FACILITY CONDITION ASSESSMENT & NETZERO ENERGY AUDIT

prepared for

School Administrative Unit 70
41 Lebanon Street, Suite 2
Hanover, New Hampshire 03755-2147
Jamie Teague

Dresden Athletic Fields
221 US Route 5 South
Norwich, Vermont 05055

PREPARED BY:
Bureau Veritas
10461 Mill Run Circle, Suite 1100
Owings Mills, Maryland 21117
800.733.0660
www.us.bureauveritas.com

BV CONTACT:
Kaustubh Chabukswar
Program Manager
800.733.0660 x7297512
Kaustubh.Chabukswar@bureauveritas.com

BV PROJECT #:
158531.22R000-005.379

DATE OF REPORT:
December 13, 2022

ON SITE DATE:
November 18, 2022

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1. Executive Summary

Property Overview and Assessment Details

General Information	
Property Type	Sports Fields
Main Address	221 US Route 5 South, Norwich, Vermont 05055
Site Developed	2006 Renovated 2016
Site Area	64 acres (estimated)
Parking Spaces	None
Building Area	Not applicable
Number of Stories	Not applicable
Outside Occupants / Leased Spaces	None
Date(s) of Visit	November 18, 2022
Management Point of Contact	School Administrative Unit 70, Anthony Daigle, Director of Facilities 603.643.3810 anthonydaigle@hanovernorwichschools.org
On-site Point of Contact (POC)	same as above
Assessment and Report Prepared By	Carl Alejandro
Reviewed By	Kaustubh Chabukswar Program Manager Kaustubh.Chabukswar@bureauveritas.com 800.733.0660 x7297512
AssetCalc Link	Full dataset for this assessment can be found at: https://www.assetcalc.net/

Significant/Systemic Findings and Deficiencies

Historical Summary

The Dresden Athletic Fields were originally built in 2006 with the baseball field and soccer fields. A softball field was later constructed in 2016.

Architectural

There are no building elements at the property.

Mechanical, Electrical, Plumbing and Fire (MEPF)

There is a drip irrigation system at the site for the baseball field and one of the soccer fields. The housing for the irrigation control panel is located next to the baseball field. The other soccer field and softball field can be irrigated by connecting sprinklers to ground hydrants. The equipment appears to be in working order. There are also two electronic scoreboards that are in overall fair condition.

Site

There is an unstriped gravel parking area near the sports fields. A few potholes were observed on the driveway leading to the parking area. Repair of the damaged pavement is recommended. There is no on-site lighting at the property. According to the point of contact, complaints about inadequate site lighting have not been reported. Landscaping and lawn maintenance are reportedly done weekly or as needed. The baseball and softball fields each have two dugout ancillary buildings.

Recommended Additional Studies

No additional studies recommended at this time.

Facility Condition Index (FCI)

The Facility Condition Index a theoretical numeric indicator of a building's overall condition, consisting of the ratio of the cost of current needs divided by current replacement value (CRV) of the facility. The FCI applies to buildings but does not apply to site development. No FCI is therefore available for this property.

Key Findings

Roadways in Poor condition.

Pavement, Asphalt
Dresden Athletic Fields Roadway

Uniformat Code: G2010
Recommendation: **Repair in 2022**

Priority Score: **84.9**

Plan Type:
Performance/Integrity

Cost Estimate: $1,000

**$$**$$

Potholes observed on driveway to fields. Repair is recommended. - AssetCALC ID: 4566767

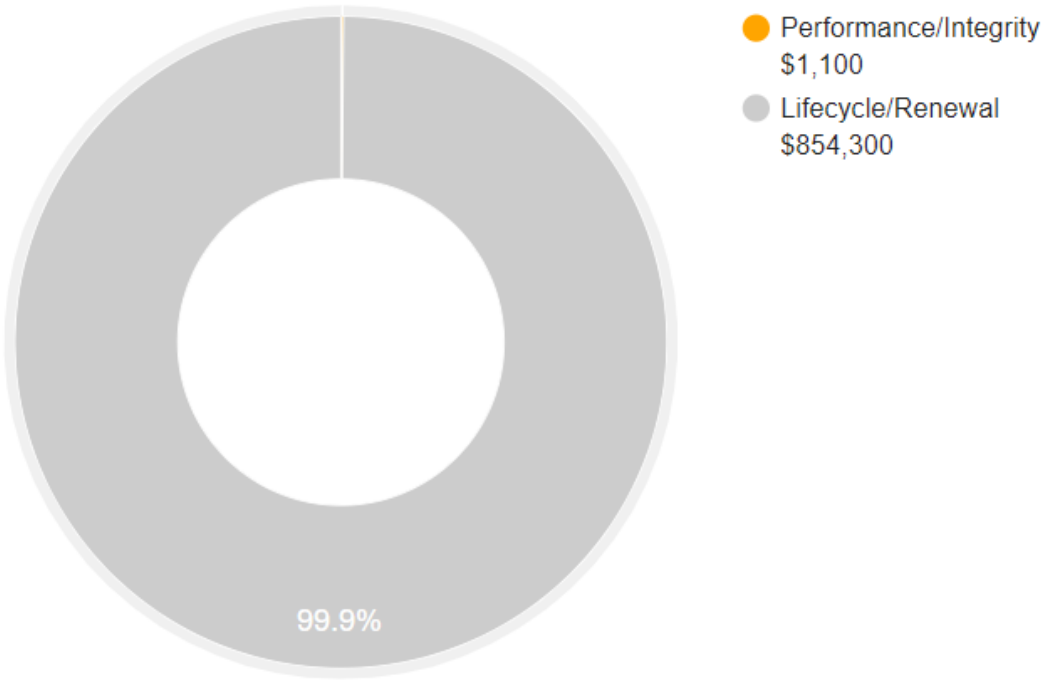
Plan Types

Each line item in the cost database is assigned a Plan Type, which is the primary reason or rationale for the recommended replacement, repair, or other corrective action. This is the "why" part of the equation. A cost or line item may commonly have more than one applicable Plan Type; however, only one Plan Type will be assigned based on the "best" fit, typically the one with the greatest significance.

Plan Type Descriptions

Safety	■	An observed or reported unsafe condition that if left unaddressed could result in injury; a system or component that presents potential liability risk.
Performance/Integrity	■	Component or system has failed, is almost failing, performs unreliably, does not perform as intended, and/or poses risk to overall system stability.
Accessibility	■	Does not meet ADA, UFAS, and/or other handicap accessibility requirements.
Environmental	■	Improvements to air or water quality, including removal of hazardous materials from the building or site.
Retrofit/Adaptation	■	Components, systems, or spaces recommended for upgrades in in order to meet current standards, facility usage, or client/occupant needs.
Lifecycle/Renewal	■	Any component or system that is not currently deficient or problematic but for which future replacement or repair is anticipated and budgeted.

Plan Type Distribution (by Cost)



10-YEAR TOTAL: $855,400

2. Site Information

Systems Summary

System	Description	Condition
Structure	Not applicable	--
Façade	Not applicable	--
Roof	Not applicable	--
Interiors	Not applicable	--
Elevators	None	--
Plumbing	Distribution: Copper piping and underground irrigation tank Hot Water: None Fixtures: none	Fair
HVAC	Not applicable	--
Fire Suppression	None	--
Electrical	Source and Distribution: Main panel with copper wiring Interior Lighting: linear fluorescent Emergency Power: None	Fair

Systems Summary

Fire Alarm	None	--
Equipment/Special	Sports field equipment	Fair
Site Pavement	Asphalt roadway with gravel parking area	Fair
Site Development	Sports fields and courts with bleachers, dugouts, fencing, and site lights Limited park benches and trash receptacles	Fair
Landscaping and Topography	Significant landscaping features including lawns and trees Irrigation present Low site slopes mostly throughout, moderate slopes around softball field	Fair
Utilities	Local utility-provided electric	Fair
Site Lighting	Pole-mounted: none Building-mounted: none	--
Ancillary Structures	Irrigation control panel housing, dugouts	Fair
Accessibility	Presently it does not appear an accessibility study is needed for this property.	
Key Issues and Findings	Potholes on driveway	

Systems Expenditure Forecast

System	Immediate	Short Term (1-2 yr)	Near Term (3-5 yr)	Med Term (6-10 yr)	Long Term (11-20 yr)	TOTAL
Equipment & Furnishings	-	-	-	-	$37,979	$37,979
Special Construction & Demo	-	-	-	-	$77,854	$77,854
Site Development	-	-	-	$853,975	$55,179	$909,154
Site Pavement	$1,001	-	-	$268	-	$1,269
TOTALS (3% inflation)	**$1,100**	**-**	**-**	**$854,300**	**$171,100**	**$1,026,500**

3. Property Space Use and Observed Areas

Areas Observed

All areas of the site were observed in order to gain a clear understanding of the property's overall condition.

Key Spaces Not Observed

All key areas of the property were accessible and observed.

4. ADA Accessibility

Generally, Title II of the Americans with Disabilities Act (ADA) prohibits discrimination by entities to access and use of "areas of public accommodations" and "public facilities" on the basis of disability. Regardless of their age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

A public entity (i.e. city governments) shall operate each service, program, or activity so that the service, program, or activity, when viewed in its entirety, is readily accessible to and usable by individuals with disabilities.

However, this does not:

1. Necessarily require a public entity to make each of its existing facilities accessible to and usable by individuals with disabilities;
2. Require a public entity to take any action that would threaten or destroy the historic significance of an historic property; or
3. Require a public entity to take any action that it can demonstrate would result in a fundamental alteration in the nature of a service, program, or activity or in undue financial and administrative burdens. In those circumstances where personnel of the public entity believe that the proposed action would fundamentally alter the service, program, or activity or would result in undue financial and administrative burdens, a public entity has the burden of proving that compliance with 35.150(a) of this part would result in such alteration or burdens. The decision that compliance would result in such alteration or burdens must be made by the head of a public entity or his or her designee after considering all resources available for use in the funding and operation of the service, program, or activity, and must be accompanied by a written statement of the reasons for reaching that conclusion. If an action would result in such an alteration or such burdens, a public entity shall take any other action that would not result in such an alteration or such burdens but would nevertheless ensure that individuals with disabilities receive the benefits or services provided by the public entity.

Removal of barriers to accessibility should be addressed from a liability standpoint in order to comply with federal law, but the barriers may or may not be building code violations. The Americans with Disabilities Act Accessibility Guidelines are part of the ADA federal civil rights law pertaining to the disabled and are not a construction code. State and local jurisdictions have adopted the ADA Guidelines or have adopted other standards for accessibility as part of their construction codes.

During the FCA, Bureau Veritas performed a limited high-level accessibility review of the facility non-specific to any local regulations or codes. The scope of the visual observation was limited to the same areas observed while performing the FCA and the categories set forth in the tables that are included in the appendix. It is understood by the Client that the limited observations described herein do not comprise a full ADA Compliance Survey, and that such a survey is beyond the scope of this particular assessment. A full measured ADA survey would be required to identify any and all specific potential accessibility issues. Additional clarifications of this limited survey:

- This survey was visual in nature and actual measurements were not taken to verify compliance
- Only a representative sample of areas was observed
- Two overview photos were taken for each subsection regardless of perceived compliance or non-compliance
- Itemized costs for individual non-compliant items are not included in the dataset
- For any "none" boxes checked or reference to "no issues" identified, that alone does not guarantee full compliance

The facility was originally constructed in 2006. The facility was substantially renovated in 2016 but no accessibility improvements appear to have been implemented at that time.

During the interview process with the client representatives, no complaints or pending litigation associated with potential accessibility issues was reported.

No detailed follow-up accessibility study is currently recommended since no major or moderate issues were identified at the subject site. Reference the appendix for specific data, photos, and tables or checklists associated with this limited accessibility survey.

5. Purpose and Scope

Purpose

Bureau Veritas was retained by the client to render an opinion as to the Property's current general physical condition on the day of the site visit.

Based on the observations, interviews and document review outlined below, this report identifies significant deferred maintenance issues, existing deficiencies, and material code violations of record, which affect the Property's use. Opinions are rendered as to its structural integrity, building system condition and the Property's overall condition. The report also notes building systems or components that have realized or exceeded their typical expected useful lives.

The physical condition of building systems and related components are typically defined as being in one of five condition ratings. For the purposes of this report, the following definitions are used:

Condition Ratings	
Excellent	New or very close to new; component or system typically has been installed within the past year, sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Good	Satisfactory as-is. Component or system is sound and performing its function, typically within the first third of its lifecycle. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Fair	Showing signs of wear and use but still satisfactory as-is, typically near the median of its estimated useful life. Component or system is performing adequately at this time but may exhibit some signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
Poor	Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
Failed	Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
Not Applicable	Assigning a condition does not apply or make logical sense, most commonly due to the item in question not being present.

Scope

The standard scope of the Facility Condition Assessment includes the following:

- Visit the Property to evaluate the general condition of the building and site improvements, review available construction documents in order to familiarize ourselves with, and be able to comment on, the in-place construction systems, life safety, mechanical, electrical, and plumbing systems, and the general built environment.
- Identify those components that are exhibiting deferred maintenance issues and provide cost estimates for Immediate Costs and Replacement Reserves based on observed conditions, maintenance history and industry standard useful life estimates. This will include the review of documented capital improvements completed within the last five-year period and work currently contracted for, if applicable.
- Provide a full description of the Property with descriptions of in-place systems and commentary on observed conditions.
- Provide a high-level categorical general statement regarding the subject Property's compliance to Title III of the Americans with Disabilities Act. This will not constitute a full ADA survey, but will help identify exposure to issues and the need for further review.
- Obtain background and historical information about the facility from a building engineer, property manager, maintenance staff, or other knowledgeable source. The preferred methodology is to have the client representative or building occupant complete a Pre-Survey Questionnaire (PSQ) in advance of the site visit. Common alternatives include a verbal interview just prior to or during the walk-through portion of the assessment.
- Review maintenance records and procedures with the in-place maintenance personnel.
- Observe a representative sample of the interior spaces/units, including vacant spaces/units, to gain a clear understanding of the property's overall condition. Other areas to be observed include the exterior of the property, the roofs, interior common areas, and the significant mechanical, electrical and elevator equipment rooms.
- Provide recommendations for additional studies, if required, with related budgetary information.
- Provide an Executive Summary at the beginning of this report, which highlights key findings and includes a Facility Condition Index as a basis for comparing the relative conditions of the buildings within the portfolio.

6. Opinions of Probable Costs

Cost estimates are attached throughout this report, with the Replacement Reserves in the appendix.

These estimates are based on Invoice or Bid Document/s provided either by the Owner/facility and construction costs developed by construction resources such as *R.S. Means, CBRE Whitestone,* and *Marshall & Swift,* Bureau Veritas's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing or bundling of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, use of subcontractors, and whether competitive pricing is solicited, etc. Certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study should be included in the FCA.

Definitions

Immediate Needs

Immediate Needs are line items that require immediate action as a result of: (1) material existing or potential unsafe conditions, (2) failed or imminent failure of mission critical building systems or components, or (3) conditions that, if not addressed, have the potential to result in, or contribute to, critical element or system failure within one year or will most probably result in a significant escalation of its remedial cost.

For database and reporting purposes the line items with RUL=0, and commonly associated with *Safety* or *Performance/Integrity* Plan Types, are considered Immediate Needs.

Replacement Reserves

Cost line items traditionally called Replacement Reserves (equivalently referred to as Lifecycle/Renewals) are for recurring probable renewals or expenditures, which are not classified as operation or maintenance expenses. The replacement reserves should be budgeted for in advance on an annual basis. Replacement Reserves are reasonably predictable both in terms of frequency and cost. However, Replacement Reserves may also include components or systems that have an indeterminable life but, nonetheless, have a potential for failure within an estimated time period.

Replacement Reserves generally exclude systems or components that are estimated to expire after the reserve term and are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that are not deemed to have a material effect on the use of the Property are also excluded. Costs that are caused by acts of God, accidents, or other occurrences that are typically covered by insurance, rather than reserved for, are also excluded.

Replacement costs are solicited from ownership/property management, Bureau Veritas's discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by the ownership's or property management's maintenance staff are also considered.

Bureau Veritas's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the assessment period. The assessment period is defined as the effective age plus the reserve term. Additional information concerning system's or component's respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Replacement Reserves Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined as Immediate Needs.

For the purposes of 'bucketizing' the System Expenditure Forecasts in this report, the Replacement Reserves have been subdivided and grouped as follows: Short Term (years 1-3), Near Term (years 4-5), Medium Term (years 6-10), and Long Term (years 11-20).

Key Findings

In an effort to highlight the most significant cost items and not be overwhelmed by the Replacement Reserves report in its totality, a subsection of Key Findings is included within the Executive Summary section of this report. Key Findings typically include repairs or replacements of deficient items within the first five-year window, as well as the most significant high-dollar line items that fall anywhere within the ten-year term. Note that while there is some subjectivity associated with identifying the Key Findings, the Immediate Needs are always included as a subset.

Exceedingly Aged

A fairly common scenario encountered during the assessment process, and a frequent source of debate, occurs when classifying and describing “very old” systems or components that are still functioning adequately and do not appear nor were reported to be in any way deficient. To help provide some additional intelligence on these items, such components will be tagged in the database as Exceedingly Aged. This designation will be reserved for mechanical or electrical systems or components that have aged well beyond their industry standard lifecycles, typically at least 15 years beyond and/or twice their Estimated Useful Life (EUL). In tandem with this designation, these items will be assigned a Remaining Useful Life (RUL) not less than two years but not greater than 1/3 of their standard EUL. As such the recommended replacement time for these components will reside outside the typical Short Term window but will not be pushed ‘irresponsibly’ (too far) into the future.

Methodology

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, Bureau Veritas opines as to when a system or component will most probably necessitate replacement. Accurate historical replacement records, if provided, are typically the best source of information. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc., 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 chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its *effective age*, whether explicitly or implicitly stated. Projections of Remaining Useful Life (RUL) are based primarily on age and condition with the presumption of continued use and maintenance of the Property similar to the observed and reported past use and maintenance practices, in conjunction with the professional judgment of Bureau Veritas’s assessors. Significant changes in occupants and/or usage may affect the service life of some systems or components.

Where quantities could not be or were not derived from an actual construction document take-off or facility walk-through, and/or where systemic costs are more applicable or provide more intrinsic value, budgetary square foot and gross square foot costs are used. Estimated costs are based on professional judgment and the probable or actual extent of the observed defect, inclusive of the cost to design, procure, construct and manage the corrections.

7. Net Zero Energy Audit

The purpose of this Net Zero Energy Audit is to provide Dresden Athletic Fields with a baseline of energy usage, the relative energy efficiency of the facility, and specific recommendations for both renewable and non-renewable Energy Conservation Measures to reduce the carbon emissions from building operations to net zero. This is achieved through the following steps:

1. Benchmark the building using EPA -portfolio manager tool to understand the existing carbon foot print.
2. Identify ways to reduce and optimize energy use in building through retrofits and energy efficient replacments.
3. Electrification – replace all fossil fuel consuming HVAC and DWH systems with high efficiency electric equivanelts
4. Onsite generation- perform feasibility study on installing solar PV systems on building roof and carports to offset electric use at the site
5. Procure the balance of electricity from renewable source such as “Solar Farms” or “Wind Farms”.

This audit will focus on the first four steps of the process, terminating with performing a “Gap- Analysis” to project the carbon footprint of the building post implementation of all non-renewable and renewable energy + water saving measures at the building.

Historical Energy and Water Performance Metrics + EPA Benchmarking

- Establishing the energy baseline begins with an analysis of the utility cost and consumption of the facility. Utilizing the historical energy data and local weather information, we evaluate the existing utility consumption and assign it to the various end-uses throughout the buildings.
- On developing a baseline, Bureau Veritas uses the Portfolio Manager tool developed by the Federal Environmental Protection Agency to track relative energy uses of buildings by property type.

Energy and Water Use Optimization Audit

The energy audit consisted of an onsite visual assessment to determine current conditions, itemize the energy consuming equipment (i.e. Boilers, Make-Up Air Units, DWH equipment); review lighting systems both exterior and interior; and review efficiency of all such equipment. The study also included interviews and consultation with operational and maintenance personnel. The energy audit process includes the following:

- Interviewing staff and review plans and past upgrades
- Performing an energy audit for each use type
- Performing a preliminary evaluation of the utility system
- Analyzing findings, utilizing ECM cost-benefit worksheets
- Making preliminary recommendations for system energy improvements and measures
- Estimating initial cost and changes in operating and maintenance costs based on implementation of energy efficiency measures.
- Ranking recommended cost measures, based on the criticality of the project and the largest payback.

Electrification

This includes identifying all fossil fuel burning HVAC and DWH systems and identifying optimal energy efficient electric alternatives to offset any Scope -II emissions from building operations.

Onsite Generation

This includes conducting feasibility study for onsite energy generation through renewable energy sources such as roof top solar PV to offset the electric use at the building.

8. Historical Energy and Water Performance Metrics

Utility Data Tabulation Methodology

The facility has electric and water utility service.

Data Limitation:

No assumptions were made in tabulation of the utility data for the purposes of the audit.

Utilities Metering at Glance	
Number of electric meters observed	One
Number of gas meters observed	None
Number of central steam meters observed	None
Number of domestic water meter observed	None

Electricity

Note: Utility data was not received or analyzed for this property.

Water and Sewer

Note: Utility data was not received or analyzed for this property.

End Use Energy Distribution

Electricity is used only for incidental lighting within the ancillary buildings.

Energy Star Portfolio Manager Facility Summary

Bureau Veritas uses the Portfolio Manager tool developed by the Federal Environmental Protection Agency to track relative energy uses of buildings by property type. This tool allows the input of a facility's historic utility data to be compared with normalized data of a large database of its peer facilities.

Energy Star Benchmarking is not available for sports fields.

9. Energy Conservation Measures

Bureau Veritas has not conducted an Energy Audit on Dresden Athletic Fields, as there is no energy usage beyond incidental lighting within the storage sheds.

10. Electrification

This analysis investigates replacing HVAC and other fossil fuel consuming systems within the building with efficient electric alternatives. These improvements can be considered as green replacements to traditional “like and in kind” replacements as done as part of the life cycle replacement These replacements are recommended under Capital improvements and not as energy improvements as the cost savings are not significant enough to offset the initial investment.

As there is no fossil fuel usage on the property, no electrification analysis is appropriate.

11. Onsite Renewable Energy Generation

A photovoltaic array is a linked collection of photovoltaic modules, which are in turn made of multiple interconnected solar cells. The cells convert solar energy into direct current electricity via the photovoltaic effect. The power that one module can produce is seldom enough to meet requirements of a home or a business, so the modules are linked together to form an array. Most PV arrays use an inverter to convert the DC power produced by the modules into alternating current that can plug into the existing infrastructure to power lights, motors, and other loads. The modules in a PV array are usually first connected in series to obtain the desired voltage; the individual strings are then connected in parallel to allow the system to produce more current. Solar arrays are typically measured by the peak electrical power they produce, in watts, kilowatts, or even megawatts.

When determining if a site is suitable for a solar application, two basic considerations must be evaluated:

- At minimum, the sun should shine upon the solar collectors from 9 AM to 3 PM. If less, the application may still be worthwhile, but the benefit will be less.
- The array should face south and be free of any shading from buildings, trees, rooftop equipment, etc. If the array is not facing directly south, there will be a penalty in transfer efficiency, reducing the overall efficiency of the system.

No solar analysis was conducted for this property, as electricity usage is minimal and does not warrant the cost of installing solar panels.

12. Net Zero Gap Analysis

Net Zero Energy Analysis for Renewable and Non-Renewable Evaluated Measures

A Net Zero Gap Analysis was not completed for this property.

13. Recommended Operations and Maintenance Plan

Not applicable.

14. Certification

The School Administrative Unit 70 (the Client) retained Bureau Veritas to perform this Facility Condition Assessment in connection with its continued operation of Dresden Athletic Fields, 221 US Route 5 South, Norwich, Vermont 05055, the "Property". It is our understanding that the primary interest of the Client is to locate and evaluate materials and building system defects that might significantly affect the value of the property and to determine if the present Property has conditions that will have a significant impact on its continued operations.

The conclusions and recommendations presented in this report are based on the brief review of the plans and records made available to our Project Manager during the site visit, interviews of available property management personnel and maintenance contractors familiar with the Property, appropriate inquiry of municipal authorities, our Project Manager's walk-through observations during the site visit, and our experience with similar properties.

No testing, exploratory probing, dismantling or operating of equipment or in-depth studies were performed unless specifically required under the *Purpose and Scope* section of this report. This assessment did not include engineering calculations to determine the adequacy of the Property's original design or existing systems. Although walk-through observations were performed, not all areas may have been observed (see Section 1 for specific details). There may be defects in the Property, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by management personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared for and is exclusively for the use and benefit of the Client identified on the cover page of this report. The purpose for which this report shall be used shall be limited to the use as stated in the contract between the client and Bureau Veritas.

This report, or any of the information contained therein, is not for the use or benefit of, nor may it be relied upon by any other person or entity, for any purpose without the advance written consent of Bureau Veritas. Any reuse or distribution without such consent shall be at the client's or recipient's sole risk, without liability to Bureau Veritas.

Prepared by: Carl Alejandro,
Project Manager

Reviewed by: 

Mary Venable, CEM, RA,
Technical Report Reviewer for
Kaustubh Anil Chabukswar, CEM, CAP
Program Manager
Kaustubh.Chabukswar@bureauveritas.com
800.733.0660 x7297512

15. Appendices

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Appendix B: Site Plan
Appendix C: Pre-Survey Questionnaire
Appendix D: Accessibility Review and Photos
Appendix E: Component Condition Report
Appendix F: Replacement Reserves
Appendix G: Equipment Inventory List
Appendix H: Lighting System Schedule
Appendix I: Energy Conservation Measures Calculation
Appendix J: Solar Photovoltaic Feasibility Study
Appendix K: Energy Audit Glossary of Terms

Appendix A:
Photographic Record

Photographic Overview

1 - SOCCER FIELD

2 - BASEBALL FIELD

3 - SOFTBALL FIELD

4 - DUGOUT

5 - STORAGE CLOSET

6 - IRRIGATION HOUSING

Photographic Overview

7 - SCOREBOARD

8 - FENCING

9 - BLEACHERS

10 - GROUND HYDRANT

11 - PARKING AREA

12 - DRIVEWAY POTHOLES - REPAIR

Appendix B:
Site Plan

Site Plan

Project Number	Project Name
158531.22R000-005.379	Dresden Athletic Fields
Source	**On-Site Date**
Google	November 18, 2022

BUREAU VERITAS

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Appendix C:
Pre-Survey Questionnaire

THE PRE-SURVEY QUESTIONNAIRE
WAS NOT RETURNED TO BV

Appendix D:
Accessibility Review and Photos

Visual Survey - 2010 ADA Standards for Accessible Design

Property Name: Dresden Athletic Fields

BV Project Number: 158531.22R000 - 005.379

Facility History & Interview

	Question	Yes	No	Unk	Comments
1	Has an accessibility study been previously performed? If so, when?		X		There are no buildings on-site, and the parking area is gravel and unstriped.
2	Have any ADA improvements been made to the property since original construction? Describe.		X		
3	Has building management reported any accessibility-based complaints or litigation?		X		

Dresden Athletic Fields: Accessibility Issues

Category	Major Issues (ADA study recommended)	Moderate Issues (ADA study recommended)	Minor Issues	None*
Parking				X
Exterior Accessible Route				X
Building Entrances				X
Interior Accessible Route				X
Elevators				X
Public Restrooms				X
Kitchens/Kitchenettes				X
Playgrounds & Swimming Pools				X
Other				X

**be cognizant that if the "None" box is checked that does not guarantee full compliance; this study is limited in nature*

Dresden Athletic Fields: Photographic Overview

SOFTBALL FIELD OVERVIEW

PARKING AREA

Appendix E:
Component Condition Report

Component Condition Report | Dresden Athletic Fields

UF L3 Code	Location	Condition	Asset/Component/Repair	Quantity	RUL	ID
Equipment & Furnishings						
E2010	Softball field	Good	Bleachers, Fixed Steel Frame, Aluminum Benches (per Seat)	80	19	4516484
E2010	Baseball field	Fair	Bleachers, Fixed Steel Frame, Aluminum Benches (per Seat)	120	13	4516488
Special Construction & Demo						
F1020	Baseball field	Fair	Ancillary Building, Wood-Framed or CMU, Basic/Minimal	360 SF	19	4516476
F1020	Softball field	Good	Ancillary Building, Wood-Framed or CMU, Basic/Minimal	360 SF	29	4566766
F1020	Softball field	Good	Ancillary Building, Wood-Framed or CMU, Basic/Minimal	360 SF	29	4516489
F1020	Near Baseball Field	Fair	Ancillary Building, Wood-Framed or CMU, Basic/Minimal	20 SF	19	4567158
F1020	Baseball field	Fair	Ancillary Building, Wood-Framed or CMU, Basic/Minimal	360 SF	19	4566765
Pedestrian Plazas & Walkways						
G2010	Site	Fair	Roadways, Signage, Guide & Directional	1	10	4516481
G2010	Roadway	Poor	Roadways, Pavement, Asphalt, Repair	130 SF	0	4566767
Athletic, Recreational & Playfield Areas						
G2050	Softball field	Good	Sports Apparatus, Scoreboard, Electronic Basic	1	19	4516487
G2050	Baseball field	Fair	Sports Apparatus, Scoreboard, Electronic Basic	1	13	4516477
G2050	Site	Fair	Sports Apparatus, Soccer, Movable Practice Goal	4	8	4516482
Sitework						
G2060	Site	Fair	Park Bench, Metal Powder-Coated	4	10	4516478
G2060	Softball field	Good	Fences & Gates, Fence, Chain Link 4'	1,000 LF	34	4516480
G2060	Baseball field	Fair	Fences & Gates, Fence, Chain Link 4'	1,400 LF	20	4516479
G2080	Site	Fair	Irrigation System, Drip System	210,000 SF	10	4516483

Appendix F:
Replacement Reserves

Replacement Reserves Report

Dresden Athletic Fields

12/13/2022

Location	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total Escalated Estimate
Dresden Athletic Fields	$1,001	$0	$0	$0	$0	$0	$0	$0	$3,547	$0	$850,699	$0	$0	$25,552	$0	$0	$0	$0	$0	$99,950	$45,514	**$1,026,263**
Grand Total	**$1,001**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,547**	**$0**	**$850,699**	**$0**	**$0**	**$25,552**	**$0**	**$0**	**$0**	**$0**	**$0**	**$99,950**	**$45,514**	**$1,026,263**

Uniformat Code	Location Description	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost *	Subtotal	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Deficiency Repair Estimate
E2010	Baseball field	4516488	Bleachers, Fixed Steel Frame, Aluminum Benches (per Seat), Replace	25	12	13	120	EA	$120.00	$14,400														$14,400								**$14,400**
E2010	Softball field	4516484	Bleachers, Fixed Steel Frame, Aluminum Benches (per Seat), Replace	25	6	19	80	EA	$120.00	$9,600																			$9,600		**$9,600**
F1020	Baseball field	4516476	Ancillary Building, Wood-Framed or CMU, Basic/Minimal, Replace	35	16	19	360	SF	$60.00	$21,600																			$21,600		**$21,600**
F1020	Near Baseball Field	4567158	Ancillary Building, Wood-Framed or CMU, Basic/Minimal, Replace	35	16	19	20	SF	$60.00	$1,200																			$1,200		**$1,200**
F1020	Baseball field	4566765	Ancillary Building, Wood-Framed or CMU, Basic/Minimal, Replace	35	16	19	360	SF	$60.00	$21,600																			$21,600		**$21,600**
G2010	Roadway	4566767	Roadways, Pavement, Asphalt, Repair	0	0	0	130	SF	$7.70	$1,001	$1,001																				**$1,001**
G2010	Site	4516481	Roadways, Signage, Guide & Directional, Replace	20	10	10	1	EA	$200.00	$200											$200										**$200**
G2050	Site	4516482	Sports Apparatus, Soccer, Movable Practice Goal, Replace	15	7	8	4	EA	$700.00	$2,800									$2,800												**$2,800**
G2050	Baseball field	4516477	Sports Apparatus, Scoreboard, Electronic Basic, Replace	25	12	13	1	EA	$3,000.00	$3,000														$3,000							**$3,000**
G2050	Softball field	4516487	Sports Apparatus, Scoreboard, Electronic Basic, Replace	25	6	19	1	EA	$3,000.00	$3,000																			$3,000		**$3,000**
G2060	Site	4516478	Park Bench, Metal Powder-Coated, Replace	20	10	10	4	EA	$700.00	$2,800											$2,800										**$2,800**
G2060	Baseball field	4516479	Fences & Gates, Fence, Chain Link 4', Replace	40	20	20	1400	LF	$18.00	$25,200																				$25,200	**$25,200**
G2080	Site	4516483	Irrigation System, Drip System, Replace	20	10	10	210000	SF	$3.00	$630,000											$630,000										**$630,000**
Totals, Unescalated											**$1,001**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,800**	**$0**	**$633,000**	**$0**	**$0**	**$17,400**	**$0**	**$0**	**$0**	**$0**	**$0**	**$57,000**	**$25,200**	**$736,401**
Totals, Escalated (3.0% inflation, compounded annually)											**$1,001**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,547**	**$0**	**$850,699**	**$0**	**$0**	**$25,552**	**$0**	**$0**	**$0**	**$0**	**$0**	**$99,950**	**$45,514**	**$1,026,263**

Appendix G:
Equipment Inventory List

SECTION NOT APPLICABLE

Appendix H:
Lighting System Schedule

SECTION NOT APPLICABLE

Appendix I:
Energy Conservation Measures Calculation

SECTION NOT APPLICABLE

Appendix J:
Solar Photovoltaic Feasibility Study

SECTION NOT APPLICABLE

Appendix K:
Energy Audit Glossary of Terms

Glossary of Terms and Acronyms

ECM – Energy Conservation Measures are projects recommended to reduce energy consumption. These can be No/Low cost items implemented as part of routine maintenance or Capital Cost items to be implemented as a capital improvement project.

Initial Investment – The estimated cost of implementing an ECM project. Estimates typically are based on R.S. Means Construction cost data and Industry Standards.

Annual Energy Savings – The reduction in energy consumption attributable to the implementation of a particular ECM. These savings values do not include the interactive effects of other ECMs.

Cost Savings – The expected reduction in utility or energy costs achieved through the corresponding reduction in energy consumption by implementation of an ECM.

Simple Payback Period –The number of years required for the cumulative value of energy or water cost savings less future non-fuel or non-water costs to equal the investment costs of the building energy or water system, without consideration of discount rates.

EUL – Expected Useful Life is the estimated lifespan of a typical piece of equipment based on industry accepted standards.

RUL – Remaining Useful Life is the EUL minus the effective age of the equipment and reflects the estimated number of operating years remaining for the item.

SIR - The savings-to-investment ratio is the ratio of the present value savings to the present value costs of an energy or water conservation measure. The numerator of the ratio is the present value of net savings in energy or water and non-fuel or non-water operation and maintenance costs attributable to the proposed energy or water conservation measure. The denominator of the ratio is the present value of the net increase in investment and replacement costs less salvage value attributable to the proposed energy or water conservation measure. It is recommended that energy-efficiency recommendations be based on a calculated SIR, with larger SIRs receiving a higher priority. A project typically is recommended only if the SIR is greater than or equal to 1.0, unless other factors outweigh the financial benefit.

Life Cycle Cost - The sum of the present values of (a) **I**nvestment costs, less salvage values at the end of the study period; (b) Non-fuel operation and maintenance costs: (c) Replacement costs less salvage costs of replaced building systems; and (d) Energy and/or water costs.

Life Cycle Savings – The sum of the estimated annual cost savings over the EUL of the recommended ECM, expressed in present value dollars.

Building Site Energy Use Intensity - The sum of the total site energy use in thousands of Btu per unit of gross building area. Site energy accounts for all energy consumed at the building location only not the energy consumed during generation and transmission of the energy to the site.

Building Source Energy Use Intensity – The sum of the total source energy use in thousands of Btu per unit of gross building area. Source energy is the energy consumed during generation and transmission in supplying the energy to your site.

Building Cost Intensity - This metric is the sum of all energy use costs in dollars per unit of gross building area.

Greenhouse Gas Emissions - Although there are numerous gases that are classified as contributors to the total for Greenhouse Emissions, the scope of this energy audit focuses on carbon dioxide (CO_2). Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement).