



**SITE AND STRUCTURAL ASSESSMENT
LINCOLN COUNTY SHERIFF'S DEPARTMENT
WISCASSET, MAINE**

GALE JN: 841940

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 Sheriff'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 Sheriff's Office and Jail. In 2006, the Jail was relocated to another property, leaving the Sheriff'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.