348291-100 034A	Exterior-1941 Section Window Caulk, Beige/Brown	LAYER 1 100%	Chrysotile	3%	Cellulose Fiber Binder/Filler	1% 96%
2348291-101 034B	Exterior-1941 Section Window Caulk, Beige/Brown Note: Positive Stop	LAYER 1 100%				
2348291-102 034C	Exterior-1941 Section Window Caulk, Beige/Brown Note: Positive Stop	LAYER 1 100%				

Gravimetric Reduction performed on all NOBs unless otherwise indicated.

Analyst Signatory:
Jamie Noel

NVLAP TESTING
NVLAP Lab Code: 101433-0

2348291

Client:	Ransom Consulting, LLC
Contact:	Erik Phenix / Wesley Harden
Address:	400 Commercial Street, Suite 404, Portland ME 04101
Phone:	207-772-2891 / Cell: 207-272-8673
Fax:	
Email:	wes.harden@ransomenv.com ephenix@ransomenv.com
Project:	Lincoln County Sheriff's Office
Ransom Project #	211.06085.009 Wiscasset, Maine
Client Notes:	**Positive Stop Requested** *Please analyze prepare NOB samples via gravimetric reduction, per MEDEP requirements*
P.O. #.	6242
Date Submitted:	8/18/2023 0:00
Analysis:	Bulk PLM
TurnAroundTime:	**Standard TAT**

"Instructions:
Use Column "B" for your contact info

To See an Example Click the bottom Example Tab.

Enter samples between "<<" and ">>"

Begin Samples with a "<< "above the first sample

and end with a ">>" below the last sample.
Only Enter your data on the first sheet "Sheet1"

Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.

Sample Number	Building/Area	Sample Description
<<		
001A	Administration	Carpet mastic, yellow
001B	Administration	Carpet mastic, yellow
001C	Administration	Carpet mastic, yellow
002A	1985 section	Drywall
002B	1985 section	Drywall
002C	1985 section	Drywall
003A	1985 section	Joint compound
003B	1985 section	Joint compound
003C	1985 section	Joint compound
004A	Administration - toilets	Square pattern sheet flooring
004B	Administration - toilets	Square pattern sheet flooring
004C	Administration - toilets	Square pattern sheet flooring
005A	Administration - toilets	Sheet flooring mastic
005B	Administration - toilets	Sheet flooring mastic
005C	Administration - toilets	Sheet flooring mastic
006A	Throughout building	White duct tape
006B	Throughout building	White duct tape
006C	Throughout building	White duct tape
007A	Throughout building	2'x4' ceiling tile, type 1
007B	Throughout building	2'x4' ceiling tile, type 1
007C	Throughout building	2'x4' ceiling tile, type 1
008A	Throughout building	2'x4' ceiling tile, type 2
008B	Throughout building	2'x4' ceiling tile, type 2
008C	Throughout building	2'x4' ceiling tile, type 2
009A	1985 section	1'x1' ceiling tile
009B	1985 section	1'x1' ceiling tile
009C	1985 section	1'x1' ceiling tile
010A	Administration	Vinyl cove base, blue
010B	Administration	Vinyl cove base, blue
010C	Administration	Vinyl cove base, blue
011A	Administration	Vinyl cove base mastic
011B	Administration	Vinyl cove base mastic
011C	Administration	Vinyl cove base mastic
012A	Administration	Vinyl cove base, tan
012B	Administration	Vinyl cove base, tan
012C	Administration	Vinyl cove base, tan
013A	Administration	Vinyl cove base, black
013B	Administration	Vinyl cove base, black
013C	Administration	Vinyl cove base, black
014A	Administration room 115	12"x12" floor tile, tan
014B	Administration room 115	12"x12" floor tile, tan
014C	Administration room 115	12"x12" floor tile, tan
015A	Administration room 115	Mastic associated with 014ABC
015B	Administration room 115	Mastic associated with 014ABC
015C	Administration room 115	Mastic associated with 014ABC
016A	Mechanical room	Gasket, black

8/21/23 12:20

2348291

Client:	Ransom Consulting, LLC
Contact:	Erik Phenix / Wesley Harden
Address:	400 Commercial Street, Suite 404, Portland ME 04101
Phone:	207-772-2891 / Cell: 207-272-8673
Fax:	
Email:	wes.harden@ransomenv.com ephenix@ransomenv.com
Project:	Lincoln County Sheriff's Office
Ransom Project #	211.06085.009 Wiscasset, Maine
Client Notes:	**Positive Stop Requested** *Please analyze prepare NOB samples via gravimetric reduction, per MEDEP requirements*
P.O. #.	6242
Date Submitted:	8/18/2023 0:00
Analysis:	Bulk PLM
TurnAroundTime:	**Standard TAT**

Instructions:
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016B	Mechanical room	Gasket, black
016C	Mechanical room	Gasket, black
017A	Mechanical room	Expansion tank insulation/jacket
017B	Mechanical room	Expansion tank insulation/jacket
017C	Mechanical room	Expansion tank insulation/jacket
018A	Mechanical room	Large diameter pipe insulation/jacket
018B	Mechanical room	Large diameter pipe insulation/jacket
018C	Mechanical room	Large diameter pipe insulation/jacket
019A	Ground floor - interior	Window and door caulk
019B	Ground floor - interior	Window and door caulk
019C	Ground floor - interior	Window and door caulk
020A	Ground floor - command/control room	Mechanical floor mastic
020B	Ground floor - command/control room	Mechanical floor mastic
020C	Ground floor - command/control room	Mechanical floor mastic
021A	Ground floor - food service	12"x12" floor tile, white with gray mottle
021B	Ground floor - food service	12"x12" floor tile, white with gray mottle
021C	Ground floor - food service	12"x12" floor tile, white with gray mottle
022A	Ground floor - food service	Mastic associated with 021ABC
022B	Ground floor - food service	Mastic associated with 021ABC
022C	Ground floor - food service	Mastic associated with 021ABC
023A	Ground and first floors - 1985 section	Glue daubs assocaited with 009ABC
023B	Ground and first floors - 1985 section	Glue daubs assocaited with 009ABC
023C	Ground and first floors - 1985 section	Glue daubs assocaited with 009ABC
024A	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, white
024B	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, white
024C	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, white
025A	Ground floor - Multi-purpose rooms 030 and 031	Black mastic assocaited with 024ABC and 026ABC
025B	Ground floor - Multi-purpose rooms 030 and 031	Black mastic assocaited with 024ABC and 026ABC
025C	Ground floor - Multi-purpose rooms 030 and 031	Black mastic assocaited with 024ABC and 026ABC
026A	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, blue
026B	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, blue
026C	Ground floor - Multi-purpose rooms 030 and 031	12"x12" floor tile, blue
027A	Ground floor - patrol corridor, storage, interview, and vestibule	12"x12" floor tile, gray with white mottle
027B	Ground floor - patrol corridor, storage, interview, and vestibule	12"x12" floor tile, gray with white mottle
027C	Ground floor - patrol corridor, storage, interview, and vestibule	12"x12" floor tile, gray with white mottle
028A	Ground floor - patrol corridor, storage, interview, and vestibule	Mastic, black associated with 027ABC and 029ABC
028B	Ground floor - patrol corridor, storage, interview, and vestibule	Mastic, black associated with 027ABC and 029ABC
028C	Ground floor - patrol corridor, storage, interview, and vestibule	Mastic, black associated with 027ABC and 029ABC
030A	Ground floor - patrol reports, supervisor, and interivew	Carpet mastic, yellow/black
030B	Ground floor - patrol reports, supervisor, and interivew	Carpet mastic, yellow/black
030C	Ground floor - patrol reports, supervisor, and interivew	Carpet mastic, yellow/black
031A	Patrol	Drywall
031B	Patrol	Drywall
031C	Patrol	Drywall
032A	Patrol	Joint compound
032B	Patrol	Joint compound
032C	Patrol	Joint compound
033A	Exterior - 1985 section	Window caulk
033B	Exterior - 1985 section	Window caulk
033C	Exterior - 1985 section	Window caulk
034A	Exterior - 1941 section	Window caulk
034B	Exterior - 1941 section	Window caulk
034C	Exterior - 1941 section	Window caulk
>>		

8/21/23 12:20

Delete Archive Report Reply Reply all Forward Read / Unread

2348291

Re: Lincoln County Sheriffs Office

EH Eileen Hutchinson
To: Wesley Harden <wes.harden@ransomenv.com>

Mon 8/21/2023 2:39 PM

Yes, that's correct. I will add them.

From: Wesley Harden <wes.harden@ransomenv.com>
Sent: Monday, August 21, 2023 2:36 PM
To: Eileen Hutchinson <eileen.hutchinson@optimumanalytical.com>; Eriksen Phenix <ephenix@ransomenv.com>
Subject: RE: Lincoln County Sheriffs Office

Yes. That should be pink 12x12 floor tile. Thank you!

RANSOM Consulting, LLC

Wesley Harden, L.G.
Associate Project Manager
RANSOM CONSULTING, LLC
400 Commercial Street | Suite 404 | Portland, ME 04101
(207) 772-2891 x 429 | phone
(207) 404-1657 | mobile
wes.harden@ransomenv.com
website | my linkedin | vCard | map

This email may contain confidential and/or private information. If you received this email in error please delete and notify sender.

From: Eileen Hutchinson <eileen.hutchinson@optimumanalytical.com>
Sent: Monday, August 21, 2023 2:35 PM
To: Eriksen Phenix <ephenix@ransomenv.com>; Wesley Harden <wes.harden@ransomenv.com>
Subject: Lincoln County Sheriffs Office

Hello,

There are 3 samples 29A,29B,29C that are not on the chain of custody. Would you like to add them?

Thanks,
Eileen

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ANALYTICAL REPORT

Lab Number:	L2348355
Client:	Ransom Consulting, LLC. 400 Commercial Street Suite 404 Portland, ME 04101-4660
ATTN:	Erik Phenix
Phone:	(207) 772-2891
Project Name:	LINCOLN CNTY SHERIFF'S OFFICE
Project Number:	211.06085.009
Report Date:	09/01/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2348355-01	PCB-1	CAULK	WICASSET, ME	08/16/23 14:05	08/21/23
L2348355-02	PCB-2	PAINT	WICASSET, ME	08/16/23 15:15	08/21/23
L2348355-03	PCB-3	CAULK	WICASSET, ME	08/17/23 13:20	08/21/23
L2348355-04	PCB-4	CAULK	WICASSET, ME	08/17/23 13:30	08/21/23

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Case Narrative (continued)

PCBs

L2348355-01 and -03: The sample has elevated detection limits due to limited sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative

Date: 09/01/23

ORGANICS

PCBS

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

SAMPLE RESULTS

Lab ID: L2348355-01
Client ID: PCB-1
Sample Location: WICASSET, ME

Sample Depth:
Matrix: Caulk
Analytical Method: 1,8082A
Analytical Date: 08/27/23 13:46
Analyst: ER
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 08/16/23 14:05
Date Received: 08/21/23
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 08/23/23 09:25
Cleanup Method: EPA 3630
Cleanup Date: 08/26/23
Cleanup Method: EPA 3665A
Cleanup Date: 08/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	1330	--	1	A
Aroclor 1221	ND		ug/kg	1330	--	1	A
Aroclor 1232	ND		ug/kg	1330	--	1	A
Aroclor 1242	ND		ug/kg	667	--	1	A
Aroclor 1248	ND		ug/kg	1330	--	1	A
Aroclor 1254	ND		ug/kg	1330	--	1	A
Aroclor 1260	ND		ug/kg	1330	--	1	A
Aroclor 1262	ND		ug/kg	1330	--	1	A
Aroclor 1268	ND		ug/kg	667	--	1	A
PCBs, Total	ND		ug/kg	667	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		30-150	A
Decachlorobiphenyl	108		30-150	A
2,4,5,6-Tetrachloro-m-xylene	109		30-150	B
Decachlorobiphenyl	117		30-150	B

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

SAMPLE RESULTS

Lab ID: L2348355-02
Client ID: PCB-2
Sample Location: WICASSET, ME

Sample Depth:
Matrix: Paint
Analytical Method: 1,8082A
Analytical Date: 08/24/23 14:25
Analyst: AD
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 08/16/23 15:15
Date Received: 08/21/23
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 08/23/23 10:10
Cleanup Method: EPA 3665A
Cleanup Date: 08/24/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/24/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	373	--	1	A
Aroclor 1221	ND		ug/kg	373	--	1	A
Aroclor 1232	ND		ug/kg	373	--	1	A
Aroclor 1242	ND		ug/kg	373	--	1	A
Aroclor 1248	ND		ug/kg	373	--	1	A
Aroclor 1254	ND		ug/kg	373	--	1	A
Aroclor 1260	ND		ug/kg	373	--	1	A
Aroclor 1262	ND		ug/kg	373	--	1	A
Aroclor 1268	ND		ug/kg	373	--	1	A
PCBs, Total	ND		ug/kg	373	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	41		30-150	B
Decachlorobiphenyl	45		30-150	B
2,4,5,6-Tetrachloro-m-xylene	37		30-150	A
Decachlorobiphenyl	33		30-150	A

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

SAMPLE RESULTS

Lab ID: L2348355-03
Client ID: PCB-3
Sample Location: WICASSET, ME

Date Collected: 08/17/23 13:20
Date Received: 08/21/23
Field Prep: Not Specified

Sample Depth:
Matrix: Caulk
Analytical Method: 1,8082A
Analytical Date: 08/27/23 15:06
Analyst: RMP
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
Extraction Date: 08/24/23 11:40
Cleanup Method: EPA 3630
Cleanup Date: 08/26/23
Cleanup Method: EPA 3665A
Cleanup Date: 08/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2860	--	1	A
Aroclor 1221	ND		ug/kg	2860	--	1	A
Aroclor 1232	ND		ug/kg	2860	--	1	A
Aroclor 1242	ND		ug/kg	1430	--	1	A
Aroclor 1248	ND		ug/kg	2860	--	1	A
Aroclor 1254	ND		ug/kg	2860	--	1	A
Aroclor 1260	ND		ug/kg	2860	--	1	A
Aroclor 1262	ND		ug/kg	2860	--	1	A
Aroclor 1268	ND		ug/kg	1430	--	1	A
PCBs, Total	ND		ug/kg	1430	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	83		30-150	B

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

SAMPLE RESULTS

Lab ID: L2348355-04
Client ID: PCB-4
Sample Location: WICASSET, ME

Date Collected: 08/17/23 13:30
Date Received: 08/21/23
Field Prep: Not Specified

Sample Depth:
Matrix: Caulk
Analytical Method: 1,8082A
Analytical Date: 08/27/23 13:54
Analyst: ER
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3540C
Extraction Date: 08/23/23 09:25
Cleanup Method: EPA 3630
Cleanup Date: 08/26/23
Cleanup Method: EPA 3665A
Cleanup Date: 08/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	635	--	1	A
Aroclor 1221	ND		ug/kg	635	--	1	A
Aroclor 1232	ND		ug/kg	635	--	1	A
Aroclor 1242	ND		ug/kg	317	--	1	A
Aroclor 1248	ND		ug/kg	635	--	1	A
Aroclor 1254	ND		ug/kg	635	--	1	A
Aroclor 1260	ND		ug/kg	635	--	1	A
Aroclor 1262	ND		ug/kg	635	--	1	A
Aroclor 1268	ND		ug/kg	317	--	1	A
PCBs, Total	ND		ug/kg	317	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		30-150	A
Decachlorobiphenyl	93		30-150	A
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	103		30-150	B

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/27/23 13:22
Analyst: ER

Extraction Method: EPA 3540C
Extraction Date: 08/23/23 09:25
Cleanup Method: EPA 3630
Cleanup Date: 08/26/23
Cleanup Method: EPA 3665A
Cleanup Date: 08/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01,04 Batch: WG1819110-1						
Aroclor 1016	ND		ug/kg	651	--	A
Aroclor 1221	ND		ug/kg	651	--	A
Aroclor 1232	ND		ug/kg	651	--	A
Aroclor 1242	ND		ug/kg	326	--	A
Aroclor 1248	ND		ug/kg	651	--	A
Aroclor 1254	ND		ug/kg	651	--	A
Aroclor 1260	ND		ug/kg	651	--	A
Aroclor 1262	ND		ug/kg	651	--	A
Aroclor 1268	ND		ug/kg	326	--	A
PCBs, Total	ND		ug/kg	326	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	97		30-150	A
Decachlorobiphenyl	102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	101		30-150	B
Decachlorobiphenyl	111		30-150	B

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/24/23 13:46
Analyst: AD

Extraction Method: EPA 3540C
Extraction Date: 08/23/23 10:10
Cleanup Method: EPA 3665A
Cleanup Date: 08/24/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/24/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 02 Batch: WG1819119-1						
Aroclor 1016	ND		ug/kg	152	--	A
Aroclor 1221	ND		ug/kg	152	--	A
Aroclor 1232	ND		ug/kg	152	--	A
Aroclor 1242	ND		ug/kg	152	--	A
Aroclor 1248	ND		ug/kg	152	--	A
Aroclor 1254	ND		ug/kg	152	--	A
Aroclor 1260	ND		ug/kg	152	--	A
Aroclor 1262	ND		ug/kg	152	--	A
Aroclor 1268	ND		ug/kg	152	--	A
PCBs, Total	ND		ug/kg	152	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	65		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	61		30-150	A

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/27/23 14:26
Analyst: RMP

Extraction Method: EPA 3540C
Extraction Date: 08/24/23 11:40
Cleanup Method: EPA 3630
Cleanup Date: 08/26/23
Cleanup Method: EPA 3665A
Cleanup Date: 08/27/23
Cleanup Method: EPA 3660B
Cleanup Date: 08/27/23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 03 Batch: WG1819719-1						
Aroclor 1016	ND		ug/kg	625	--	A
Aroclor 1221	ND		ug/kg	625	--	A
Aroclor 1232	ND		ug/kg	625	--	A
Aroclor 1242	ND		ug/kg	312	--	A
Aroclor 1248	ND		ug/kg	625	--	A
Aroclor 1254	ND		ug/kg	625	--	A
Aroclor 1260	ND		ug/kg	625	--	A
Aroclor 1262	ND		ug/kg	625	--	A
Aroclor 1268	ND		ug/kg	312	--	A
PCBs, Total	ND		ug/kg	312	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	80		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	80		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01,04 Batch: WG1819110-2 WG1819110-3									
Aroclor 1016	102		99		40-140	3		50	A
Aroclor 1260	99		98		40-140	1		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		100		30-150	A
Decachlorobiphenyl	105		104		30-150	A
2,4,5,6-Tetrachloro-m-xylene	101		103		30-150	B
Decachlorobiphenyl	112		112		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 02 Batch: WG1819119-2 WG1819119-3									
Aroclor 1016	75		74		40-140	1		50	A
Aroclor 1260	71		71		40-140	0		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		73		30-150	B
Decachlorobiphenyl	64		63		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		66		30-150	A
Decachlorobiphenyl	63		64		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 03 Batch: WG1819719-2 WG1819719-3									
Aroclor 1016	80		83		40-140	4		50	A
Aroclor 1260	75		78		40-140	4		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		85		30-150	A
Decachlorobiphenyl	83		84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		82		30-150	B
Decachlorobiphenyl	85		82		30-150	B

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2348355-01A	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		PCB-8082-CAULK(365)
L2348355-02A	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		PCB-8082-PAINT(365)
L2348355-03A	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		PCB-8082-CAULK(365)
L2348355-04A	Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		PCB-8082-CAULK(365)

*Values in parentheses indicate holding time in days

Project Name: LINCOLN CNTY SHERIFF'S OFFICE **Lab Number:** L2348355

Project Number: 211.06085.009 **Report Date:** 09/01/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Project Name: LINCOLN CNTY SHERIFF'S OFFICE **Lab Number:** L2348355

Project Number: 211.06085.009 **Report Date:** 09/01/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: LINCOLN CNTY SHERIFF'S OFFICE
Project Number: 211.06085.009

Lab Number: L2348355
Report Date: 09/01/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 8/21/23

ALPHA Job #: L2348355

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Ransom
Address: 400 Commercial St, Portland, Me
Phone: wes.harden@ransomenv.com
Email: ephenix@ransomenv.com

Project Information

Project Name: Lincoln County Sheriff
Project Location: Wiscasset, Maine
Project #: 211 06085.009
Project Manager: Erikssen Phenix
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #: 62413

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

Soxhle Extraction

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☒ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	☒ PCB	Sample Comments	TOTAL # BOTTLES
48355 01	PCB-1	8-16-23	1405	Caulk	WH	X		
02	PCB-2	↓	1515	paint	WH	X		
03	PCB-3	8-17-23	1320	Caulk	WH	X		
04	PCB-4	↓	1330	Caulk	WH	X		

Container Type
Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	8/21/23 1215	[signature] AAL	8/21/23 1215
[signature] AAL	8/21/23 1330	[signature] AAL	8/21/23 1330
[signature]	8/21/23 1940	[signature]	8/21/23 1940

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

SGS GALSON

Megan Hixon
Ransom Consulting
400 Commercial Street
Suite 404
Portland, ME 04101

August 24, 2023

Account# 23773

Login# L602635

Dear Megan Hixon:

Enclosed are the analytical results for the samples received by our laboratory on August 21, 2023. All samples on the chain of custody were received in good condition unless otherwise noted. Any additional observations will be noted on the chain of custody.

Please contact client services at (888) 432-5227 if you would like any additional information regarding this report. Thank you for using SGS Galson.

Sincerely,

SGS Galson

Lisa Swab

Lisa Swab
Laboratory Director

Enclosure(s)

LABORATORY ANALYSIS REPORT

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.sgsgalson.com

Client : Ransom Consulting
Site : LINCOLN COUNTY SHERIFFS OFFICE
Project No. : 211.06085.009
Date Sampled : 16-AUG-23
Date Received : 21-AUG-23
Incubation Temp : NA

Account No.: 23773
Login No. : L602635
Date Analyzed : 22-AUG-23
Report ID : 1375452

Client ID : AIR01 Lab ID : L602635-3 Air Volume : 0.075 m3
Analysis : Standard Mold Screen Crowding Factor : 3

Parameter	Raw Count	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	6	6	80	NA
Pollen	<1	<1	<13	NA
Total Fungal Spores	71	71	950	NA

Alternaria	<1	<1	<13	NA
Ascospores	2	2	27	2.8
Aspergillus/Penicillium-like	2	2	27	2.8
Basidiospores	32	32	430	45.1
Bipolaris/Drechslera	<1	<1	<13	NA
Chaetomium	<1	<1	<13	NA
Cladosporium	18	18	240	25.4
Curvularia	<1	<1	<13	NA
Rusts/Smuts	6	6	80	8.5
Stachybotrys	<1	<1	<13	NA
Other/Unidentified	11	11	150	15.5

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 1 Spore
Analytical Method : In-house: IB-AIROCELL; Mic
Submitted by: TAC
Approved by : SLS
Supervisor: BDB
Date : 22-AUG-23
Sampler : Spore Trap

CFU -Colony Forming Units g -Grams

LABORATORY ANALYSIS REPORT

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.sgsgalson.com

Client : Ransom Consulting
Site : LINCOLN COUNTY SHERIFFS OFFICE
Project No. : 211.06085.009
Date Sampled : 16-AUG-23
Date Received : 21-AUG-23
Incubation Temp : NA

Account No.: 23773
Login No. : L602635
Date Analyzed : 22-AUG-23
Report ID : 1375452

Client ID : AIR03 Lab ID : L602635-5 Air Volume : 0.075 m3
Analysis : Standard Mold Screen Crowding Factor : 2

Parameter	Raw Count	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	3	3	40	NA
Pollen	<1	<1	<13	NA
Total Fungal Spores	454	866	12000	NA

Alternaria	1	1	13	0.1
Ascospores	<1	<1	<13	NA
Aspergillus/Penicillium-like	308	720	9600	83.1
Basidiospores	9	9	120	1
Bipolaris/Drechslera	<1	<1	<13	NA
Chaetomium	<1	<1	<13	NA
Cladosporium	136	136	1800	15.7
Curvularia	<1	<1	<13	NA
Rusts/Smuts	<1	<1	<13	NA
Stachybotrys	<1	<1	<13	NA
Other/Unidentified	<1	<1	<13	NA

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 1 Spore
Analytical Method : In-house: IB-AIROCELL; Mic
Submitted by: TAC
Approved by : SLS
Supervisor: BDB
Date : 22-AUG-23
Sampler : Spore Trap

CFU -Colony Forming Units g -Grams

LABORATORY ANALYSIS REPORT

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.sgsgalson.com

Client : Ransom Consulting
Site : LINCOLN COUNTY SHERIFFS OFFICE
Project No. : 211.06085.009
Date Sampled : 16-AUG-23
Date Received : 21-AUG-23
Incubation Temp : NA

Account No.: 23773
Login No. : L602635
Date Analyzed : 22-AUG-23
Report ID : 1375452

Client ID : AIR05 Lab ID : L602635-7 Air Volume : 0.075 m3
Analysis : Standard Mold Screen Crowding Factor : 2

Parameter	Raw Count	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	1	1	13	NA
Pollen	<1	<1	<13	NA
Total Fungal Spores	411	969	13000	NA

Alternaria	<1	<1	<13	NA
Ascospores	17	17	230	1.8
Aspergillus/Penicillium-like	1	1	13	0.1
Basidiospores	312	870	12000	89.8
Bipolaris/Drechslera	<1	<1	<13	NA
Chaetomium	<1	<1	<13	NA
Cladosporium	59	59	790	6.1
Curvularia	5	5	67	0.5
Rusts/Smuts	1	1	13	0.1
Stachybotrys	<1	<1	<13	NA
Other/Unidentified	16	16	210	1.7

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 1 Spore
Analytical Method : In-house: IB-AIROCELL; Mic
Submitted by: TAC
Approved by : SLS
Supervisor: BDB
Date : 22-AUG-23
Sampler : Spore Trap

CFU -Colony Forming Units g -Grams

LABORATORY ANALYSIS REPORT

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
www.sgsgalson.com

Client : Ransom Consulting
Site : LINCOLN COUNTY SHERIFFS OFFICE
Project No. : 211.06085.009
Date Sampled : 16-AUG-23
Date Received : 21-AUG-23
Incubation Temp : NA

Account No.: 23773
Login No. : L602635
Date Analyzed : 24-AUG-23
Report ID : 1375886

Client ID : SWAB02 Lab ID : L602635-2 Swab Area : 100 cm2
Analysis : Standard Mold Screen

Parameter	Level of contamination
Mycelial Fragments	Light
Alternaria	ND
Ascospores	ND
Aspergillus/Penicillium-like	Light
Basidiospores	ND
Bipolaris/Drechslera	ND
Chaetomium	ND
Cladosporium	Light
Curvularia	ND
Rusts/Smuts	ND
Stachybotrys	ND
Other/Unidentified	Light

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 1 Spore
Analytical Method : In-house: MICR-SOP-21; Mic
Submitted by: TAC
Approved by : SLS
Supervisor: BDB
Date : 24-AUG-23
Sampler : Swab

CFU -Colony Forming Units g -Grams

SGS GALSON

6601 Kirkville Road
East Syracuse, NY 13057-0369
Phone: (888) 432-5227
Fax: (315) 437-0571
http://www.sgsgalson.com

Analytical Notes for Microbiology
Air-O-Cell™ Cassettes and other Spore Traps

Air-O-Cell™ cassettes and other spore traps may capture non-microbial particles that may interfere with spore counts. SGS Galson provides an estimation of the density of these particles, referred to as a Crowding Factor. The Crowding Factor ranges from 0 to 5 and is explained below. High levels of particulate matter on the impaction medium may bias the analysis by obscuring or covering spores. In addition, particle capture efficiency may decrease with high levels of particulate matter.

Crowding Factor	Explanation
0	No particles detected. This is typical of blank samples. Because most air samples typically contain some particles, absence of particulate matter could indicate improper sampling if the sample was not meant to be a blank.
1	Particles are far apart and in low numbers. Particulate matter covers approximately <5% of the impaction area. Spore counts not affected or minimally affected by the particle load.
2	Particles are close together and/or overlapping, and some spores may be obscured. Particulate matter covers approximately 5% to 25% of the impaction area. Spore counts may be biased low.
3	Particles are moderately crowded. It is likely that some spores are obscured. Particulate matter covers approximately 25% to 75% of the impaction area. Spore counts are likely biased low.
4	Particles are crowded, frequently obscuring spores. Particulate matter covers approximately 75% to 90% of the impaction area. Spore counts are likely biased low. The degree of bias increases with the percent of the trace that is occluded.
5	Particles are overcrowded making analysis impossible; no spore counts provided. If certain spores are readily detectable, they are reported as "Detected". If heavy quantities of spores are observed along the edges of the trace, this is footnoted in the report.

SGS GALSON

Direct Microscopic Examination (Screens)

- The analytes that we report are the same as those listed for spore traps with the exceptions of pollen, skin cells, and fibers.
- Due to the inherent nature of screen samples, a spore count is not performed.
- Upon special request counts may be performed on swab, liquid, or bulk screens. Counts are never performed on tape lifts due to the nature of the samples to not have uniform distribution of spores.
- The amount of a particular spore detected is reported as a "Level of contamination". The level of contamination is a subjective measurement and corresponds to the general quantity of spores present in a sample. It also describes the amount of spores relative to one another.
    - Light: approximately 1 to 5 spores or mycelial fragments per microscope field of view at 600x.
    - Moderate: 6 to 15 spores or mycelial fragments per microscope field of view at 600x.
    - Heavy: Greater than 15 spores or mycelial fragments per microscope field of view at 600x.

Viable Fungi Analysis

- Standard growing conditions for viable fungi are 25°C ± 1°C for 7 days.
- Standard growing conditions for viable thermophilic fungi are 37°C ±1°C for 7 days.
- Results are reported in colony forming units (CFUs). A CFU can originate from one or many spores.
- SGS Galson uses and provides Potato Dextrose agar for all cultureable fungal methods. We have found Potato Dextrose agar to be suitable for the culture of the widest range of organisms. Other agars submitted or requested by clients are grown under the above standard conditions unless otherwise requested by the client.
- Some fungi may not produce identifiable structures in culture or under standard growing conditions. These fungi will be considered sterile hyphae and reported as such.
- Lack of growth under standard conditions does not preclude the presence of fungi or its viability in a sample.
- Samples taken with impactor samplers are not corrected for a positive hole correction factor.
- Identification of fungal organisms is based on visual microscopic examination at up to seven days of growth under standard conditions. Due to the large numbers of different species that may comprise them, certain genera may appear similar due to variations in stages of their life cycles, growth requirements, and/or environmental stress. A very limited amount of identification overlap may occur due to morphological similarities.
- Final interpretation of results is up to the person(s) responsible for conducting the sampling.

1Z1043178767864606
Date:08/21/23
Shipper:UPS
Initials:MMM
Prep:UNKNOWN

L602635

GALSON CHAIN OF CUSTODY

101

may edit and complete this COC electronically by logging in to your Client Portal account at https://portal.galsonlabs.com/

☒ KMS	Standard	0%
☐	4 Business Days	35%
☐	3 Business Days	50%
☐	2 Business Days	75%
☐	Next Day by 6pm	100%
☐	Next Day by Noon	150%
☐	Same Day	200%

☐ Samples submitted using the FreePumpLoan™ Program

☐ Samples submitted using the FreeSamplingBadges™ Program

Client Acct No.: 23773

Original Prep No.: PTX706725

CS Rep: BHONEYCUTT

Online COC No.: 278009

Report To: Megan Hixon
Company Name: Ransom Consulting
Address 1: 400 Commercial Street
Address 2: Suite 404
City, State Zip: Portland, ME 04101
Phone No.: 207 - 772 - 2891
Cell No.: 207 - 522 - 3922
Email reports to: megan.hixon@ransomenv.com, ~~laima.Madore@ransomenv.com~~
Comments: cc: ephenix@ransomenv.com

Invoice To: Anna Stockman
Company Name: Ransom Consulting
Address 1: 12 Kent Way
Address 2: Suite 100
City, State Zip: Byfield, MA 01922-1221
Phone No.: 978 - 465 - 1822
Email Address: anna.stockman@ransomenv.com, ap@ransomenv.com
Comments:
P.O. No.:
Payment info.: ☐ I will call SGS Galson to provide credit card info
☐ Card on File (enter the last five digits on the line below)

15 lpm per PSY 706725 Flowrate KMS 8/21/23

Comments:

State Sampled: ME

Please indicate which OEL(s) this data will be used for: ☐ OSHA PEL ☐ ACGIH TLV ☐ MSHA ☐ Cal OSHA ☐ IAQ: _____ (Specify Limit(s)) ☐ Other: _____ (Specify Other)

Site Name: Lincoln County Sheriff's office

Project: 211.06085.009

Sampled By: MKH

List description of industry or Process/interferences present in sampling area:

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in², cm², ft² *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
SWAB01	8/16/23	CultureSwab	100 cm²	cm²	Standard Mold Screen	In-house: MICR-SOP-21; Microscopy	
SWAB02	8/16/23	CultureSwab	100 cm²	cm²	Standard Mold Screen	In-house: MICR-SOP-21; Microscopy	

☒ ^ If the method(s) indicated on the COC are not our routine/preferred method(s), we will substitute our routine/preferred methods. If this is not acceptable, check here to have us contact you.

Chain of Custody	Print Name / Signature		Date	Time		Print Name / Signature		Date	Time
Relinquished By:	Megan Hixon	Megan Hixon	8/17/23	9:30	Received By:	Megan M. McGrath	Megan M. McGrath	8/21/23	11:32
Relinquished By:					Received By:				

* You must fill in these columns for any samples which you are submitting.

Samples received after 3pm will be considered as next day's business.

Online COC No.: 278009
Prep No.: PTX706725
Account No.: 23773
Draft: 8/14/2023 10:13:06 AM

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/en/Terms-and-Conditions.aspx

SGS North America Inc. | 6601 Kirkville Road E. Syracuse, NY 13057, USA t +1 888 432 5227 | +1 315 432 5227 www.galsonlabs.com | www.sgs.com

TABLE 1: SUMMARY OF ASBESTOS TESTING RESULTS
Hazardous Building Materials Inventory
Lincoln County Sheriff's Building
42 Bath Road
Wiscasset, Maine

Material	Location	Sample Number	Asbestos Quantity and Type[2,4]	Estimated Quantity[3]
Carpet mastic, yellow	Administration - throughout	001A through 001C	NAD	
Drywall	1985 section	002A through 002C	NAD	
Joint compound	1985 section	003A through 003C	NAD	
Sheet flooring - square pattern	Administration restrooms	004A through 004C	NAD	
Sheet flooring mastic	Administration restrooms	005A and 005C	NAD	
		005B	Not present	
Duct tape, white	Throughout 1985 section	006A through 006C	NAD	
2'x4' ceiling tile, type 1	Throughout building	007A through 007C	NAD	
2'x4' ceiling tile, type 2	Throughout building	008A through 008C	NAD	
1'x1' ceiling tile	Ground floor	009A through 009C	NAD	
Vinyl cove base, blue	Administration - throughout	010A through 010C	NAD	
Vinyl cove base mastic, tan	Administration - throughout	011A through 011C	NAD	
Vinyl cove base, tan	Administration - throughout	012A through 012C	NAD	
Vinyl cove base, black	Administration - throughout	013A through 013C	NAD	
12"x12" floor tile	Admnistration - Room 115	014A through 014C	NAD	
Mastic assocaited with 014ABC	Admnistration - Room 115	015A through 015C	NAD	
Gasket, black	Mechanical room	016A through 016C	NAD	
Expansion tank insulation, white	Mechanical room	017A through 017C, Layer 1	NAD	
Expansion tank jacket, white	Mechanical room	017A and 017B, Layer 2	NAD	
		017C, Layer 2	Not present	
Large diameter pipe insulation, white	Mechanical room	018A through 018C, Layer 1	NAD	
Large diameter pipe insulation jacket	Mechanical room	018A through 018C, Layer 2	NAD	
Window caulk, black	**Ground floor interior**	**019A**	**2.51% Chrysotile**	**200 LF**
		019B and 019C	**NAD**	
Mechanical floor mastic, tan	Ground floor - command/control room	020A through 020C	NAD	
12"x12" floor tile, white with gray motle	Ground floor - food service	021A through 021C	NAD	
Mastic associated with 021ABC	Ground floor - food service	022A through 022C	*NAD	
Glue daubs, brown associated with 009ABC	Ground and first floors	023A through 023C	NAD	
12"x12" floor tile, white	Ground floor - Rooms 030 and 031	024A through 024C	NAD	
Mastic, black associated with 024ABC	Ground floor - Rooms 030 and 031	025A through 025C	NAD	
12"x12" floor tile, blue	Ground floor - Room 030	026A through 026C	NAD	
12"x12" floor tile, gray mottle	Ground floor - patrol corridor, storage, interview, and vestibule	027A through 027C	NAD	
Mastic, black associated with 027ABC	Ground floor - patrol corridor, storage, interview, and vestibule	028A through 028C	NAD	
12"x12" floor tile, pink	Ground floor - patrol corridor, storage, and interview	029A through 029C	NAD	
Carpet mastic, yellow	Ground floor - patrol reports, supervisor, and interview	030A through 030C	NAD	
Drywall	Patrol section	031A through 031C	NAD	
Joint compound	Patrol section	032A through 032C	NAD	
Window caulk, gray	**Exterior - 1985 section**	**033A**	**2.23% Chrysotile**	**325 LF**
		033B and 033C	**NAD**	
Window caulk, beige/brown	**Exterior - 1950's section**	**034A**	**3% Chrysotile**	**100 LF**
		034B and 034C	**NAD**	
Presumed ACM				
Vibration gasket	*Mechanical room*	*N/A*	*PACM*	*1 EA*
Curtain fire damper	*Ground floor - cell block air vents*	*N/A*	*PACM*	*16 EA*

NOTES:
1. Samples were collected on August 16 and 17, 2023 by Ransom Consulting, LLC., and were analyzed by Optimum Analytical and Consulting, LLC of Salem, NH.
2. NA/PS = not analyzed/positive stop. Sample sets are analyzed until asbestos is identified in an amount greater than one percent.
3. CF = Cubic Feet. SF = Square Feet. LF = Linear Feet. EA = Each. NA = Not Applicable.
4. NAD = No asbestos detected; *PACM = Presumed Asbestos Containing Material.*
5. NQ = Not quantified. ACM joint compound should be assumed to be present throughout until further delineation.
5. Samples shown in bold are ACM, samples shown in bold and italics are PACM.
8. Room names provided in this table were obtained from site plans and/or past reports provided by the client and/or onsite observations. Refer to Figures 2 and 3.

Appendix G

PRELIMINARY COST ESTIMATE

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
STUDY ESTIMATE
December 20, 2023

PCM COMPANY
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AREA	SCOPE OF WORK	TOTAL	NOTES
EXTERIOR MASONRY			
	Remove & Replace Cracked & Spalled Brick	$25,410	
	Repoint 25% of Brick	$66,805	
	Rebuild Top Portion of Courtyard Wall	$49,005	
	Rebuild Top Portion of Chimney & Repoint Remaining	$13,306	
	Clean Atmospheric & Rust Staining, Veg Growth & Efflorescence	$73,135	
	Remove Coatings from CMU Walls	$51,068	
	Repoint 100% of CMU	$114,391	
	Replace Cracked, Spalled & Delaminate CMU Blocks - 25% of Wall	$45,961	
	Repair Cracked & Spalled Concrete	$4,019	
	Apply Vapor Permeable CMU Coating on All Exposed CMU	$34,726	
TOTAL EXTERIOR MASONRY REPAIRS		**$477,825**	
ROOFING REPAIRS & REPLACEMENT			
	Remove & Replace Membrane Roof at Areas A, D, E, F	$300,321	
	Clean & Clear Roof Drain Lines & Replace Roof Drains	$12,197	
	Remove & Repalce Asphalt Shingle Roof at Areas B & C	$58,575	
	Replace Metal Flashing at Brick Masonry Rising Walls	$25,740	
TOTAL ROOFING REPAIRS & REPLACEMENT		**$396,833**	
EXTERIOR DOORS & WINDOWS			
	Replace Exterior Doors & Frames	$32,195	
	Replace Windows with Aluminum Windows & Entrances	$88,440	
	Remove & Replace Window & Door Sealants	See Items Above	
TOTAL EXTERIOR DOORS & WINDOWS REPAIRS		**$120,635**	
ARCHITECTURAL REPAIRS			
	Add Main Entry Addition to Create Secure Entrance & Elevator	$420,750	
	Replace Door Hardware	$123,077	
	Renovate Interiors to Accommodate ADA Compliance	$330,000	
	Remove Non-Load Bearing Partitions & Rebuild for Better Configuration	$190,080	*Assume at Admin space*
	Rework Former Jail Area to Imrpove Flow	$559,845	
	Repair Interior Finish of Exterior Wall & Replace Wall Base	$43,233	
	Abate & Remove Flooring, Apply Moisture Mitigation & Install New Flooring	$521,773	SOG crack repair in Structural
	Abate & Remove Ceilings, Install New Ceilings	$210,089	
	Repalce Stair Railings & Guardrails	$25,120	
	Replace Damaged & Broken Tiles at Entry Landing & Stair Treads	$16,632	
	Replace All Doors, Frames, Hardware & Transaction Windows	$435,138	
TOTAL ARCHITECTURAL REPAIRS		**$2,875,736**	
STRUCTURAL REPAIRS			
	Repoint Mortar Joint at Base of Exterior Wall of Addition	$11,474	Lowering grade and installing french drain included in Civil section

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
STUDY ESTIMATE
December 20, 2023

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AREA	SCOPE OF WORK	TOTAL	NOTES
	Grout Injection Repairs at Addition SOG & Install Sump Pump	$30,756	
	Repoint Interior Cracked CMU Blocks as Needed	$13,464	
	Remove & Replace Site Retaining Wall off West Elevation	$45,012	
	Repair Wood Joists & Replace Subfloor at Original Building	$40,823	
TOTAL STRUCTURAL REPAIRS		$141,529	
ELECTRICAL REPAIRS			
	Detention Facility & Electrical Room		
	Replace Service Entrance & Equipment	$102,597	
	Replace Generator	$323,466	
	Replace Lighting & Lighting Control Throughout	$114,487	
	Reroute Communications Cabling Inside	$20,064	
	Demolish Generator Exhaust Pipe, Rooftop Radiator & Patch Roof	$9,979	
	Replace Panelboards & Wiring Throughout	$99,370	
	Administration Wing		
	Replace Lighting & Lighting Control Throughout	$86,084	
	Consolidate IT Equipment	$20,064	
	Upgrade Internet Cabling to Fiber	$27,720	
TOTAL ELECTRICAL REPAIRS		$803,831	
PLUMBING REPAIRS			
	Replace Oil-Fired Water Heater w/ Electric Heat Pump Water Heater	$15,127	
	Provide Thermostatic Mixing Valves on Hot Water Supply	$3,696	
	Provide Backflow Preventer	$4,831	
	Extend Plumbing Vent 4' Above Louver	$3,115	
	Remove All Cell Fixtures & Piping	$27,562	
	Replace Restroom Fixtures	$336,600	
	New Shower Room	$62,040	
	Provide Bi-Level Drinking Stations	$17,160	
TOTAL PLUMBING REPAIRS		$470,131	
HVAC SYSTEM REPAIRS			
	Detention Facility & Electrical Room		
	Demolish HV-1, HX, Condensing Units & Associated Duct & Piping	$22,968	
	Demolish AC-1, Condensing Unit & Associated Duct & Piping	$11,484	
	Demolish Hydronic Baseboard, CUH, and UH	$7,656	
	Demolish Exhaust Fans	$4,594	
	Demolish Combustion Ductwork	$3,062	
	New Packaged Heat Pump RTU (12.5 ton) w/ Ductwork & Piping	$199,555	
	New VAV Boxes w/ Hydronic Hot Water Reheat Coils	$96,624	
	New Boiler Plant w/ Pumps, Tanks, Piping	$145,068	

LINCOLN COUNTY SHERIFF'S DEPARTMENT

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AREA	SCOPE OF WORK	TOTAL	NOTES
	New Perimeter Baseboard, CUH & UH	$54,714	
	New Exhaust Fans & Ductwork at Janitor's Closet & Bathrooms	$30,043	
	New Exhaust Fan & Ductwork at Mechanical Room	$9,141	
Administration Wing			
	Demolish AC-2 and Associated Duct	$6,125	
	Demolish Hydronic Baseboard, CUH, and UH	$7,656	
	Demolish Exhaust Fans	$1,531	
	New Packaged Heat Pump RTU (8 ton) w/ Ductwork & Piping	$152,465	
	New VAV Boxes w/ Hydronic Hot Water Reheat Coils	$64,416	
	New Perimeter Baseboard, CUH & UH	$59,730	
	New Exhaust Fans & Ductwork	$4,653	
TOTAL HVAC SYSTEM REPAIRS		**$881,485**	
CIVIL REPAIRS			
	Apply Bituminous Concrete Surface Treatment at Driveway, Parking Lot & Sidewalks	$12,918	
	Reconstruct Sidewalks	$17,256	
	Reset Catch Basins & Remove Debris	$9,187	
	Lower Existing Grade 6" at Perimeter of Building, Add French Drain & Stone Drip Edge	$31,946	
TOTAL CIVIL REPAIRS		**$71,308**	
TOTAL ALL SCOPE ITEMS		**$6,239,312**	
		$633.11 /SF	

*All subtotal costs include the follow addons: Contingency 15%, GC's 10%, OH&P 5%, Bond & Insurance 2%. Escalation contingency is excluded.
**There are some items that cannot be taken together, as noted throughout the estimate.

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
STUDY ESTIMATE
December 20, 2023

PCM COMPANY
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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
EXTERIOR MASONRY					
	Remove & Replace Cracked & Spalled Brick			**$25,410**	
	Masonry				
	Remove & replace brick (EA)	500	$38.50	$19,250	
	GC's, Fee, Contingency	*32%*		*$6,160*	
	Repoint 25% of Brick			**$66,805**	
	Masonry				
	Repoint 25% of brick (SF)	1,205	$42.00	$50,610	
	GC's, Fee, Contingency	*32%*		*$16,195*	
	Rebuild Top Portion of Courtyard Wall			**$49,005**	
	Demolition				
	Remove top portion of wall (SF)	300	$33.75	$10,125	*Assume top 7'6" of wall*
	Masonry				
	Rebuild wall (SF)	300	$60.00	$18,000	
	New precast cap w/ flashing (LF)	40	$225.00	$9,000	
	GC's, Fee, Contingency	*32%*		*$11,880*	
	Rebuild Top Portion of Chimney & Repoint Remaining			**$13,306**	
	Demolition				
	Remove top portion of wall (SF)	48	$33.75	$1,620	
	Masonry				
	Repoint remaining brick (SF)	60	$48.00	$2,880	
	Rebuild wall (SF)	48	$60.00	$2,880	
	New precast cap w/ flashing (LF)	12	$225.00	$2,700	
	GC's, Fee, Contingency	*32%*		*$3,226*	
	Clean Atmospheric & Rust Staining, Veg Growth & Efflorescence			**$73,135**	
	Masonry				
	Clean brick (SF)	7,915	$7.00	$55,405	
	GC's, Fee, Contingency	*32%*		*$17,730*	
	Remove Coatings from CMU Walls			**$51,068**	
	Masonry				
	Remove paint & cementitious coatings from CMU (SF)	3,095	$12.50	$38,688	
	GC's, Fee, Contingency	*32%*		*$12,380*	
	Repoint 100% of CMU			**$114,391**	
	Masonry				
	Repoint CMU joints (SF)	3,095	$28.00	$86,660	
	GC's, Fee, Contingency	*32%*		*$27,731*	
	Replace Cracked, Spalled & Delaminate CMU Blocks - 25% of Wall			**$45,961**	
	Masonry				
	Remove & replace CMU blocks (SF)	774	$45.00	$34,819	
	GC's, Fee, Contingency	*32%*		*$11,142*	
	Repair Cracked & Spalled Concrete			**$4,019**	
	Concrete				
	Repair cracked / spalled concrete (LOC)	7	$435.00	$3,045	
	GC's, Fee, Contingency	*32%*		*$974*	
	Apply Vapor Permeable CMU Coating on All Exposed CMU			**$34,726**	
	Masonry				
	Apply vapor permeable coating (SF)	3,095	$8.50	$26,308	
	GC's, Fee, Contingency	*32%*		*$8,418*	

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
STUDY ESTIMATE
December 20, 2023

PCM COMPANY
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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
TOTAL EXTERIOR MASONRY REPAIRS				**$477,825**	
ROOFING REPAIRS & REPLACEMENT					
	Remove & Replace Membrane Roof at Areas A, D, E, F			**$300,321**	
	Thermal & Moisture Protection				
	Remove & replace membrane roofing system (SF)	5,610	$38.00	$213,180	
	Metal coping/edge at perimeter (LF)	512	$28.00	$14,336	
	GC's, Fee, Contingency	*32%*		*$72,805*	
	Clean & Clear Roof Drain Lines & Replace Roof Drains			**$12,197**	
	Thermal & Moisture Protection				
	Clean roof drain piping (LOC)	4	$1,160.00	$4,640	
	Replace roof drains (EA)	4	$1,150.00	$4,600	
	GC's, Fee, Contingency	*32%*		*$2,957*	
	Remove & Repalce Asphalt Shingle Roof at Areas B & C			**$58,575**	
	Thermal & Moisture Protection				
	Remove & replace asphalt shingle roof system (SF)	3,550	$12.50	$44,375	Insulation excluded
	GC's, Fee, Contingency	*32%*		*$14,200*	
	Replace Metal Flashing at Brick Masonry Rising Walls			**$25,740**	
	Thermal & Moisture Protection				
	Replace metal flashing at rising walls (LF)	300	$65.00	$19,500	
	GC's, Fee, Contingency	*32%*		*$6,240*	
TOTAL ROOFING REPAIRS & REPLACEMENT				**$396,833**	
EXTERIOR DOORS & WINDOWS					
	Replace Exterior Doors & Frames			**$32,195**	
	Demolition				
	Remove doors & frames (LVS)	6	$190.00	$1,140	
	Openings				
	New exterior single door, frame & HW (EA)	6	$2,885.00	$17,310	
	Finishes				
	Misc cutting & patching (MHR)	24	$160.00	$3,840	
	Paint HM door frames (EA)	6	$150.00	$900	
	Paint HM doors (EA)	6	$200.00	$1,200	
	GC's, Fee, Contingency	*32%*		*$7,805*	
	Replace Windows with Aluminum Windows & Entrances			**$88,440**	
	Demolition				
	Remove windows (EA)	30	$285.00	$8,550	
	Remove doors & frames (LVS)	1	$190.00	$190	
	Openings				
	New aluminum windows (SF)	350	$90.00	$31,500	
	New aluminum storefront at entrance (SF)	84	$115.00	$9,660	
	New aluminum exterior single doors (EA)	1	$7,500.00	$7,500	
	Finishes				
	Misc cutting & patching (MHR)	60	$160.00	$9,600	
	GC's, Fee, Contingency	*32%*		*$21,440*	
	Remove & Replace Window & Door Sealants			**See Items Above**	
TOTAL EXTERIOR DOORS & WINDOWS REPAIRS				**$120,635**	
ARCHITECTURAL REPAIRS					
	Add Main Entry Addition to Create Secure Entrance & Elevator			**$420,750**	
	New Construction				

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
STUDY ESTIMATE
December 20, 2023

PCM COMPANY
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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
	Sitework (LS)	1	$50,000.00	$50,000	
	Foundations (SF)	250	$75.00	$18,750	
	Structure (SF)	250	$60.00	$15,000	
	Envelope (SF)	250	$225.00	$56,250	
	Interiors including MEP (SF)	250	$115.00	$28,750	
	Elevator (EA)	1	$150,000.00	$150,000	
	GC's, Fee, Contingency	*32%*		*$102,000*	
	Replace Door Hardware			**$123,077**	
	Demolition				
	Remove door hardware (EA)	63	$145.00	$9,135	
	Openings				
	New hardware at existing doors (EA)	63	$1,335.00	$84,105	
	GC's, Fee, Contingency	*32%*		*$29,837*	
	Renovate Interiors to Accommodate ADA Compliance			**$330,000**	
	Interiors				
	Renovate corridor widths, door clearances, etc. (SF)	2,000	$125.00	$250,000	
	GC's, Fee, Contingency	*32%*		*$80,000*	
	Remove Non-Load Bearing Partitions & Rebuild for Better Configuration			**$190,080**	*Assume at Admin space*
	Finishes				
	Remove & rebuild partitions (LF)	480	$300.00	$144,000	
	GC's, Fee, Contingency	*32%*		*$46,080*	
	Rework Former Jail Area to Imrpove Flow			**$559,845**	
	Interiors				
	Renovate jail area (SF)	5,655	$75.00	$424,125	Rework walls, doors, paint
	GC's, Fee, Contingency	*32%*		*$135,720*	
	Repair Interior Finish of Exterior Wall & Replace Wall Base			**$43,233**	
	Finishes				
	Misc cutting & patching to repair exterior wall (MHR)	120	$170.00	$20,400	
	New wall base (LF)	610	$5.25	$3,203	
	Paint walls (SF)	6,100	$1.50	$9,150	
	GC's, Fee, Contingency	*32%*		*$10,481*	
	Abate & Remove Flooring, Apply Moisture Mitigation & Install New Flooring			**$521,773**	SOG crack repair in Structural
	Demolition				
	Remove & abate flooring (SF)	9,855	$25.00	$246,375	
	Finishes				
	Moisture mitigation (SF)	9,855	$4.50	$44,348	
	Porcelain tile flooring (SF)	275	$24.00	$6,600	
	Epoxy flooring (SF)	540	$14.00	$7,560	
	LVT (SF)	9,040	$10.00	$90,400	
	GC's, Fee, Contingency	*32%*		*$126,490*	
	Abate & Remove Ceilings, Install New Ceilings			**$210,089**	
	Demolition				
	Remove & abate ceiling system (SF)	9,855	$8.50	$83,768	
	Finishes				
	GWB ceilings - Assume 30% (SF)	2,957	$9.00	$26,609	
	ACT ceilings - Assume 70% (SF)	6,899	$6.00	$41,391	
	Paint gwb ceilings (SF)	2,957	$2.50	$7,391	
	GC's, Fee, Contingency	*32%*		*$50,931*	

LINCOLN COUNTY SHERIFF'S DEPARTMENT

BUILDING ASSESSMENT
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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
	Repalce Stair Railings & Guardrails			**$25,120**	
	Demolition				
	Remove handrails & guardrails (LF)	55	$45.00	$2,475	
	Steel				
	New handrails (LF)	20	$125.00	$2,500	
	New guardrails (LF)	35	$285.00	$9,975	
	Finishes				
	Misc cutting & patching (MHR)	24	$170.00	$4,080	
	GC's, Fee, Contingency	*32%*		*$6,090*	
	Replace Damaged & Broken Tiles at Entry Landing & Stair Treads			**$16,632**	
	Finishes				
	Porcelain tile flooring (SF)	315	$40.00	$12,600	
	GC's, Fee, Contingency	*32%*		*$4,032*	
	Replace All Doors, Frames, Hardware & Transaction Windows			**$435,138**	
	Demolition				
	Remove doors, frames, hardware (LVS)	70	$145.00	$10,150	
	Openings				
	New interior single door, frame & HW (EA)	70	$3,090.00	$216,300	
	Add for ballistic glazing in doors (EA)	36	$1,200.00	$43,200	
	New transaction windows (EA)	6	$10,000.00	$60,000	
	GC's, Fee, Contingency	*32%*		*$105,488*	
TOTAL ARCHITECTURAL REPAIRS				**$2,875,736**	
STRUCTURAL REPAIRS					
	Repoint Mortar Joint at Base of Exterior Wall of Addition			**$11,474**	Lowering grade and installing french drain included in Civil section
	Masonry				
	Repoint mortar joint (LF)	305	$28.50	$8,693	
	GC's, Fee, Contingency	*32%*		*$2,782*	
	Grout Injection Repairs at Addition SOG & Install Sump Pump			**$30,756**	
	Concrete				
	Grout injection repairs at SOG (MHR)	40	$170.00	$6,800	
	Sump pump pit (LS)	1	$6,500.00	$6,500	
	Plumbing				
	Sump pump and piping (LS)	1	$10,000.00	$10,000	
	GC's, Fee, Contingency	*32%*		*$7,456*	
	Repoint Interior Cracked CMU Blocks as Needed			**$13,464**	
	Masonry				
	Repoint cracked interior CMU (MHR)	60	$170.00	$10,200	
	GC's, Fee, Contingency	*32%*		*$3,264*	
	Remove & Replace Site Retaining Wall off West Elevation			**$45,012**	
	Demolition				
	Remove retaining wall & foundation (LF)	20	$270.00	$5,400	
	Concrete				
	Continuous footing (LF)	20	$220.00	$4,400	
	Concrete retailing wall (LF)	20	$1,035.00	$20,700	Assume 1'4" thick, 14' high
	Earthwork				
	Excavate & backfill (LF)	20	$125.00	$2,500	
	Foundation drain & stone (LF)	20	$55.00	$1,100	
	GC's, Fee, Contingency	*32%*		*$10,912*	

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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
	Repair Wood Joists & Replace Subfloor at Original Building			**$40,823**	
	Carpentry				
	Repair wood joists (MHR)	120	$170.00	$20,400	
	Replace subfloor (SF)	2,005	$5.25	$10,526	
	GC's, Fee, Contingency	*32%*		*$9,896*	
TOTAL STRUCTURAL REPAIRS				**$141,529**	
ELECTRICAL REPAIRS					
	Detention Facility & Electrical Room				
	Replace Service Entrance & Equipment			**$102,597**	
	Electrical				
	Electrical demolition (MHR)	80	$145.00	$11,600	
	New secondary service from Utility pad mtd transformer (LF)	75	$375.00	$28,125	Assumed length
	Replace MDP (EA)	1	$28,000.00	$28,000	
	Associated feeders (LS)	1	$10,000.00	$10,000	
	GC's, Fee, Contingency	*32%*		*$24,872*	
	Replace Generator			**$323,466**	
	Electrical				
	Electrical demolition (MHR)	40	$145.00	$5,800	
	Generator service (LF)	75	$375.00	$28,125	Assumed length
	New generator (EA)	1	$190,000.00	$190,000	Assume 150kW
	Associated feeders (LS)	1	$10,000.00	$10,000	
	Sitework				
	Associated sitework (LS)	1	$11,125.00	$11,125	
	GC's, Fee, Contingency	*32%*		*$78,416*	
	Replace Lighting & Lighting Control Throughout			**$114,487**	
	Electrical				
	Electrical demolition (MHR)	60	$145.00	$8,700	
	New lighting (EA)	103	$627.50	$64,633	Assume 1 EA / 55 SF; Assume new wire and raceways
	New lighting control devices (including wire & conduit) (EA)	40	$335.00	$13,400	
	GC's, Fee, Contingency	*32%*		*$27,754*	
	Reroute Communications Cabling Inside			**$20,064**	
	Electrical				
	Reroute communications cabling (MHR)	80	$190.00	$15,200	
	GC's, Fee, Contingency	*32%*		*$4,864*	
	Demolish Generator Exhaust Pipe, Rooftop Radiator & Patch Roof			**$9,979**	
	Thermal & Moisture Protection				
	Roof patching (MHR)	24	$170.00	$4,080	
	Electrical				
	Electrical demolition (MHR)	24	$145.00	$3,480	
	GC's, Fee, Contingency	*32%*		*$2,419*	
	Replace Panelboards & Wiring Throughout			**$99,370**	
	General				
	Misc cutting & patching (MHR)	96	$170.00	$16,320	
	Electrical				
	Electrical demolition (MHR)	48	$145.00	$6,960	
	Replace panels (EA)	4	$5,500.00	$22,000	Assumed quantity
	Associated feeders (EA)	4	$7,500.00	$30,000	Assumed quantity
	GC's, Fee, Contingency	*32%*		*$24,090*	

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AREA	SCOPE OF WORK	QUANTITY	COST/UNIT	TOTAL	NOTES
	Administration Wing				
	Replace Lighting & Lighting Control Throughout			**$86,084**	
	Electrical				
	Electrical demolition (MHR)	40	$145.00	$5,800	
	New lighting (EA)	76	$627.50	$47,690	Assume 1 EA / 55 SF; Assume new wire and raceways
	New lighting control devices (including wire & conduit) (EA)	35	$335.00	$11,725	
	GC's, Fee, Contingency	*32%*		*$20,869*	
	Consolidate IT Equipment			**$20,064**	
	Electrical				
	Consolidate IT equipment (MHR)	80	$190.00	$15,200	
	GC's, Fee, Contingency	*32%*		*$4,864*	
	Upgrade Internet Cabling to Fiber			**$27,720**	
	Electrical				
	Upgrade internet cabling (SF)	4,200	$5.00	$21,000	
	GC's, Fee, Contingency	*32%*		*$6,720*	
TOTAL ELECTRICAL REPAIRS				**$803,831**	
PLUMBING REPAIRS					
	Replace Oil-Fired Water Heater w/ Electric Heat Pump Water Heater			**$15,127**	
	Plumbing				
	Demolition (MHR)	24	$145.00	$3,480	
	Electric water heater - 80 gallon (EA)	1	$7,980.00	$7,980	
	GC's, Fee, Contingency	*32%*		*$3,667*	
	Provide Thermostatic Mixing Valves on Hot Water Supply			**$3,696**	
	Plumbing				
	New mixing valve (EA)	1	$2,800.00	$2,800	
	GC's, Fee, Contingency	*32%*		*$896*	
	Provide Backflow Preventer			**$4,831**	
	Plumbing				
	New backflow preventer (EA)	1	$3,660.00	$3,660	
	GC's, Fee, Contingency	*32%*		*$1,171*	
	Extend Plumbing Vent 4' Above Louver			**$3,115**	
	Plumbing				
	Extend plumbing vent (EA)	1	$2,360.00	$2,360	
	GC's, Fee, Contingency	*32%*		*$755*	
	Remove All Cell Fixtures & Piping			**$27,562**	
	Plumbing				
	Remove fixtures and associated piping (EA)	18	$1,160.00	$20,880	
	GC's, Fee, Contingency	*32%*		*$6,682*	
	Replace Restroom Fixtures			**$336,600**	
	Interiors				
	Renovate bathrooms (LOC)	6	$35,000.00	$210,000	Assume bathrooms need to be enlarged for ADA accessibility
	Plumbing				
	Demolition (MHR)	24	$125.00	$3,000	
	Toilets (EA)	6	$3,800.00	$22,800	Assume all piping to remain
	Lavatories (EA)	6	$3,200.00	$19,200	Assume all piping to remain
	GC's, Fee, Contingency	*32%*		*$81,600*	
	New Shower Room			**$62,040**	
	Interiors				

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	Renovate shower room (LOC)	1	$35,000.00	$35,000	
	Plumbing				
	Shower (EA)	1	$12,000.00	$12,000	Assume new piping
	GC's, Fee, Contingency	*32%*		*$15,040*	
	Provide Bi-Level Drinking Stations			**$17,160**	
	Plumbing				
	Water fountain/bottle fillers (EA)	2	$6,500.00	$13,000	Includes piping
	GC's, Fee, Contingency	*32%*		*$4,160*	
TOTAL PLUMBING REPAIRS				**$470,131**	
HVAC SYSTEM REPAIRS					
	Detention Facility & Electrical Room				
	Demolish HV-1, HX, Condensing Units & Associated Duct & Piping			**$22,968**	
	HVAC				
	HVAC demolition (MHR)	120	$145.00	$17,400	
	GC's, Fee, Contingency	*32%*		*$5,568*	
	Demolish AC-1, Condensing Unit & Associated Duct & Piping			**$11,484**	
	HVAC				
	HVAC demolition (MHR)	60	$145.00	$8,700	
	GC's, Fee, Contingency	*32%*		*$2,784*	
	Demolish Hydronic Baseboard, CUH, and UH			**$7,656**	
	HVAC				
	HVAC demolition (MHR)	40	$145.00	$5,800	
	GC's, Fee, Contingency	*32%*		*$1,856*	
	Demolish Exhaust Fans			**$4,594**	
	HVAC				
	HVAC demolition (MHR)	24	$145.00	$3,480	
	GC's, Fee, Contingency	*32%*		*$1,114*	
	Demolish Combustion Ductwork			**$3,062**	
	HVAC				
	HVAC demolition (MHR)	16	$145.00	$2,320	
	GC's, Fee, Contingency	*32%*		*$742*	
	New Packaged Heat Pump RTU (12.5 ton) w/ Ductwork & Piping			**$199,555**	
	Finishes				
	Misc cutting & patching (MHR)	40	$170.00	$6,800	
	HVAC				
	Ductwork - assume .5 lbs/sf (LBS)	2,828	$22.00	$62,205	
	Registers / diffusers / grilles (EA)	45	$265.00	$11,925	
	Heat Pump RTU - 12.5 Tons (EA)	1	$45,000.00	$45,000	
	Associated piping (LS)	1	$15,000.00	$15,000	
	Controls (%)	6%		$8,048	
	Electrical				
	Power to RTU (LOC)	1	$2,200.00	$2,200	
	GC's, Fee, Contingency	*32%*		*$48,377*	
	New VAV Boxes w/ Hydronic Hot Water Reheat Coils			**$96,624**	
	HVAC				
	VAV boxes (EA)	12	$2,800.00	$33,600	
	Associated piping (LOC)	12	$2,200.00	$26,400	
	Controls (%)	6%		$3,600	

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	Electrical				
	Power to VAV boxes (LOC)	12	$800.00	$9,600	
	GC's, Fee, Contingency	*32%*		*$23,424*	
	New Boiler Plant w/ Pumps, Tanks, Piping			**$145,068**	
	HVAC				
	Boiler - 750 MBH (EA)	1	$35,000.00	$35,000	
	Hot water pumps (EA)	2	$7,500.00	$15,000	
	Pump accessories (LS)	1	$3,500.00	$3,500	
	Expansion tanks (EA)	2	$3,200.00	$6,400	
	Gas piping allowance (ALLW)	1	$10,000.00	$10,000	
	Associated piping (LS)	1	$40,000.00	$40,000	
	GC's, Fee, Contingency	*32%*		*$35,168*	
	New Perimeter Baseboard, CUH & UH			**$54,714**	
	HVAC				
	Hydronic baseboard (LF)	150	$175.00	$26,250	
	Cabinet unit heaters & unit heaters (EA)	4	$3,800.00	$15,200	Assumed quantity
	GC's, Fee, Contingency	*32%*		*$13,264*	
	New Exhaust Fans & Ductwork at Janitor's Closet & Bathrooms			**$30,043**	
	Finishes				
	Misc cutting & patching (MHR)	32	$170.00	$5,440	
	HVAC				
	Ductwork (LOC)	8	$750.00	$6,000	
	Registers / diffusers / grilles (EA)	8	$265.00	$2,120	
	Exhaust fan (EA)	8	$800.00	$6,400	
	Electrical				
	Power to exhaust fan (LOC)	8	$350.00	$2,800	
	GC's, Fee, Contingency	*32%*		*$7,283*	
	New Exhaust Fan & Ductwork at Mechanical Room			**$9,141**	
	Finishes				
	Misc cutting & patching (MHR)	8	$170.00	$1,360	
	HVAC				
	Ductwork (LOC)	1	$2,000.00	$2,000	
	Registers / diffusers / grilles (EA)	1	$265.00	$265	
	Exhaust fan (EA)	1	$2,500.00	$2,500	
	Electrical				
	Power to exhaust fan (LOC)	1	$800.00	$800	
	GC's, Fee, Contingency	*32%*		*$2,216*	
Administration Wing					
	Demolish AC-2 and Associated Duct			**$6,125**	
	HVAC				
	HVAC demolition (MHR)	32	$145.00	$4,640	
	GC's, Fee, Contingency	*32%*		*$1,485*	
	Demolish Hydronic Baseboard, CUH, and UH			**$7,656**	
	HVAC				
	HVAC demolition (MHR)	40	$145.00	$5,800	
	GC's, Fee, Contingency	*32%*		*$1,856*	
	Demolish Exhaust Fans			**$1,531**	
	HVAC				

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	HVAC demolition (MHR)	8	$145.00	$1,160	
	GC's, Fee, Contingency	*32%*		*$371*	
	New Packaged Heat Pump RTU (8 ton) w/ Ductwork & Piping			**$152,465**	
	Finishes				
	Misc cutting & patching (MHR)	40	$170.00	$6,800	
	HVAC				
	Ductwork - assume .5 lbs/sf (LBS)	2,100	$22.00	$46,200	
	Registers / diffusers / grilles (EA)	35	$265.00	$9,275	
	Heat Pump RTU - 8 Tons (EA)	1	$35,000.00	$35,000	
	Associated piping (LS)	1	$10,000.00	$10,000	
	Controls (%)	6%		$6,029	
	Electrical				
	Power to RTU (LOC)	1	$2,200.00	$2,200	
	GC's, Fee, Contingency	*32%*		*$36,961*	
	New VAV Boxes w/ Hydronic Hot Water Reheat Coils			**$64,416**	
	HVAC				
	VAV boxes (EA)	8	$2,800.00	$22,400	
	Associated piping (LOC)	8	$2,200.00	$17,600	
	Controls (%)	6%		$2,400	
	Electrical				
	Power to VAV boxes (LOC)	8	$800.00	$6,400	
	GC's, Fee, Contingency	*32%*		*$15,616*	
	New Perimeter Baseboard, CUH & UH			**$59,730**	
	HVAC				
	Hydronic baseboard (LF)	150	$175.00	$26,250	
	Cabinet unit heaters & unit heaters (EA)	5	$3,800.00	$19,000	Assumed quantity
	GC's, Fee, Contingency	*32%*		*$14,480*	
	New Exhaust Fans & Ductwork			**$4,653**	
	Finishes				
	Misc cutting & patching (MHR)	8	$170.00	$1,360	
	HVAC				
	Ductwork (LOC)	1	$750.00	$750	
	Registers / diffusers / grilles (EA)	1	$265.00	$265	
	Exhaust fan (EA)	1	$800.00	$800	
	Electrical				
	Power to exhaust fan (LOC)	1	$350.00	$350	
	GC's, Fee, Contingency	*32%*		*$1,128*	
TOTAL HVAC SYSTEM REPAIRS				**$881,485**	
CIVIL REPAIRS					
	Apply Bituminous Concrete Surface Treatment at Driveway, Parking Lot & Sidewalks			**$12,918**	
	Site Improvements				
	Bituminous concrete treatment (SY)	1,223	$8.00	$9,787	
	GC's, Fee, Contingency	*32%*		*$3,132*	
	Reconstruct Sidewalks			**$17,256**	
	Earthwork				
	Remove asphalt paving & base (SF)	1,255	$4.25	$5,334	
	Regrade & raise drive and walk (SF)	1,255	$1.50	$1,883	
	Site Improvements				

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	Asphalt paving at sidewalk (SY)	139	$42.00	$5,857	
	GC's, Fee, Contingency	*32%*		*$4,183*	
	Reset Catch Basins & Remove Debris			**$9,187**	
	Earthwork				
	Clean out structures (EA)	4	$580.00	$2,320	
	Remove & reset structures (EA)	4	$1,160.00	$4,640	Assumed quantity
	GC's, Fee, Contingency	*32%*		*$2,227*	
	Lower Existing Grade 6" at Perimeter of Building, Add French Drain & Stone Drip Edge			**$31,946**	
	Earthwork				
	Excavate & grade at perimeter of building (LF)	425	$25.00	$10,625	
	French drain (LF)	425	$25.00	$10,625	
	Stone drip edge (CY)	24	$125.00	$2,951	
	GC's, Fee, Contingency	*32%*		*$7,744*	
TOTAL CIVIL REPAIRS				**$71,308**	
TOTAL ALL SCOPE ITEMS				**$6,239,312**	
				$633.11 /SF	

*All subtotal costs include the follow addons: Contingency 15%, GC's 10%, OH&P 5%, Bond & Insurance 2%. Escalation contingency is excluded.
**There are some items that cannot be taken together, as noted throughout the estimate.