



**BUREAU
VERITAS**

CITY OF LA CROSSE

FACILITIES CONDITION ASSESSMENT SERVICES

LA CROSSE CITY HALL

April 29, 2022



BUREAU VERITAS | MATTHEW MUNTER
10461 MILL RUN CIRCLE, SUITE 1100 | OWINGS MILLS, MD 21117
P 240.418.7443 | MATTHEW.MUNTER@BUREAUVERITAS.COM

April 29, 2022

City of La Crosse
Attn: James Flottmeyer
Buildings and Grounds
400 La Crosse Street
La Crosse, WI 54601



RE: RFP for Facilities Condition Assessment

Dear Mr. Flottmeyer,

Bureau Veritas Technical Assessments, LLC (Bureau Veritas or BVTA) is pleased to provide the City of La Crosse (City) with the enclosed proposal in response to the City's RFP for Facilities Condition Assessment services. BVTA understands the requirements of the RFP and is well qualified to perform the services.

Proven Experience | Bureau Veritas has extensive experience providing Facility Condition Assessments, Equipment Inventory, Preventive Maintenance, Space Utilization Studies, and Capital Planning for City, County and State Government entities. We have completed thousands of municipal projects with more than 700 million square feet of space within the last five (5) years for state and local governments, private companies, educational clients, and Parks and Recreation clients.

Highly Qualified Team | Bureau Veritas is an architectural and engineering firm focused solely on building lifecycle and capital planning studies, with more than 800 building professionals nationwide. BVTA has over 30 years of experience conducting Facility Condition Assessments.

Regional Experience | Bureau Veritas has a wealth of experience in the Midwest, and across the country. We have completed many projects in Wisconsin, Michigan, Illinois, Iowa, Missouri, and several other nearby states. The following is a selection of similar clients in the region:

- City of Mequon, WI
- City of Wauwatosa, WI
- Marathon County, WI
- Lincoln County, WI
- Grant County, WI
- City of Detroit, MI
- State of Michigan
- State of Minnesota
- City of Lake Forest, IL
- City of Highland Park, IL
- City of Yorkville, IL
- Village of Arlington Heights, IL

Date Founded | Bureau Veritas Technical Assessments LLC was founded in 1986; while BVTA's parent company was founded in 1828.

Bureau Veritas is committed to working with the City of La Crosse to provide the highest possible quality of service. The following pages detail our history, similar project experience, our key personnel and team, and our approach to your unique project. We appreciate the opportunity to present our qualifications for this project and look forward to working with the City. I am available at (240) 418-7443 , or at Matthew.Munter@bureauveritas.com to further discuss our qualifications.

Sincerely,

Matthew Munter
Principal, Executive Vice President

TABLE OF CONTENTS

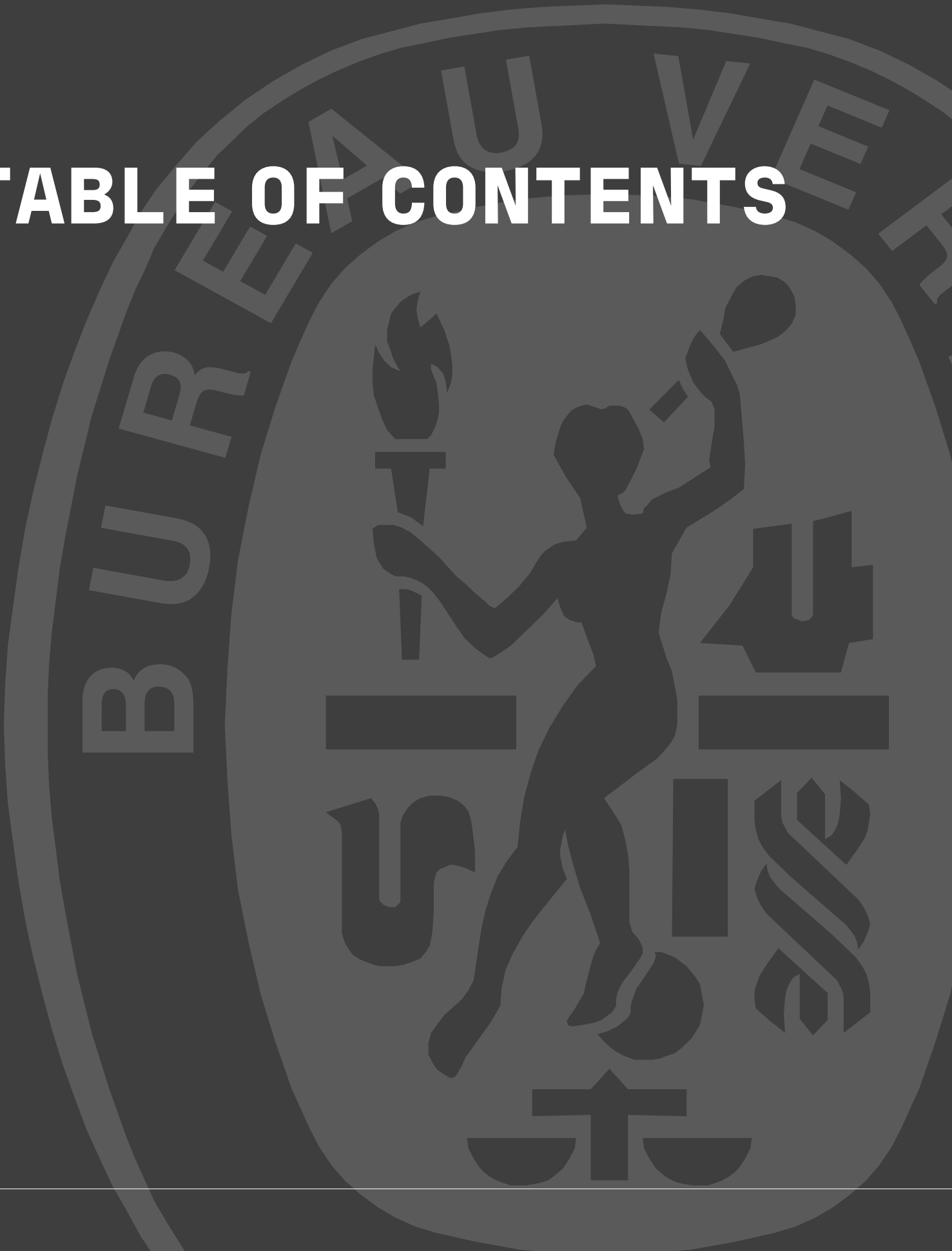
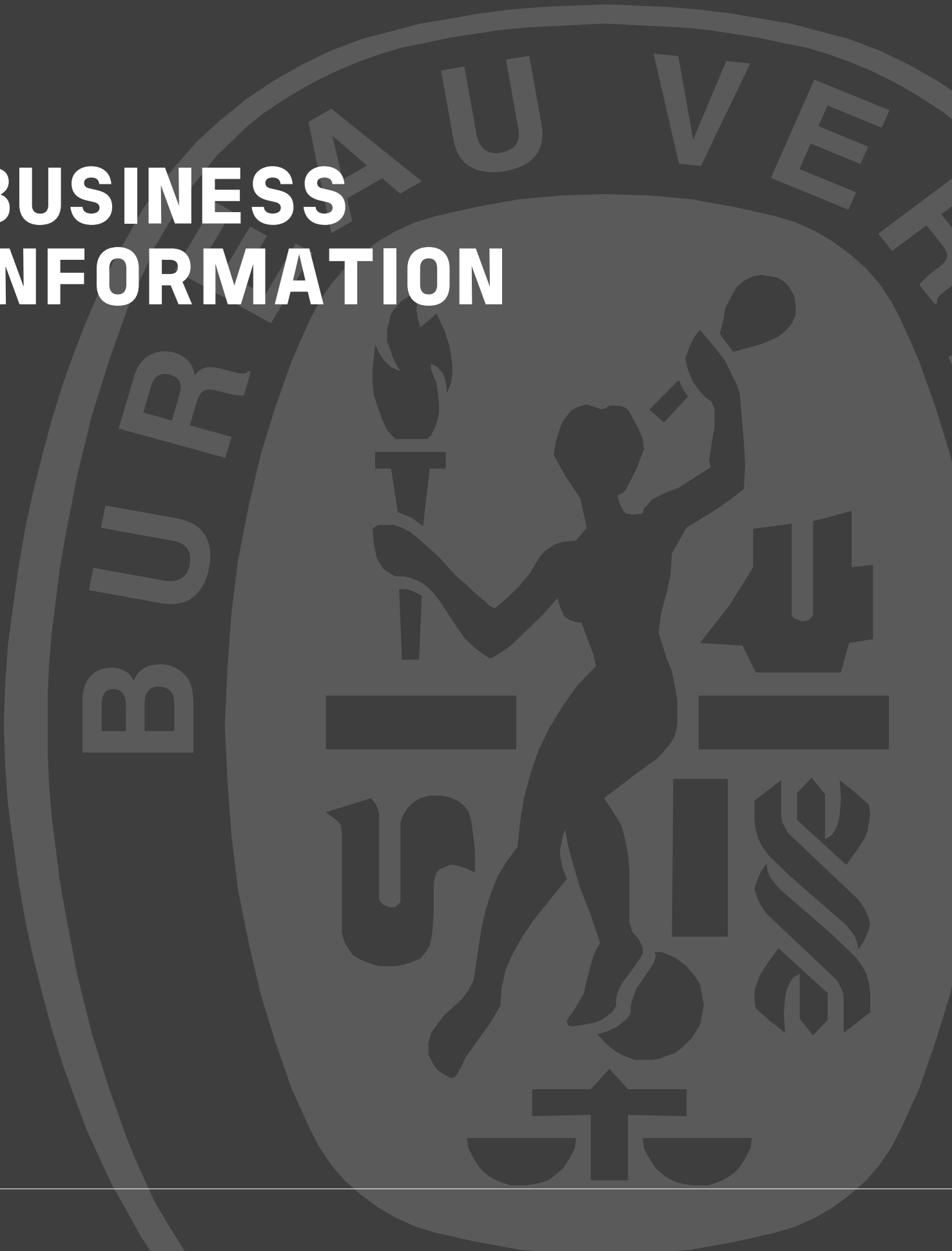


TABLE OF CONTENTS



Section	Page
• Business Information	1
• Project Approach	4
• Relevant Municipal Experience	14
• References.....	20
• Project Team Summary	22
• Project Hourly Breakdown and Billable Rate.....	29
• Deliverables.....	31
• Litigation History	36
• Insurance.....	38

BUSINESS INFORMATION



FIRM PROFILE

Profile

Bureau Veritas Technical Assessments LLC (“Bureau Veritas” or “BVTA”) is a professional service consulting firm providing comprehensive architectural, engineering, energy, and environmental solutions. Our team includes over 800 building professionals nationwide, including Registered Architects, Professional Engineers, Certified Energy Managers, Environmental Professionals, Building Systems Consultants, and Code Compliance Experts.

Annually, Bureau Veritas conducts thousands of assessments for Government, Affordable Housing, Private, Industrial, K-12 Education, and Higher Education Clients. Having successfully completed assessments of more than a billion square feet of building space, Bureau Veritas has developed a proven and efficient methodology for the performance of field assessments, and data collection.

Bureau Veritas’ recommendations are based on knowledge of property conditions, life-cycle analysis, regulations, and client objectives. The firm’s core of architectural, engineering, construction, environmental, and seismic expertise forms the foundation on which the company teams with clients to create and implement facility management solutions. Our solutions include implementation of web-based portfolio management platforms, to traditional property assessments required for due diligence.

ASSET MANAGEMENT SERVICES

- Facility Condition Assessments
- Capital Planning Reports
- ADA Accessibility Compliance
- Equipment and Asset Inventory
- Space Analysis Studies
- Barcoding, QR Coding, and Tagging
- CMMS Consulting
- Preventive Maintenance Plans
- Energy Audits and Modeling
- Commissioning (Cx and Rx)
- Construction Monitoring
- Project Management
- Plan and Document Review

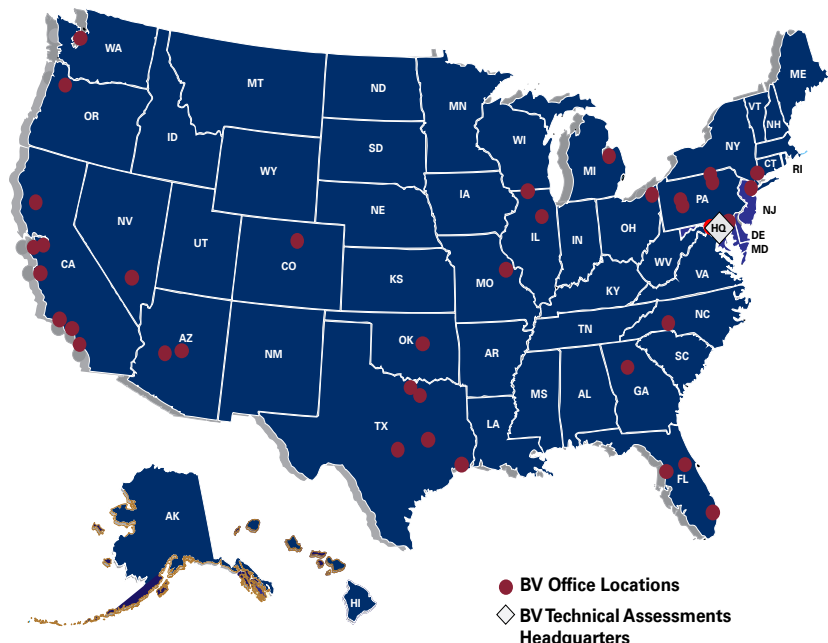


What We Do



Company Information

Name of Company:	Bureau Veritas Technical Assessments LLC
Year Founded:	Parent 1828; Division 1986
Headquarters:	10461 Mill Run Circle, Suite 1100 Owings Mills, MD 21117
Primary Contact:	Matthew Munter Executive Vice President
Telephone:	(240) 418-7443
Email:	Matthew.Munter @bureauveritas.com
Website:	bvna.com



PROOF OF ERRORS AND OMISSIONS INSURANCE AND COVERAGE AMOUNT

Proof of BVTA's Errors and Omissions Insurance and Coverage Amount is provided in the Insurance section of this proposal on Pages 38-40.

PROJECT APPROACH



PROJECT APPROACH

BVTA understands that the **Facility Condition Assessment (FCA)** project with the City of La Crosse (City) will:

- Include a comprehensive assessment of all sites, buildings, building systems, and infrastructure.
- Follow ASTM E2018-15 Standard Guide for Property Condition Assessments, as applicable.
- Determine the present condition and estimated life expectancy of various building systems and components.
- Identify and document present condition of all physical assets including grounds, facilities, and infrastructure.
- Recommend corrections for all deficiencies and provide cost estimates for corrections.
- Prioritize and categorize deficient conditions, associated corrective actions, and information concerning building systems and deficiency categories.
- Establish anticipated renewal and replacement costs for the various systems and components.
- Result in strategic plan for capital repairs, lifecycle component replacement, and building modernization.
- Calculate the Current Replacement Value (CRV) and Facility Condition Index (FCI) for each facility.
- Collect Equipment Inventory data for Client properties
- Establish a protocol for facility condition data to migrate/transfer to a CMMS/IWMS system.
- Prepare a Preventive Maintenance Plan for assets to uploaded to CMMS system.

We understand that a key factor to performing FCAs is the evaluation of physical needs and accurate forecasting for capital repair and replacement budgets. Pre-emptive measures to manage maintenance budgets and programs are essential in ensuring the elimination of potential issues, which can range from deferred maintenance, or premature replacement of building systems that can prove costly.

DATA GATHERING AND INTERVIEW

Our project plan details distinct phases of the project. During each phase, we will require coordination and support from the City's facility management.

Data Gathering Phase – BVTA will need the support of staff who can provide us access to drawings and records. The following is a typical list of exhibits requested.

- Inspection reports (sewer, boiler, chiller, etc)
- Building systems Maintenance Records
- Maintenance policy documentation
- Owner elected repair list (if available)
- Original building plans (can be viewed on-site)
- Capital expenditure schedules (prior or planned)
- Fire protection / life safety plans

- Rehabilitation budget and scope (draft or final)
- Certificates of occupancy / facility license
- Prior assessments
- Site plan / floor plans
- Accessibility transition plans / studies
- CMMS / IWMS data set

In addition to the drawings and records, we will supply a pre-survey questionnaire for each facility or site. Our expectation is that someone with knowledge of maintenance and operations of the facility will complete this survey and be prepared to discuss it with us while on-site.

Site Phase – BVTA will need support in the form of escorts while in the facilities to help us access mechanical areas, to discuss with us any known issues in the facility, and to answer other technical questions.

Report Review Stage – BVTA will provide a complete deliverable for each building.

CLIENT COORDINATION

Project Director – BVTA will become familiar with the City's existing Project Directory - property list and contact directory for each location. We will contact or interview the facilities contacts as part of our process to determine current use requirements and priority of properties based on agency goals.

Facility Access – Working with the City, we will develop procedures to gain Facility Access. Our visits will be coordinated and pre-approved by the City prior to the visit. We will work with the City to establish a protocol that will ensure that our activities will have minimal disruption to the operation of each facility and will maintain a safe work environment.

TEAM COMPOSITION

The project will be managed by a Program Manager who will be your single point of contact. Reporting to the Program Manager will be several Project Managers who are architectural and engineering subject matter experts (SME) in the evaluation of building systems and generating the reports. We evaluate the building portfolio to determine which team members will be assigned to particular sites. Larger or more complex sites will have both an architect and an engineering SME. Smaller or simpler buildings will have a single SME field assessor that understands all building systems.

TECHNICAL APPROACH

Prior to assessments beginning, BVTA will conduct a Kick-Off Meeting to review requirements and to consolidate exhibits such as drawings and prior completed reports.

During the term of the project, BVTA will conduct regular Progress Meetings to maintain open communication with the entire project team and the City. BVTA will lead with an agenda that includes a focus on work plan, schedule, and project needs. This will permit the opportunity to proactively address challenges encountered, so that course adjustments may be made. Each meeting will conclude with task assignments, schedules, and goals to be met. BVTA will provide the City with a written status report that tracks and monitors the progress of the assessments against the schedule submitted.

BVTA has allocated time for regular teleconference meetings and the following meetings: Kick-Off Meeting (teleconference) and a Final Findings Presentation meeting. Any additional in-person meetings will be on a time and expense basis.

FIELD ASSESSMENTS

The Assessment Team will conduct a walk-through survey of the facility and site to observe systems and components, identify physical deficiencies, and formulate recommendations to remedy the physical deficiencies.

As a part of the walk-through survey, the Team will survey 100% of each facility. BVTA will survey the exterior and grounds, including the building exterior, roofs, sidewalk/pavement, and recreational/other areas as applicable. They will interview the building maintenance staff about the property's historical repairs and replacements and their costs, level of preventive maintenance exercised, pending repairs and improvements, and frequency of repairs and replacements. The Assessment Team will develop opinions based on their site assessment, interviews with the City's building maintenance staff, and interviews with relevant maintenance contractors, municipal authorities, and experience gained on similar properties previously evaluated.

The Team may also question others who are knowledgeable of the property's physical condition and operation or knowledgeable of similar systems to gain comparative information to use in evaluation of the subject property.

The Assessment Team will review documents and information provided by the City's maintenance staff that could aid the knowledge of the property's physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions.

The facility condition assessment will include the City-identified assets and will focus on the following facility and site systems and components:

Site + Infrastructure

- Topography: Observe general topography and note any unusual or problematic features or conditions observed or reported.
- Paving, Curbing, and Parking: Identify material types of paving and curbing systems at the property.
- Bridge and Road: Identify the material types and general condition of internal roads, medians, slopes and bridge crossing.
- Flatwork: Identify material flatwork at the property (sidewalks, plazas, patios, etc.).
- Landscaping and Appurtenances: Identify material landscaping features, material types of landscaping (fences, retaining walls), and site appurtenances (irrigation systems, fountains, lighting, signage, ponds).
- Utilities: Identify type of material utilities provided to the property (water, electricity, natural gas); and assess condition, physical deficiencies, life cycle repair, and replacement issues.

Recreational Facilities:

- Identify any material on-site recreational facilities such as athletic fields, swimming pools, spas, tennis or basketball courts, jogging or bicycle paths, etc. Observe the general conditions and note any reported physical deficiencies or any unusual items or conditions observed or reported.

EV Charging Stations:

- With information provided by the client document the payment software providing access to the charging station, if any.
- Identify the power source for the EV charging station and if possible, determine if the power used is billed to a client electrical meter.
- Determine the age of the equipment and review for deterioration from weather and use. Identify the remaining useful life of the charging station equipment and the cost to replace the equipment.

- Review the signage, paving and surface materials around the charging stations for deterioration.

Structural Frame + Building Envelope

- Identify material elements of the structural frame and exterior walls, including the foundation system, floor framing system, roof framing system, facade or curtain-wall system, glazing system, exterior sealant, doors, commercial overhead doors, sliders, windows, and stairways, etc.
- Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed. Observations may be subject to grade, and rooftop vantage points.
- Visually inspect observable areas for cracking and moisture infiltration as well as areas of apparent foundation settlement and displacement.
- In the event more information or exploratory testing is required, in order to provide remedial measures, the report may include recommendation for additional investigative testing (Tier 1 or Tier 2).

Wall Evaluation

- Photograph elevations and details both from internal and external vantage points, as well as from adjacent structures where possible.
- Observe representative operable and fixed panels on all facades, operating a representative sample of units to assess hardware and visually inspect exterior conditions and condition of waterproofing seals.
- Assess curtain wall condition to determine water infiltration, damage, caulk degradation, metal panel degradation, stone degradation and anchoring, and other related curtain wall issues.

Curtain Wall – As Required

- Review curtain wall condition and a sampling of fixed panels on facades to assess hardware and visually review exterior conditions and the condition of waterproofing seals, where accessible without the use of lifts, ladders, scaffolding, suspension devices, or the like; may include observations from internal and external vantage points, as well as adjacent structures. Observations are limited to grade and may include accessible balconies or rooftop vantage points.
- Review provided drawings and records of repair, replacement, and maintenance of framing and glazing.

Roofing (Non-Invasive Visual)

- Identify material roof systems (roof type, reported age, slope, drainage) and any unusual roofing conditions or rooftop equipment.
- Observe general conditions of the roof system (membranes, attachment methods, flashings, counter flashings, pitch pans, gravel stops, parapets, miscellaneous appurtenances, insulation).
- Observe for evidence of material repairs, significant ponding, or evidence of material roof leaks. Note if a roof warranty is in effect. Note any physical deficiencies identified or unusual items observed or reported.
- Identify material rooftop equipment or accessories (antennas, lightning protection, HVAC equipment, solar equipment). Include any material problems reported.
- BVTa understands that the City will provide OSHA compliant ladders, lifts and/or scaffolding (depending on roof type) so that the Project Manager may safely access roof areas. If requested, BVTa can provide a quote for lift and/or ladder access as needed. Observations will be limited to readily accessible areas.

Plumbing

- Identify material plumbing systems at the property including domestic water supply, sanitary sewer, or any special or unusual plumbing systems (such as water features, fuel systems, gas systems, etc.).
- Identify type and condition of restroom fixtures, drinking fountains and/or other plumbing equipment.
- Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed. Include any reported material system inadequacies.

Heating

- Identify material heat generating systems at the property.
- Observe general conditions, identify reported age of the equipment, note past material component replacements/upgrades, note apparent level of maintenance, and identify if a maintenance contract is in place. If heating equipment is not operational at the time of the walk-through survey, provide an opinion of the condition to the extent reasonably possible.
- Identify and observe any special or unusual heating systems or equipment present (fireplaces, solar heat, etc.) and note any reported material problems or inadequacies.

Air-Conditioning + Ventilation

- Identify the material air-conditioning and ventilation systems at the property. Include material equipment such as cooling towers, chillers (type of refrigerant used), package units, split systems, air handlers, thermal storage equipment, etc.
- Identify material distribution systems (supply and return, make-up air, exhaust) at the property.
- Observe general conditions, identify equipment reported age, note past material component upgrades/replacements and apparent level of maintenance, and identify if a maintenance contract is in place (contractor name). If AC and ventilation systems are not operational at the time of the walk-through survey, provide an opinion of the condition to the extent reasonably possible.
- Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed. Additionally, include any material reported system inadequacies or operating deficiencies.
- Identify and observe any special or unusual air-conditioning and ventilation systems or equipment (cold storage systems, special computer cooling equipment, etc.) and note any material reported problems or system inadequacies.

Electrical

- Identify the electrical service provided and distribution system at the property.
- Include material switchgear disconnects, circuit breakers, transformers, meters, emergency generators, general lighting systems, and other such equipment or systems.
- Observe general electrical items (distribution panels, type of wiring, energy management systems, emergency power, lightning protection).
- Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed. Also, note the presence of any special or unusual electrical equipment, systems, or devices at the property, and include reported material problems or system inadequacies.

Life Safety + Fire Protection

- Identify material life safety/fire protection systems at the property, including sprinklers and stand pipes (wet or dry), fire hydrants, fire alarm systems, water storage, smoke detectors, fire extinguishers, emergency lighting, stairwell pressurization, smoke evacuation, etc.

- Observe general conditions and note any material physical deficiencies identified or unusual items or conditions observed or reported including any reported system inadequacies.

Elevators + Vertical Transportation

- Identify vertical transportation systems at the property. Include the equipment manufacturer, equipment type, location, number, capacity, etc.
- Observe elevator cabs, finishes, call and communication equipment, etc.
- Identify the company that provides elevator/ escalator maintenance at the property. Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed or reported including any reported material system inadequacies.
- Out of Scope Issues: Performing any calculations, examination of operating system components such as cables, controller, motors, etc.; entering elevator/ escalator pits or shafts.

Interior Elements

- Identify offices, special use areas, and building standard finishes, including flooring, ceilings, walls, etc. Furnishings and fixed components will be reviewed and included in the cost estimate tables for replacements. BVTa will identify material building amenities or special features.
- Observe general conditions and note any physical deficiencies identified or unusual items or conditions observed or reported.

Food Service Spaces and Equipment

- Assess all food service equipment and spaces (kitchen, cafeteria, dining, serving areas). Food service equipment (fixed equipment) will be evaluated for adherence to life/ safety code and ventilation requirements as well for condition and capital replacement.

Special Systems and Equipment

- Include all special systems and equipment, such as Emergency Medical Systems (EMC), chillers, radio towers, equipment lifts, chair lifts, chemical storage or treatment areas, storage tanks, dumbwaiters, vaults, public address systems, and telephone systems.

Expanded Accessibility Compliance

- Provide a general statement of the subject building's likely compliance to the Americans with Disabilities Act to help identify whether Client may be exposed to issues and whether there is the need for further review.

- We use an ADA Compliance checklist compliant with ASTM E2018-15.
 - BV will perform a limited visual assessment of interior and exterior elements that could present external or internal barriers to accessibility by disabled persons.
 - A more detailed ADA evaluation or transition plan is available as an additional service.

Energy Conservation Analysis

- Consider energy conservation savings when making repair or replace recommendations and include these projects in the project prioritization.
- Able to provide an Energy Audit (ASHRAE Level I, II, or III) or Benchmarking (EnergyStar) services as an additional service.

Exhaust Collection Systems (Fire Stations)

BV will verify existence of any exhaust collection systems in the apparatus bays. If a system is present, BV will conduct a carbon monoxide (CO) measurement at each exhaust collection system. If the apparatus bay shows evidence of irregular CO/CO2 levels, we will recommend additional testing from an industrial hygienist to determine levels of VOCs, NO2, SO2, CO and diesel exhaust particulates. Additional testing will verify performance standards with fire apparatus idling in bays, on the tarmac, and entering/exiting bays as would occur during normal station operation.

RANKING AND CLASSIFICATION

Based upon our observations, research and judgment, along with consulting commonly accepted empirical Expected Useful Life (EUL) tables; BVTa will render our opinion as to when a system or component will most probably necessitate replacement.

Accurate historical replacement records provided by the facility manager are typically the best source for this data.

Exposure to the weather elements, initial system quality and installation, extent of use, the quality and amount of preventive maintenance exercised are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its effective age.

CONDITION RANKING OF BUILDING SYSTEMS / EQUIPMENT

BVTa can rate the condition of each facility with the below rating system, or another City-specified scale:

- 5 Excellent** – No visible defects, new or near new condition, may still be under warranty if applicable

- 4 Good** – Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional
- 3 Adequate** – Moderately deteriorated or defective, but has not exceeded useful life
- 2 Marginal** – Defective or deteriorated in need of replacement; exceeded useful life
- 1 Poor** – Critically damaged or in need of immediate repair; well past useful life

BVTa can also include alternative categories to rank and weight priorities as required by the City, such as functional deficiencies, aesthetics, time-based urgencies, and other mission critical factors.

PRIORITY CLASSES

The analysis will include all cost observations be ranked by Priority Classes. The five classes below are typical but can be altered to meet your specifications and needs:



DEFICIENCY CATEGORIES (UNIFORMAT)

The deficiencies observed will be classified into categories such as those below using the Uniformat System (Level 4):

- A10 Foundations
- A20 Basement Construction
- B10 Superstructure
- B20 Exterior Enclosure
- B30 Roofing
- C10 Interior Construction
- C20 Stair
- C30 Interior Finishes
- D10 Conveying
- D20 Plumbing
- D30 HVAC
- D40 Fire Protection
- D50 Electrical
- E10 Equipment
- E20 Furnishings
- F10 Special Construction
- F20 Selective Building Demolition

EQUIPMENT AND ASSET INVENTORY

During the assessment, each field team will be responsible for collection and storing all of the inventory and condition assessment data in an electronic format that is readily transferable to a standardized CMMS system.

Bureau Veritas will collect information on the major pieces of facility equipment. Specifically, the data collection will focus on the following components:

HVAC (level of detail for which Preventive Maintenance would be performed)

- Heating System
 - Identify boilers, furnaces, unit heaters and major labeled equipment.
- Ventilation System
 - Identify the major labeled equipment; exhaust hoods, fans.
- Air Conditioning System
 - Identify the material air-conditioning components, including cooling towers, compressors, chillers, package units, roof top units, split systems and major labeled equipment. Excluded are window units, terminal units, VAV boxes, thermostatic controls.

Electrical

- Major panels only-for identification to track maintenance.
- Transformers
- Switchgear

Equipment

- Building Automation System

Healthcare FF&E (no rolling stock)

- Hospital Beds
- Television Sets/Fixed Monitors
- Bedside Tables
- Lobby/Waiting Room Furniture
- Office/Conference Room/Nursing Station Furniture
- Cafeteria/Breakroom Furniture
- Patient Room Furniture
- Chairlifts
- Privacy Curtain
- Fixtures (over \$500)
- Healthcare Systems
- Nurse Call Stations
- Safety Showers/Eyewash Stations
- Pneumatic Tube Systems
- Medical Air Compressor Units
- Medical Air Vacuum Units
- Incinerators
- Steam Sterilizers
- Ultrasonic Cleaner

Plumbing

- Pumps external to HVAC systems
- Domestic Hot Water heaters over 80 gallons
- Other major labeled equipment.

Commercial Kitchen- major equipment (above approximately \$2000 value)

- Walk-in freezer and refrigerator equipment
- Ovens, stoves, broilers, grills
- Reach-in refrigerators and freezers
- Dishwashers
- Fryers

Vertical Transportation (if applicable)

Life Safety/Security

- High Level (system level) only-for identification to track maintenance
 - Alarm Panels
 - Emergency generators
 - Exhaust hood fire suppression

Where appropriate, the following data will be collected for each component:

- Location data by floor and room
- Model
- Serial Number
- Manufacturer
- Manufactured Date
- Capacities
- Date placed in service (provided by Client)
- Inventory tag number (barcoded tag directly attached to the component, or to an attached tag)
- Voltage durable barcode or QR code tag to be attached to each piece of equipment.

OPTION: BARCODING / QR CODING

For the above referenced equipment, BV will apply a durable barcode / QR code with a unique number for use as an identifier in the CMMS system. We will use a vinyl tag for indoor applications, and a durable foil tag for outdoor use. Barcode / QR code numbers will be recorded in the database and all future work orders etc., and can be tied back in to a single piece of equipment or system. The cost of Barcoding / QR coding will add 1.5 cents per square foot to the project.

PREVENTATIVE MAINT. SCHEDULES SERVICE

BV will provide preventive maintenance (PM) schedules for the equipment listed in the equipment inventory provided by client. Preventive maintenance schedules will include the following information:

- Safety precautions specific to the recommended PM instructions
- Description of tools required for recommended PM instructions. Tool list will not be exhaustive but identify common tool sets and specialty tools required for tasks.

Recommended preventive maintenance instructions and frequencies specific to the equipment classification and type. PM instructions are based on the following sources:

- Prevailing national standards
- Survey of Common Manufacturers recommendations
- Industry best practices
- Estimated labor hours required to complete each PM work order

BV will provide the PM schedules in spreadsheet format suitable for upload into clients CMMS. Spreadsheet will also contain analysis of PM labor hour requirements for use by client for planning purposes. BV will review PM schedules with client and adjust frequencies and start dates as required to meet clients' needs and match available resources.

COST ESTIMATING

BVTA's cost estimating database is comprised of RS Means data and further customized with proprietary cost tables developed by BVTA, based on historical and localized actual costs. BVTA maintains and updates our Unifomat-based cost estimating system with information received from the field. Through construction monitoring work, we have current cost data from hundreds of in-progress construction and rehabilitation projects. This data allows us to calculate costs based on local conditions to maintain a cost database that is typically more current than RS Means' models.

Each report will include a Capital Needs Analysis including an estimated cost for each system or component repair or replacement anticipated during the evaluation term. The report will provide options for repair of the deficiency, and the capital needs analysis will be presented as an Excel-based cost table that includes a summary of the description of each component, the age and estimated remaining useful life, the anticipated year of repair or replacement, quantity, unit cost and total cost for the repair of each line item.

A consolidated Capital Needs Analysis will be presented that includes all anticipated capital needs for all buildings. The cost estimate for capital deficiencies will be based on the estimate for maintenance and repair, but may at the City's option, also include project management, construction, and design fees derived using actual costs from previous projects. After determining these costs, we will confirm these costs with the City Staff.

ENERGY AUDIT

The proposed Energy Audit consists of an on-site assessment to verify the current conditions, itemize the energy consuming equipment (air conditioning, fans, and blowers) as to what was identified during the previous audit; review lighting systems both exterior and interior; review appliances; and review efficiency of all such equipment. Bureau Veritas will consider structural elements (building envelope) for energy efficiency. Recommendations will be made on implementing cost-saving ECMs. We will estimate the projected payback period on each energy-saving recommendation and prioritize accordingly.

Prior to conducting the Energy Audit, Bureau Veritas proposes to complete a Historic Energy Consumption Analysis and Energy Benchmarking, including completing the following tasks for the facility:

- Obtain and review the previous 12-24 months of utility bills including electricity, and natural gas;
- Establish base year consumption and review base year costs and utility rates; and
- Enter utility data into ENERGY STAR Portfolio Manager energy benchmarking system.

Bureau Veritas will collect and analyze the utility data for the properties for the past 12-24 months, and review the prior property condition assessment or applicable engineering study. Bureau Veritas will interview Facility Engineers with knowledge of the properties, notably building systems and components, in order to provide a general overview of the facilities and to identify opportunities for energy cost savings.

Following the benchmarking study, Bureau Veritas will conduct detailed energy audits of all facilities listed in the RFP. This includes detailed on-site survey/energy audit and engineering analysis of building systems, building simulations using in-house developed spreadsheet method, and analysis of savings with estimated installed costs and paybacks.

The energy audit will mainly consist of the following:

- Building envelope inspection including doors and windows for type of glass, insulation level and shading factor, weather sealing, walls and roof for insulation, cracks, and missing weather seals to identify energy loss.
- Detailed inventory of all HVAC equipment, boilers, furnaces, air conditioning equipment, chillers, pumps, fans, motors, lighting, and irrigation systems serving the buildings.

- Energy metering system review and evaluation of potential for sub meters, as applicable.
- Audit of HVAC systems, evaluation of piping for leaks, and insulation upgrades evaluation of chemical treatment of water, blow-down frequency, and condensation of system performance survey of steam traps heat exchangers and identification of opportunities for heat recovery.
- Review of current O&M procedures, and recommendations to optimize maintenance.
- Photometric analysis of light levels in all spaces.
- Development of a detailed lighting schedule with opportunities for improvement through replacing T12 light fixtures with Super T8s/T5, magnetic ballasts with electronic ballasts; and identification of opportunities for de-lamping through measured lumen levels.
- Recommendations for motion/occupancy sensors for low traffic and sporadic occupancy areas, and photo sensors for areas with adequate day light; and recommendations for bi-level and tandem ballasts.
- Evaluation of chilled water systems; performance evaluation of chilled and condenser water production, and cooling load/demand; and calculation of operating kW/ton and identification of opportunities to optimize/improve performance.
- Survey, record, and evaluation of the EER/SEER of the window and split unit air conditioners serving the buildings and other areas, to identify opportunities to replace older units with Energy Star alternatives; and identification of opportunities for centralized systems.
- Evaluation of the efficiency, sizing, and performance of all motors and pumps in the entire facility, and identification of opportunities for variable frequency drive (VFD) controls.
- Audit of air handler performance throughout the buildings, air distribution ducting, and potential for VFD control of supply and return fans in variable air volume (VAV) systems.
- Evaluation of existing (or potential for new installation of) EMSs.
- Audit of all water using equipment and identification of opportunities for upgrades with water-efficient fixtures.

Bureau Veritas will perform a comprehensive analysis of the building systems, and make recommendations on all identified ECMs with detailed cost estimates and cost savings. We will perform an SIR analysis in addition to the simple payback method, based on Present value (Pv) of the recommended improvement, and rank all projects based on both simple payback as well as SIR. A life cycle cost (LCC) analysis will also be performed in addition to the payback analysis.

Bureau Veritas will perform building simulations using an in-house developed spreadsheet method that take into consideration the manufacturer rated efficiency, equipment age, existing maintenance practices, local heating/cooling degree-days and building envelope composition to compute the potential energy savings from the proposed ECMs. The generated savings are further discounted to account for interactivities among multiple measures and projects' net resulting energy savings by taking into consideration the building orientation, dynamic heat gains and losses, weather, and architectural effects.

Bureau Veritas will analyze opportunities for energy conservation for each development including, but not limited to:

- Envelope upgrade and weather sealing, additional insulation, and minimization of heat loss.
- Improvements to the energy performance of windows and doors through storm windows/doors, window shading films, or replacement with high performance alternatives.
- Retrofits to old lighting with energy efficient light fixtures and controls.
- Upgrades to older appliances with new Energy Star appliances.

- Implementation of smart strips to control electronics and entertainment devices.
- Upgrades to older HVAC systems with high efficiency units.
- Improvements to pipe or duct insulation and leak reduction.
- Implementation of programmable or smart thermostats to avoid unnecessary heating.
- Identification of water conservation opportunities (low-flow aerators for break rooms and bathroom sinks, and toilets).
- Identification of alternate sources of energy (conversion of electric to natural gas based on cost feasibility).
- Identification of all potential energy grants and incentives in the form of rebates from local utilities and other Federal and District of Columbia entities for energy upgrades.
- Identification of opportunities for distributed generation and cogeneration based on coincidental electrical and thermal loads for each development.
- Identification of opportunities for renewable energy systems (solar photovoltaic and solar hot water).

Examples of field tools used to perform Energy Audits



RELEVANT MUNICIPAL EXPERIENCE





**BUREAU
VERITAS**

PROJECT PROFILE

CITY OF DETROIT

FACILITY CONDITION ASSESSMENT, ENERGY AUDIT

Bureau Veritas Technical Assessments LLC (BVTA) was selected by the City of Detroit to provide facility condition assessments of City-maintained properties. The assessment included thorough examination and lifecycle assessment of the buildings, property, and major systems including structural, building envelope, plumbing, mechanical, electrical, roofing, interior finishes, and ADA compliance. This project included fire stations and training facilities, police stations and other police facilities, courts, detention centers, libraries, recreation centers, parks and playgrounds, amphitheatres, golf courses, greenhouses, ice rinks, museums, a historic fort, clinics and comfort stations, the City's airport, marinas and boat ramps, animal control, road maintenance facilities, horse stables, garages, power plants, cemetery, and other municipal facilities.

BVTA completed a comprehensive reserve schedule to help in the budgeting and replacement of assets as needed over the next 20 years. The project prioritized capital improvement projects, repairs, replacements, and maintenance, in order to help the City prioritize needs over the next 3 to 5 years.

The City also selected BVTA to perform a comprehensive Energy Sustainability Audit to assist the City in developing a plan to reduce its carbon emissions by 35% by 2024. The energy sustainability audit consisted of benchmarking 190 buildings owned by the city through EPA's Portfolio Manager website, along with performing energy and water audits on 80 buildings consisting of fire stations, police stations, libraries, offices, museums, recreation centers, and golf courses. In addition to the energy assessments, BVTA also assisted the City in developing the retro-commissioning plan to bring the buildings back to its design state along with completing Solar Photovoltaic Feasibility study on 90 of its buildings. BVTA was able to identify over 700 non-renewable energy and water savings measures resulting in a projected annual savings of approximately 6,000MTCO₂ emissions along with another 5700MTCO₂ emission reductions through proposed installation of rooftop Solar PV arrays.

LOCATION

Detroit, Michigan

SERVICE

Facility Condition Assessment
Energy Audit

SIZE

8.3 MM SF
130 Facilities

FACILITY TYPE

City Hall & Administrative Offices
Recreation Centers & Parks
Golf Courses & Ice Rinks
Parking Structures
Fire & Police Facilities
Detention Centers & Courthouses
Clinics & Comfort Stations
Libraries
Museums & Historic Sites
Aquarium & Zoo
Airport
Marinas & Boat Ramps
Garages & Maintenance
Public Works & Power Plants

REFERENCE

LaJuan Counts
City of Detroit
2 Woodward Avenue, Suite 1100
Detroit, MI 48226
(313) 224-4614
countsl@detroitmi.gov



**BUREAU
VERITAS**

PROJECT PROFILE

CHICAGO PUBLIC SCHOOLS

FACILITY CONDITION ASSESSMENT, SPACE PLANNING

Chicago Public Schools (CPS), the fourth largest school district in the US, awarded Bureau Veritas Technical Assessments LLC (BVTA) a contract to conduct Facility Condition Assessments on 650 schools totaling 57 million square feet.

BVTA conducted detailed assessments of these school facilities of which the results were used to inform and prioritize the annual, five and ten-year capital improvement budgets for the district. CPS' portfolio includes conventional K-12 public schools and non-CPS charter schools that were subject to the assessment.

This project involved collection of facility condition, program and space data and populating that data into a third party platform through a remote interface that synced data directly into the CPS database.

Managing the field assessments from CPS' headquarters, BVTA deployed two field teams of architects and engineers simultaneously. The field teams utilized tablet computers populated with CPS' Facility Assessment Cost Tracking System (FACTS) to collect data for each school.

Four separate focus areas of data were populated:

- Building Form
- Classroom Space and Ed Spec Parameters
- ADA
- Assessment

Developed by CPS to have a consistent and comprehensive way to determine capital need, FACTS analyzes the field data which is used to create a Capital Plan.

LOCATION

Chicago, IL

SERVICE

Facility Condition Assessment Program and Space Needs

SIZE

650 Schools
57MM SF

SOFTWARE INTEGRATION

Legacy Custom CPS FACT Database

FACILITY TYPE

K-12 Schools

REFERENCE

David Favaro
Chicago Public Schools
42 West Madison Street
Chicago, Illinois 60602
(773) 553-3203
dffavaro@cps.edu



PROJECT PROFILE

CHILDREN'S HOSPITAL OF WISCONSIN

DATA GATHERING AND EQUIPMENT INVENTORY

Bureau Veritas Technical Assessments LLC (BVTA) completed an equipment inventory for both Children's Hospital of Wisconsin's campuses; one near Milwaukee and the other near Green Bay. BVTA assembled a team of professional engineers to evaluate all HVAC and mechanical equipment and components at the facility. DudeSolutions provided a Computer Maintenance Management Software (CMMS) that Hospital management and facilities department will utilize for Capital Planning and Maintenance.

BVTA performed a detailed mechanical equipment evaluation, developed and delivered a fully populated CMMS database containing facility equipment. The assessment included an evaluation of electrical equipment, mechanical and plumbing systems, as well as medical related mechanical serviceable equipment. BVTA created a preventative maintenance schedule which is utilized to plan and maintain serviceable building and HVAC equipment or components.

All data and information gathered during the evaluation was exported to DudeSolutions' MaintenanceEdge® module computerized Maintenance Management System (CMMS).

LOCATION

Milwaukee & Neenah, WI

SERVICE

Data Gathering
Equipment Inventory

SIZE

1.7M SF

FACILITY TYPE

Hospital



**BUREAU
VERITAS**

PROJECT PROFILE

CITY OF FERNDALE

FACILITY CONDITION ASSESSMENT AND ENERGY AUDIT

BV performed the City of Ferndale's first ever assessments to help plan for the future of their building portfolio. The City engaged with BV to help get an understanding of their current needs, as well as to create a 5 to 10 year plan centered around efficient use of space. BV's assessments will help determine which buildings will require updating, renovations, or replacement.

BV understood that a key factor in performing FCAs for the City was the evaluation of physical needs and accurate forecasting for capital repair and replacement budgets. Pre-emptive measures to manage maintenance budgets and programs are essential in ensuring the elimination of potential issues, which can range from deferred maintenance, or premature replacement of building systems that can prove costly.

During the Facility Assessments, BV included an Energy Efficiency review of the buildings' construction features, historical energy and water consumption and costs, review of the building envelope, HVAC equipment, heat distribution systems, lighting, and the buildings' operational and maintenance practices. These findings were integrated into the facility assessment data by reviewing traditional and green alternatives for the replacement of assets. A payback analysis was evaluated to determine if energy conservation measures were practical.

Additionally, BV conducted a space utilization and occupancy survey that provided an overall understanding of how spaces were being used throughout each facility. This data allows the City to evaluate and manage their facilities and determine the most appropriate use of each space to align with the City's goals. In addition to providing best use practices from similar facilities, BV also made recommendations to optimize space use based on the prioritizations discussed between the City department directors and BV.

The general mission was to identify and provide recommendations for optimizing buildings areas that are underutilized or that can be better utilized. Space utilization and occupancy was determined by the needs, mission, and intentions of the City departments. The City will use this information to identify specific functional spaces by size and design.

LOCATION

Ferndale, MI

SERVICE

Facility Condition Assessment
Space Analysis
Energy Audit

SIZE

2 MM SF
73 Buildings

FACILITY TYPE

City Hall
Public Works
Police and Fire Stations
Storage Garages
Community Center
Parks Buildings
Museum

REFERENCE

James Jameson, Facilities
Manager
City of Ferndale
521 E. Cambourne Street
Ferndale, MI 48220
(743) 383-3328
jjameson@ferndalemi.gov



PROJECT PROFILE

HOUSING AUTHORITY OF MILWAUKEE

GREEN PHYSICAL NEEDS ASSESSMENT, ENERGY AUDIT

Bureau Veritas Technical Assessments LLC (BVTA) was contracted to provide green physical need assessments for the Housing Authority of the City of Milwaukee (HACM). The Authority is one of City of Milwaukee’s largest landlords and manages more than 5,000 units of housing ranging from one to six bedroom units for families, elderly, and the disabled. Approximately 4,000 housing units are public housing units subsidized by the US Department of HUD, and the remaining 980 units are affordable housing units that do not receive any subsidy. In addition to the assessment, BVTA worked with the HACM’s management and staff to develop a 5-Year, 10-Year and 20-Year Plan. BVTA presented the plans to Executive Management at the closeout meeting.

BVTA reviewed existing documentation, interviewed existing HACM staff and conducted the on-site, non-invasive, physical needs assessments in adverse weather conditions. BVTA provided the HACM with a comprehensive database describing their developments, materials, condition, and improvements needed, and prepared HUD form 52832 for each residential development. BVTA was later engaged to provide further assessments in order to segregate the units further while maintaining the representative sample size.

BVTA identified more than \$18 million of Priority 1 needs for the HACM’s facilities, and provided sound justification for future demolition of one of the residential towers. Additionally, BVTA provided and presented several funding scenarios used by the HACM as a reference for future discussion.

LOCATION

Milwaukee, WI

SERVICE

Green Physical Needs Assessment
Capital Planning
Energy Audit
Software Database
Development

SIZE

5,141 Units

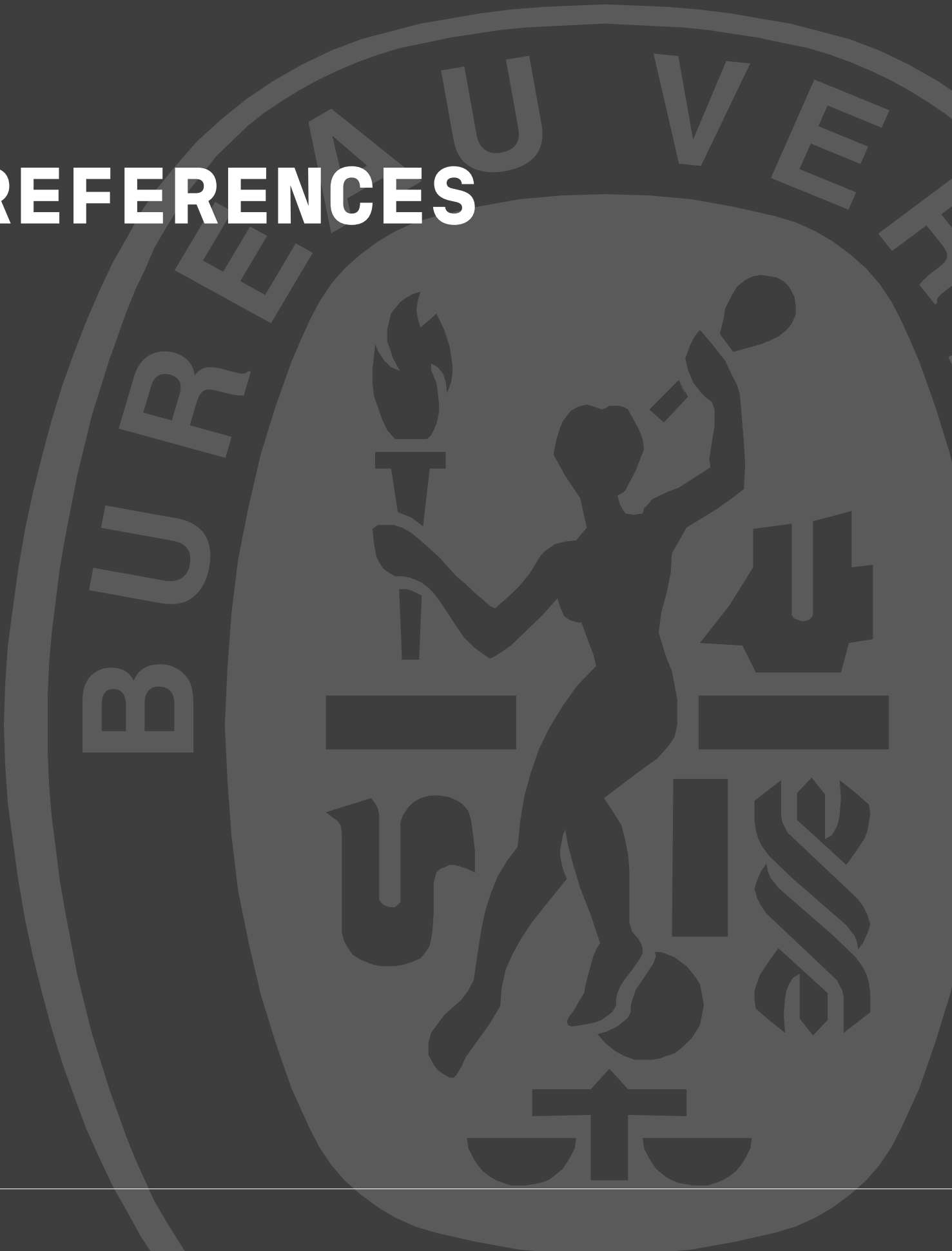
FACILITY TYPE

Housing

REFERENCE

David Flores
Housing Authority of the
City of Milwaukee
809 North Broadway
Milwaukee, WI 53202
(414) 286-5892
david.flores@hacm.org

REFERENCES



REFERENCES

- **City of Detroit**

LaJuan Counts
2 Woodward Avenue, Suite 1100
Detroit, MI 48226
Tel: (313) 224-4614
Email: countsl@detroitmi.gov

- **Chicago Public Schools**

David Favaro
42 West Madison Street
Chicago, Illinois 60602
Tel: (773) 553-3203
Email: dffavaro@cps.edu

- **City of Ferndale**

James Jameson, Facilities Manager
521 E. Cambourne Street
Ferndale, MI 48220
Tel: (743) 383-3328
Email: jjameson@ferndalemi.gov

- **Housing Authority of the City of Milwaukee**

David Flores
809 North Broadway
Milwaukee, WI 53202
Tel: (414) 286-5892
Email: david.flores@hacm.org

PROJECT TEAM SUMMARY



G. PROJECT TEAM

Bureau Veritas' Team includes Professional Engineers and Energy Managers with an average of over 20 years of relevant experience. These professionals develop and write the assessment report and coordinate logistics and document collection for each assessment. Bureau Veritas also has an internal information technology group that supports the development of field data collection programs and client database applications.

Mr. Matthew Munter, PE | Project Executive

Mr. Munter will oversee all contractual aspects of the project and will be available to meet with the City for the duration of the project on an as-needed basis. He will have primary responsibility for defining the scope of engagement, and will meet regularly with Bureau Veritas' Program Manager and Assessment Team to assure that the City's needs are being met, and that the project is adequately staffed, running smoothly, and on schedule.

Mr. Andrew Hupp | Program Manager

The County will have a primary point of contact in Mr. Chabukswar throughout the duration of the project. Mr. Chabukswar will be responsible for the overall team performance and delivery of the overall project. He will work with the Assessment Team and the County to assure project success. He will conference with the County on an agreed-upon basis, and will be responsible for delivering assessment results, and for working with County Staff to develop the implementation plan based on the results.

Dr. Bill Champion, PE | Quality Assurance Manager

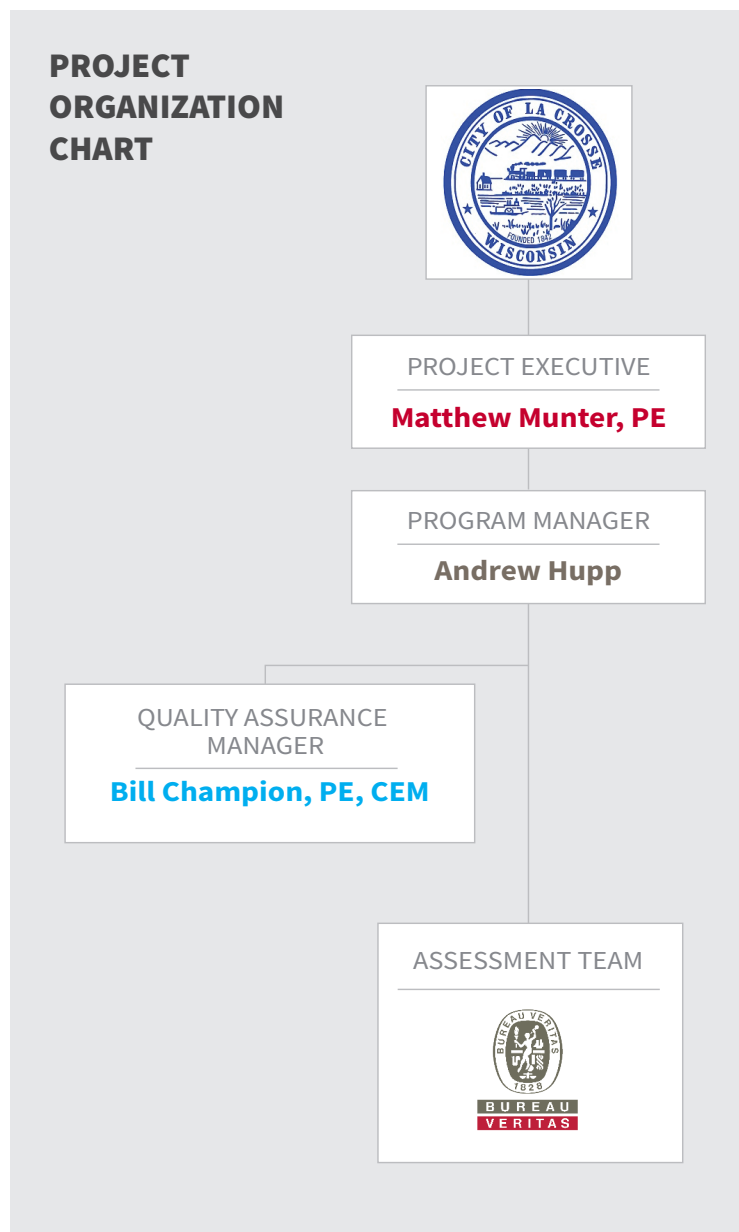
Mr. Champion will oversee the project, assuring technical, process, and content quality. He will have direct management responsibility for all technical personnel, which will allow for quick and effective implementation of quality assurance measures both at inception and throughout the duration of the project.

Assessment Team

The Assessment Team is comprised of professional architects, engineers, and energy managers having direct experience in conducting Facility Condition Assessments and Energy Audits. They will observe and describe building systems and components, identify physical deficiencies, and formulate recommendations to remedy the deficiencies.

Resumes

Resumes for these professionals are included on the following pages.





MATT MUNTER, PE

PROJECT EXECUTIVE

Mr. Munter is Principal and an Executive Vice President at Bureau Veritas. He has managed comprehensive architectural and engineering due diligence services for government, Higher Ed, K-12 educational, and private sector clients. As Project Executive, he is responsible for defining the scope and deliverables for the project, as well as ensuring BVTa has sufficient field resources to staff the project.

PROJECT EXPERIENCE:

City of Detroit, MI

Facility Condition Assessment

City of Columbus, OH

Facility Condition Assessment

City of Milwaukee, WI

Facility Energy Audits

City of Dearborn, MI

Green Physical Needs Assessment

Ann Arbor Public Schools, MI

Facility Condition Assessment

Bowling Green State University, OH

Facility Condition Assessment

University of Illinois at Chicago, IL

Facility Condition Assessment

Chicago Public Schools, IL

Facility Condition Assessment

City of Chicago Board of Education, IL

Facility Condition Assessment

Columbia County, NY

Facility Condition Assessment

Montgomery County, MD

Facility Condition Assessment, Energy Audit

Chesterfield County, VA

Facility Condition Assessment

City of Cambridge Public Schools, MA

Facility Condition Assessment

City of Dallas, TX

Facility Condition Assessment

YEARS OF EXPERIENCE: 30+



Education

BS, Mechanical Engineering
Clemson University

Registration

PE | Maryland | 22604

ANDREW HUPP

PROGRAM MANAGER

Mr. Hupp has been the Program Manager for government, educational, and private sector clients. He supervises teams of architects, engineers, and facility professionals in conducting facility condition assessments, physical needs assessments and energy audits. As Program Manager, he is responsible for delivering results, and is the main point of contact for the Client throughout the project.

PROJECT EXPERIENCE:

City of Mequon, WI

Facility Condition Assessment

Aspirus Health Systems Portfolio, WI

Facility Condition Assessment, Phase I ESA

City of Detroit, MI

Facility Condition Assessment, Energy Audit

City of Highland Park, IL

Facility Condition Assessment

City of Lake Forest, IL

Facility Condition Assessment

City of Yorkville, IL

Facility Condition Assessment

Village of Arlington Heights, IL

Facility Condition Assessment

Round Lake Area Schools, IL

Facility Condition Assessment

Village of Brookfield, IL

Facility Condition Assessment

State of Vermont, VT

Facility Condition Assessment

Town of Mansfield, CT

Facility Condition Assessment, Energy Audit,
Facilities Master Plan

City of Columbus, OH

Facility Condition Assessment

City of Reading, PA

Facility Condition Assessment

Arlington County, VA

Facility Condition Assessment

YEARS OF EXPERIENCE: 25



Education

Bachelor of Science, Architectural Engineering, University of Cincinnati

BILL CHAMPION, PHD, PE, CEM

QUALITY ASSURANCE / QUALITY CONTROL

Mr. Champion is a Professional Mechanical Engineer, and certified Energy Manager with 28 years of experience in the government, retail, industrial, higher education, and K-12 Education industries. As Quality Assurance Manager, he is responsible for technical review of deliverables. He has extensive experience with projects of similar scope for government clients.

PROJECT EXPERIENCE:

City of Racine, WI

Facility Condition Assessment, Inventory

City of Wauwatosa, WI

Facility Condition Assessment

City of Milwaukee, WI

Energy Audit

City of Dearborn, MI

Green Physical Needs Assessment, Energy Audit

City of Chicago Board of Education, IL

Facility Condition Assessment

City of Lee's Summit, MO

Facility Condition Assessment, Preventative Maintenance

City of Dayton, OH

Facility Condition Assessment, Inventory

City of Columbus, OH

Facility Condition Assessment

City of Dayton, OH

Facility Condition Assessment, Inventory

Montgomery County, MD

Facility Condition Assessment, Energy Audit

City of Greenbelt, MD

Facility Condition Assessment, Inventory

PSEG, NJ, NY, CT

Facility Condition Assessment, Energy Audit

City of Garden City, KS

Facility Condition Assessment, Inventory

YEARS OF EXPERIENCE: 28



Education

Doctor of Philosophy, Civil Engineering, Univ of MD
 MBA, University of Rochester
 MS, Mechanical Engineering, State University of NY
 BS, Mechanical Engineering, State University of NY

Registration

PE | MD #40120; NY #08786; DC #PE906172
 Certified Energy Manager #16649



**BUREAU
VERITAS**

PAUL PRUSA, PE, LEED AP ASSESSMENT TEAM

PROJECT EXPERIENCE:

Ann Arbor Public Schools, MI
Facility Condition Assessment

City of Detroit, MI
Facility Condition Assessment

City of Chicago Board of Education, IL
Facility Condition Assessment

City of Yorkville, IL
Facility Condition Assessment

Ohio University, OH
Facility Condition Assessment

YEARS OF EXPERIENCE: 14



Education

Bachelor of Science, Mechanical Engineering
Illinois Institute of Technology

Registration

Professional Engineer | IL 062063689
LEED AP



**BUREAU
VERITAS**

RALPH MANGLASS, PE ASSESSMENT TEAM

PROJECT EXPERIENCE:

City of Wauwatosa, WI
Building Condition Assessment

Village of Arlington Heights, IL
Facility Condition Assessment

Ohio University, OH
Facility Condition Assessment

Stafford County Public Schools, VA
Facility Condition Assessment

State of Vermont, VT
Facility Condition Assessment

YEARS OF EXPERIENCE: 30+



Education

Bachelor of Science, Mechanical Engineering
Purdue University

Registration

Professional Engineer | ME 8092
Professional Engineer | MA 49751



**BUREAU
VERITAS**

JOHN McLURG, PE ASSESSMENT TEAM

PROJECT EXPERIENCE:

Housing Authority of Milwaukee, WI
RAD Physical Condition Assessment

International School of Minnesota, MN
Facility Condition Assessment, Inventory

City of Columbus, OH
Facility Condition Assessment

City of Dayton, OH
Facility Condition Assessment

City of Danbury, CT
Facility Condition Assessment

YEARS OF EXPERIENCE: 30+



Education

Bachelor of Science, Industrial Engineering
Ohio State University

Registration

Professional Engineering | OH E-49786



**BUREAU
VERITAS**

ROBERT WEIDENDORF ASSESSMENT TEAM

PROJECT EXPERIENCE:

Joliet Junior College, IL
Facility Condition Assessment

City of Milwaukee, WI
Facility Energy Audits

Stafford County Public Schools, VA
Facility Condition Assessment

Archdiocese of Chicago, IL
Facility Condition Assessment

Indian Health Centers, ID & WA
Facility Condition Assessment

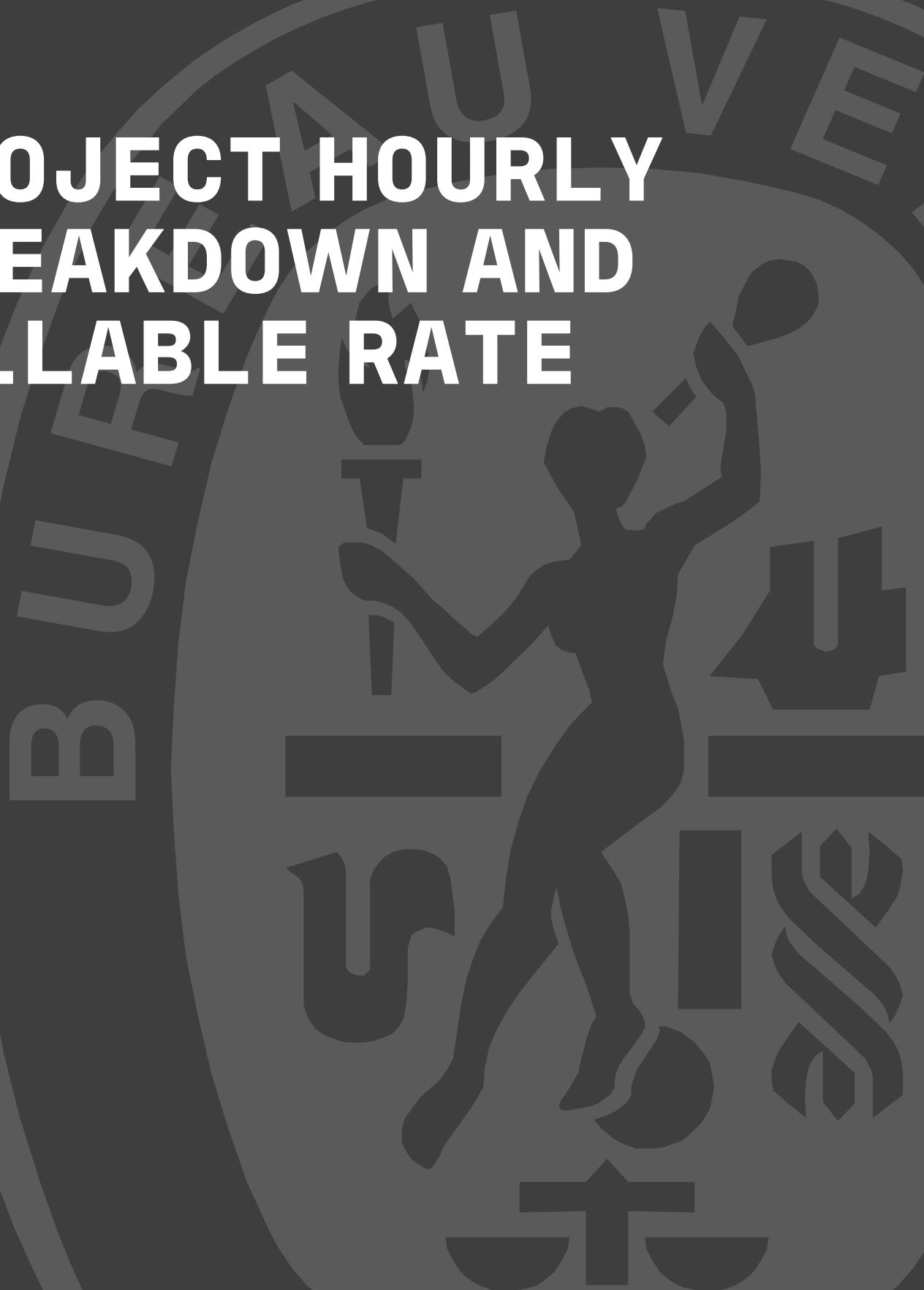
YEARS OF EXPERIENCE: 30+



Education

Bachelor of Science, Mechanical Engineering, Lawrence Institute of Technology

PROJECT HOURLY BREAKDOWN AND BILLABLE RATE



PROJECT HOURLY BREAKDOWN AND BILLABLE RATE

The following table provides a breakdown of the hours required and fees for the City's project per Job Title.

	Project Executive	Program Manager	Project Manager I (PE/RA)	Project Manager II (PE/RA)	Technical Reviewer	Admin	Total
Total Hours	2	68	336	332	99	41	878
Hourly Rates	\$190	\$140	\$120	\$130	\$115	\$80	N/A
Total	\$380	\$9,520	\$40,320	\$43,160	\$11,385	\$3,280	\$108,045

The following table provides a breakdown of the fees associated with the City's project per Service.

Services	FEE (Fixed Price)
Facilities Condition Assessment	\$108,045.00
Other Direct Costs/ODCs	\$19,142.60
Lump Sum Total	\$127,187.60

BV will submit a monthly invoice inclusive of all services performed during that period. The per site fee will be established per the schedule of values provided at the program kick-off, and invoiced at the billing milestones stated below. Invoices will be payable within 30 days of receipt:

- Completion of onsite assessments: 50% of per site fee*
- Delivery of Draft Reports: 45% of per site fee*
- Delivery of Final Reports: 5% of per site fee*

Upon receipt of each monthly invoice, the amount due per billing milestone is fully collectible. Please forward payments to: Accounting Department, Bureau Veritas Technical Assessments LLC, PO Box 74007289, Chicago, IL 60674-7289 or contact BV-invoicing@BVNA.com to pay via credit card or to receive wiring instructions. Please ensure that BV Proposal #157113.22P or invoice number is clearly identified on all payments and correspondence for proper credit.

Please submit all draft comments to BV within 60 days of draft delivery. Unless otherwise communicated, BV will consider all drafts approved for finalization after 60 days, and the remaining balance due will be invoiced.

DELIVERABLES



DELIVERABLES

BVTA will provide an in-depth report including a description of each of the building components and systems as described in the approach sections above. Each report is organized by building system and include digital photos of major systems and components and of all deficiencies identified. Reports will include current and anticipated repairs and deficiencies, recommended repair and component life-cycle replacements, and applicable options for repair or maintenance of building components.

The Capital Needs analysis will include a cost database sorted by building system and ranked by priority for repair. The format of the database will allow for reporting by building, system, or priority for repair, and a year-by-year analysis of capital needs.

Facility Condition Index

A Facility Condition Index (FCI) will be calculated for each building. This index will be a function of required repairs compared to building replacement costs. The FCI will be generated from the data collection/capital planning database and will be updated as components age or are replaced.

Maintenance and Capital Plan

Reports will reflect a 5, 10, or 20-year capital plan based on BVTA's 20-year building system evaluation. The analysis will include a cost table sorted by building and system and ranked by priority for repair. Tables will allow for the customization of reporting and a year-by-year capital needs analysis.

The report will include:

- An Executive Summary with graphic presentation of results to provide a quick, user-friendly summary of the property's observed condition and estimated costs assigned by category. Estimated costs shall be cross-referenced to report sections and elaboration of cost issues will be presented.
- Components observed that are exhibiting deferred maintenance issues and estimates for immediate and capital repair costs based on observed conditions, available maintenance history and industry-standard useful life estimates. If applicable, this analysis will include the review of any available documents pertaining to capital improvements completed within the last five-year periods, or currently under contract. BVTA shall also inquire about available maintenance records and procedures and interview current available on-site maintenance staff.

- Recommended schedule for replacement or repairs (schedule of priorities).
- Digital photographs for the buildings including photos of deficiencies.
- General description of the property and improvements and comment generally on observed conditions.
- Critical repairs and life safety issues separately from repairs anticipated over the term of the analysis.
- FCI number for the building.

BVTA will submit PDF draft reports electronically and once approved and finalized, a program summary report to include a roll-up of all prioritized capital needs across all facilities. All electronic copies of the report will include all text, deficiency tables, digital photos, and supporting documentation and report appendices.

Deficiency Categories / Plan Types

Each deficiency identified in the Assessment shall be classified in the following manner (or other Client defined categories):

Category 1 - Scheduled Maintenance: Maintenance that is planned and performed on a routine basis to maintain and preserve the condition.

Category 2 - Deferred Maintenance: Maintenance that was not performed when it was scheduled or is past its useful life resulting in immediate repair or replacement.

Category 3 - Capital Renewal: Planned replacement of building systems that have reached the end of their useful life.

Category 4 - Energy and Sustainability: When the repair or replacement of equipment or systems are recommended to improve energy and sustainability performance.

Category 5 - Security: When a system requires replacement due to a security risk or requirement.

Program-wide Report

In addition to each building report, BV will develop a Program-wide Report that includes a ranked system-wide Capital Plan for all facilities with programmatic conclusions and recommendations. The Program Report includes a brief narrative description of each facility/building component and system, and discusses the current, anticipated repairs, deficiencies, and of all buildings assessed. The Program Report analyses will include tables sorted by building system and ranked by priority for repair. The format of the tables will allow for the several perspectives of reporting by FCI, building, system, or priority for repair, and a year-by-year analysis of capital needs.

Energy Audit Report Deliverables

Bureau Veritas will provide a separate Energy Audit Report for each building. Each report will include the following:

- Table of Contents and Certification
- Executive Summary: Summary of findings in tabular format including installed costs, energy cost savings, and payback. The summary will also include potential percentage reduction in both energy consumption and cost compared to building baseline numbers.
- Building/Facility Overview and Existing Conditions (for each building): Overview of the facility, HVAC, and lighting systems, and construction information, maintenance practices, and expected RUL of major equipment (a photo log as an Appendix).
- USEPA Energy Star Benchmarking - Bureau Veritas will utilize Portfolio Manager, which will compare your utilization per building type with what is industry standard for similar buildings.
- Baseline/Historical Energy and Water Use and Cost/Rate Analysis (with monthly degree-days (and hourly, if available)): Based on the information gathered during the on-site assessment and the utility billing history, Bureau Veritas will conduct an analysis of the energy usage of all equipment, and identify which equipment is using the most energy and what equipment upgrades may be necessary. This will help us generate an End-Use Energy Distribution Chart that identifies energy consumption by each component. The information will further be used to identify which equipment upgrades or replacements may provide a reasonable return on investment to the GPC. The analysis for any upgrades or replacements will include life cycle cost analysis for economic justifications
- Detailed Technical Analysis: Analysis of building envelope, HVAC, lighting, EMSs, air and heat distribution systems, their operation, and utility costs.
- Energy Conservation Analysis: Analysis of all evaluated systems mentioned above providing technical solutions with projected installed cost and savings estimates resulting from each improvement recommended; and prioritization of projects with most attractive payback potential.
- Recommended Measures: Each recommendation will have a projected installed cost with breakdown of engineering and design; equipment and material costs; annual maintenance costs; estimate of energy savings in terms of natural gas, kWh of electricity, and demand savings in kW and CO₂ reduction; and related cost savings.
- Assumptions List: Listing and explanation of all assumptions made during the analysis.
- Mechanical and Electrical Equipment Inventory: Inventory of all equipment serving the facility, location, and line drawings of energy and mass balance of major systems.
- ECM Summary: Analysis of all identified energy optimization and conservation opportunities and a master ECM spreadsheet. ECMs will be designed on a system-wide approach, with applicable interactive affects among the systems for lighting, energy distribution, HVAC, and EMSs. For EMSs, Bureau Veritas will identify opportunities to integrate all major HVAC system components, temperature controls, and lighting into the EMS for centralized control and setbacks. All ECMs will be organized into the following groups:
 - No/Low Cost and Maintenance-Related ECMs
 - Capital Intensive ECMs (building envelope, lighting, HVAC, EMSs, energy metering systems, water conservation)
 - Recommended for Consideration: ECMs that fail the financial feasibility test but are essential for building operations, or ECMs to be considered under Capital Improvement Program rather than purely on basis of energy efficiency.
 - Supporting Documentation: Documentation for the ECMs with back-up engineering calculations, installed cost estimates, source of cost estimates, calculation of saving measures, and engineering methodology followed.
 - Life Cycle Cost Analysis: Analysis of all major improvements, considering inflation factors, discount rates, maintenance increase/benefits, and first costs.
 - Maintenance and Operations Plan (with preventative maintenance): Recommended improvements, new systems installed, and/ or existing retrofits to assure continued efficient operation and reliability of such systems.
- Appendix: All back-up calculations, energy modeling tool reports, field survey data, comprehensive room-by-room lighting schedule, motor and plumbing schedule, data logger outputs, and any miscellaneous information.

SOFTWARE DELIVERABLE ASSETCALC™

BVTA will utilize AssetCALC™ as its platform for all data collected on this project. AssetCALC™ is a cloud platform developed, licensed, maintained, and supported solely by BVTA for our clients. The use of this software is at your option and there are no licensing fees for this software for one (1) year.

All BVTA assessors have been trained to utilize our tablet-based data collection tool (ACgo) to collect data consistently across the campus portfolios. The data collection tool can be used with and without WiFi connection and can be preloaded with existing asset data and location information for field verification and input.

AssetCALC™ is a web-based SQL database platform that enables our program managers and end-users to:

- query, edit, and analyze their facility condition data
- plan immediate and short-term repairs
- budget capital expenditures throughout the life-cycle of a building or an entire portfolio

BVTA will utilize our software to output reports, tables, and dataset for use in individual site reports. The system unites BVTA's experienced field data collection methods with advanced planning and reporting tools, construction cost libraries, location mapping (GIS) features, digital photo management, and document storage.

Data Development

- AssetCALC™ includes a configurable facility hierarchy and asset data architecture—this will include all of your assets grouped based on site location, asset group, and function.
- Data and reports can be exported to an Excel, XML, or an ODBC database format.

The screenshot displays the AssetCALC web interface for a client named University of New Mexico. The top navigation bar includes 'Overview', 'Observations', 'Photos', 'FCI', 'Documents', 'Work Completed', 'Work Screen', and 'Inventory'. The main content area is divided into several sections:

- Site Information:** A table listing details for '510-512 Clay Street - Sheriff & Facilities', including assessment date, location, replacement value (\$2,948,160), city (Fairfield), number of buildings (1), square foot cost (222,000), street address (510 Clay Street), total square footage (13280), year built (1991), and zip code (94533).
- Replacement Reserve:** A bar chart showing the reserve amount from 2016 to 2034. The y-axis ranges from \$0 to \$1,100,000. A significant peak is visible in 2031.
- UniFormat Breakdown:** A pie chart showing the distribution of costs across categories: Shell (blue), Interiors (orange), Services (red), Equipment & Furnishings (green), and Building Sitework (grey).
- Observation Details:** A detailed view for observation #36672, titled 'B2032 - Entrance door replacement to meet ADA guidelines'. It includes fields for Description, Component, Attributes, Action, Master Cost Id (1910), Category (Exterior Enclosure / Exterior Doors / Solid Exterior Doors), Location (Main De/Vargas south entry door), Condition (Fair), Report Section (3.3), and Comments (Install remote-controlled door for ADA accommodation).

Features Include:

- Facility Condition Assessment access:
 - Component/system descriptions
 - Locations
 - Conditions and EUL/RUL
 - Repair and replace recommendations
 - Digital photos
- Search and Sorting Functionality
- Prioritization of maintenance projects
- UniFormat II Cost Database
- Project Budgets and Capital Plans
- Unlimited concurrent user licensing
- Secure IT platform and back-ups
- Client is the owner of data collected and residing in the database
- Online User Training and Documentation

Reporting:

AssetCALC™ includes more than a dozen standard options for data summaries and reports:

- Facility Condition Index (FCI) Calculation Reporting
- Rank and Prioritize Capital Improvement Projects
- Deferred Maintenance Backlog
- Facility Queries (by building, priority, system, or dollar deficiency amount)
- Capital Budget Planning
- Year-by-Year Capital Needs Analysis
- 5, 10, or 20-Year Replacement Reserve Reports
- Custom 3rd party form automation available

Screen Shots

Additional screen shots of the AssetCALC™ Database and a live demo are available upon request.

CMMS Ready Data - Integration

BV will be delivering to Client a live asset management plan that can be maintained and kept up-to-date by staff. BV will provide training to staff on maintaining the on-going monitoring program to track facilities, work performed, re-prioritization of maintenance projects, and how to update this information in the database. The data from the FCA can be exported to Excel or ODBC database for data migration to most CMMS/IWMS systems.

Marker	Building	Description	Coordinates
1	16593 Building 110	The curb ramp does not meet the slope requirements.	40.736683 -73.420229
2	16594 Building 110	The curb ramp does not meet the slope requirements.	40.736358 -73.420097
3	16595 Building 110	The curb ramp does not meet the slope requirements.	40.736388 -73.419796
4	16596 Building 110	The curb ramp does not have a level landing.	40.736398 -73.419804
5	16597 Building 110	The curb ramp does not meet the slope requirements.	40.736754

Field	Value
Quantity	1 EA
Condition	Good
Total Estimated Cost	\$ 297,336
Next Action Required	2033
Total Markup	\$ 38,783.00
Uniformat Code	D5092
Uniformat Code Level 1 Description	D - Services
Location Description	Exterior elevation
Unit Cost	\$ 258,553.35
Total Markup	\$ 38,783.00
SubTotal	\$ 258,553
Year Observed	2009
Age	12
Lifespan	25
Remaining Life	13
Master Cost ID	1782

Description	Condition	Uniformat Code	Location	Subtotal	Next Action	Plan Type	ID
Replace 12' x 12' steel roll-up door	Good to Fair	B - Shell	General Services Building	\$ 27 K	2020		16429
TPO, Roof replacement 45 mills, full adhered	Good	B - Shell	General Services Building	\$ 216 K	2027		17220
2' by 4' aluminum window	Good	B - Shell	General Services Building	\$ 265 K	2033		17182
ADA, Wrap drain pipes below accessible lavatory	Poor	C - Interiors	General Services Building	\$ 130	2020		14944
Replace carpet, standard commercial, medium traffic	Good	C - Interiors	General Services Building	\$ 77 K	2020		15858
Replace Vinyl tile	Good to Fair	C - Interiors	General Services Building	\$ 100 K	2020		15860
Repair interior wall damage	Poor	C - Interiors	General Services Building	\$ 1 K	2020		14936
Replace vinyl wall covering	Fair to Poor	C - Interiors	General Services Building	\$ 65 K	2020		15856
Replace Air-cooled reciprocating chiller 110 to 130 ton	Good	D - Services	General Services Building	\$ 166 K	2024		16457
Replace Circulation Pump 30 HP	Good	D - Services	General Services Building	\$ 24 K	2020		17204
Replace pumps & piping for chiller	Poor	D - Services	General Services Building	\$ 16 K	2020		14939
Replace water heater, commercial 100 gal	Good	D - Services	General Services Building	\$ 9 K	2022		15826
Replace Diesel Generator 650 to 750 kW	Good	D - Services	General Services Building	\$ 297 K	2033		17196

LITIGATION HISTORY

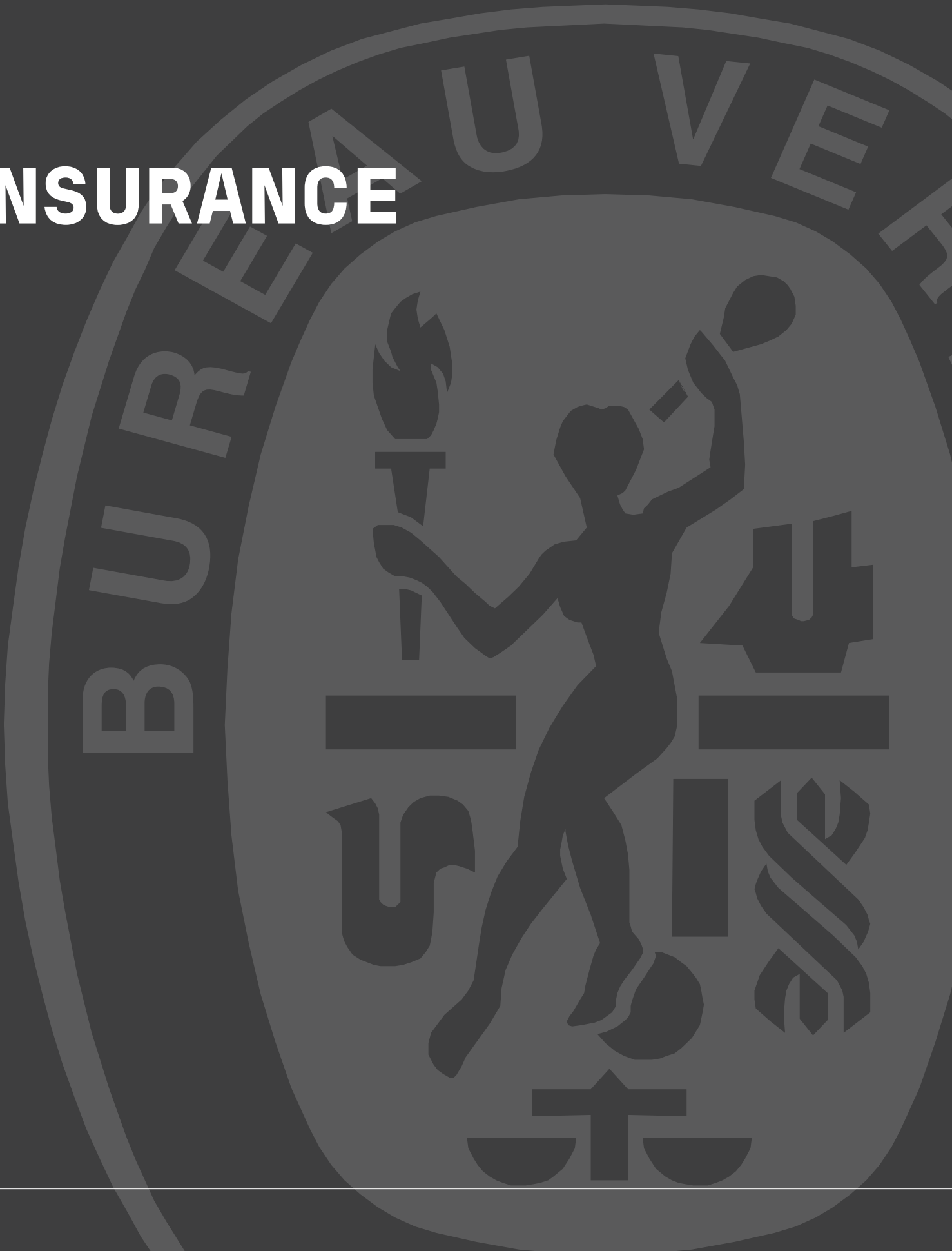


LITIGATION HISTORY

Please understand in the course of our business, meritless claims arise from time to time. It is the BVTA's policy not to comment on any current litigation. However, without waiving its policy, BVTA has no judgments, pending litigation, liens, or claims that would adversely impact the financial stability, insurability, or performance of professional services of BVTA.



INSURANCE



PROOF OF LIABILITY INSURANCE



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
01/04/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Aon Risk Services Northeast, Inc. Aon Risk Services Northeast, Inc. NY NY Office One Liberty Plaza 165 Broadway, Suite 3201	CONTACT NAME: PHONE (A/C. No. Ext): 866-283-7122 FAX (A/C. No.): (800) 363-0105		
	E-MAIL ADDRESS:		
INSURED Bureau Veritas Technical Assessments LLC 10461 Mill Run Circle, Suite 1100 Owings Mills MD 21117 USA	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Hartford Fire Insurance Co.		19682
	INSURER B: Trumbull Insurance Company		27120
	INSURER C: Allianz Global Risks US Insurance Co.		35300
	INSURER D:		
	INSURER E:		

Holder Identifier :

COVERAGES **CERTIFICATE NUMBER:** 570091064791 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
C	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:			USL00159322	01/01/2022	01/01/2023	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY			10 AB S41202 AOS 10 AB S41203 HI	01/01/2022	01/01/2023	COMBINED SINGLE LIMIT (Ea accident) \$2,000,000 BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$10,000			USL00163322	01/01/2022	01/01/2023	EACH OCCURRENCE \$1,000,000 AGGREGATE \$1,000,000
B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	10WNS41200 See State Policy Addendum	01/01/2022	01/01/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE-EA EMPLOYEE \$1,000,000 E.L. DISEASE-POLICY LIMIT \$1,000,000
c	Archit&Eng Prof			USF00248022 Claims Made SIR applies per policy terms & conditions	01/01/2022	01/01/2023	Each claim \$1,000,000 Aggregate \$1,000,000

Certificate No : 570091064791

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Evidence of insurance. The Architects & Engineers policy includes coverage for Professional Liability and Contractors Pollution Liability.

CERTIFICATE HOLDER	CANCELLATION
Bureau Veritas Technical Assessments LLC 10461 Mill Run Circle, Suite 1100 Owings Mills MD 21117 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

PROOF OF LIABILITY INSURANCE (CONT.)

AGENCY CUSTOMER ID: 570000048582

LOC #:



ADDITIONAL REMARKS SCHEDULE

Page _ of _

AGENCY Aon Risk Services Northeast, Inc.		NAMED INSURED Bureau Veritas Technical Assessments LLC	
POLICY NUMBER See Certificate Number: 570091064791			
CARRIER See Certificate Number: 570091064791	NAIC CODE	EFFECTIVE DATE:	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

workers Compensation/Employers Liability

10WNS41200 01/01/22-01/01/23 Trumbull Insurance AR,DC,IN,LA,NE,RI,UT
 10WNS41200 01/01/22-01/01/23 Twin City Fire Insurance Company FL,ND,OH,WA,WY
 10WNS41200 01/01/22-01/01/23 Hartford Insurance Company of the Midwest AK,ID
 10WNS41200 01/01/22-01/01/23 Hartford Casualty Insurance Company MO,WV
 10WNS41200 01/01/22-01/01/23 Nutmeg Insurance Company CT,IL
 10WNS41200 01/01/22-01/01/23 Hartford Fire Insurance Company NH,OR,PA
 10WNS41200 01/01/22-01/01/23 Hartford Accident and Indemnity Company AL,GA,KY,MI,MT,NY,TN,VT
 10WNS41200 01/01/22-01/01/23 Property & Casualty Ins Co of Hartford CA,CO,DE,ME, MN,MS,SC
 10WNS41200 01/01/22-01/01/23 Hartford Insurance Company of Illinois TX
 10WNS41200 01/01/22-01/01/23 Hartford Insurance Company of the Southeast KS,MD
 10WNS41200 01/01/22-01/01/23 Hartford Underwriters Insurance Company AZ,HI,NC,NJ,SD,VA
 10WNS41200 01/01/22-01/01/23 Sentinel Insurance Company, Limited IA,NM,NV,OK
 10WBRS41201 01/01/22-01/01/23 Twin City Fire Insurance Company WI
 10WBRS41201 01/01/22-01/01/23 Hartford Underwriters Insurance Company MA
 10WBRS41201 01/01/22-01/01/23 Hartford Fire Insurance Company PR