

Mohawk Valley Health System St. Luke's Hospital Campus

Medical Facility Assessment Utica Area Facilities

CHA Project Number: 35768

*Site Location:
1656 Champlin Avenue
New Hartford, NY*

*Prepared for:
Mohawk Valley Health System
1656 Champlin Avenue
Utica, NY, 13502*

Prepared by:



*300 S. State Street, Suite 600
Syracuse, NY, 13202
Phone: (315) 471-3920
Fax: (315) 471-3569*

November 2019

TABLE OF CONTENTS

1.0 ST. LUKE’S CAMPUS EXECUTIVE SUMMARY 1

1.1 Zoning 2

1.2 Environmental Assessment 3

1.2.1 Archeological Sensitive Area..... 3

1.2.2 State Regulated Freshwater Wetlands 4

1.2.3 National Regulated Waterbodies..... 5

1.2.4 Rare or Endangered Plants & Animals 5

1.3 Electrical Conditions 6

1.3.1 Medical Building Electric 6

1.3.2 Medical Building Lighting..... 7

1.3.3 Medical Building Fire Alarm System/Detection and Exit Signs 7

1.3.4 Medical Building Telephone, Data and Nurse Call System 8

1.3.5 Boiler House Building 8

1.3.6 Co-Gen Plant..... 8

1.4 Plumbing and Fire Supression 9

1.4.1 Domestic Hot Water 9

1.4.2 Plumbing Fixtures and Storm Drainage 9

1.4.3 Medical Air and Vacuum..... 10

1.4.4 Sprinkler System 10

1.4.5 Standpipe System and Fire Pump..... 10

1.5 Building Mechanical 11

1.5.1 Energy Rejection Center..... 11

1.6 Architectural 12

LIST OF TABLES

- Table 1. St. Luke’s Hot Water Tanks
- Table 2. St. Luke’s Vacuum Systems
- Table 3. St. Luke’s Hospital Campus Facilities Condition Matrix

LIST OF APPENDICES

- Appendix A St. Luke’s Hospital Campus Exterior Photographs

LIST OF ACRONYMS & ABBREVIATIONS

AMSL	Above Mean Sea Level
A	Ampere
GPM	Gallons Per Minute
HP	Horse Power
kV	Kilovolt
kVA	Kilovolt-Ampere
kW	Kilowatt
MCC	Motor Control Center
PCB	Printed Circuit Board
TMP	Tax Map Parcel

1.0 ST. LUKE'S CAMPUS EXECUTIVE SUMMARY

The project analysis area encompasses the existing St. Luke's Campus that consists of two parcels located at 1656 Champlin Avenue in the Town of New Hartford, Oneida County, New York. The analysis area contains approximately 62 ± acres of existing medical facilities and associated parking areas. The parcels are within the Institutional District (I) as shown on the Town Zoning Map.



Figure 1. Area Locus Map. Image from NYS GIS Database 2017.

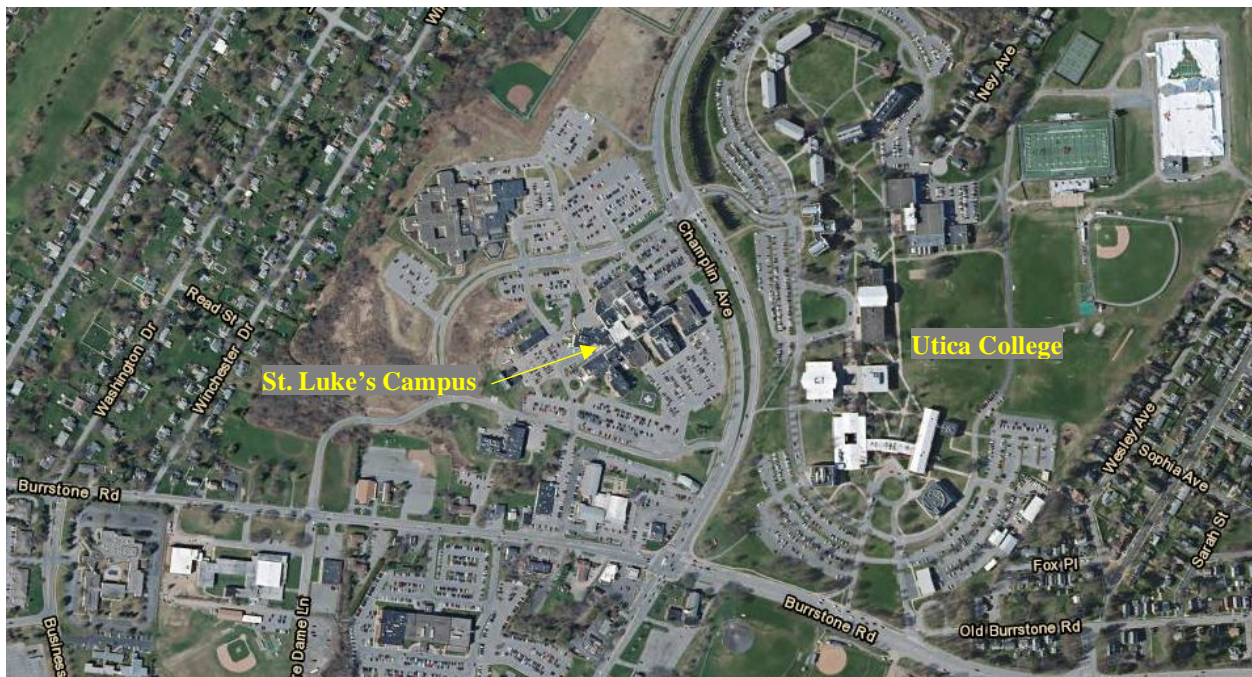


Figure 2. Site Locus Map. Image from NYS GIS Database 2017.

1.1 ZONING

The two large parcels along Champlin Avenue, TMP #'s 317.000-2-1.2 & 317.000.2-2.1, are currently zoned within the Institutional District. The Town of New Hartford has allowed the following uses to take place within this district:

Permitted as of Right (P):

- Congregate Residence
- Day care, child/family day-care facility
- Accessory use, customary structure or use
- Solar energy systems/collectors, small-scale

Permitted with Site Plan Review (SPR):

- Dwelling, multifamily senior housing adjacent to, or on same property as, a long-term care facility
- Dwelling, units above first floor commercial
- Long term care facility, community based
- Long term care facility
- Cemetery
- College, university, vocational school
- Community center
- Cultural Facility
- Day care, adult (day treatment facility)
- Eleemosynary uses
- Hospital
- Library
- Medical or dental use
- Membership clubs or lodge
- Park and recreation, public facility
- Public utility substation not otherwise listed
- Religious institution
- School
- Animal Shelter
- Arenas
- Cafe
- Entertainment and recreation, indoor, commercial
- Entertainment and recreation, outdoor, commercial not otherwise listed on Schedule A
- Funeral Home, mortuary, but not including crematoriums
- Heliport
- Hotel

- Laundromat
- Motel
- Office
- Personal service establishment
- Research and development facility
- Restaurant
- Veterinary clinic/hospital
- Ground mounted, freestanding energy systems/collectors

Permitted-Requires a Special Use Permit (SUP):

- Public/Municipal facility
- Drive-through service

The Lot Development Standards for the Industrial District are listed in Schedule B of the Town Zoning and are as follows:

Regulations:

- Minimum Lot Size: 20,000 square feet
- Minimum Frontage: 100 Ft
- Maximum Impervious Surface: 60%
- Maximum Building Height: 70 Ft
- Minimum Front Yard Setback: 50 Ft
- Min. Each Side Yard: 20 Ft
- Min. Rear Yard: 25 Ft
- Parking Space Dimensions (90° Parking):
 - Stall Length 18 Ft
 - Stall Width 10 Ft
 - Two-way Aisle Width 24 Ft

1.2 ENVIRONMENTAL ASSESSMENT

1.2.1 Archeological Sensitive Area

The project site does not fall within an archeologically sensitive area according to the Cultural Resource Information Systems (CRIS) mapper by the NYS Office of Parks, Recreation & Historical Preservation. In the figure below, there are no highlighted areas within the project site that have been classified as archeologically sensitive.

CRIS Cultural Resource Information System

HOME SUBMIT **SEARCH** COMMUNICATE

Welcome Guest User | Contact Us | FAQ | Help | Sign Out

Criteria Spatial Results

Lookup USN Survey National Register Library

USN Number: ex: 00101.001001

National Register Number: ex: 94NR00710

Survey Number: ex: 14SR00001

Submission Token: ex: ABCDEF012345

Search Reset

Since the project does not appear to be within an archeologically sensitive area, no additional archeological studies are expected to be required.

1.2.2 State Regulated Freshwater Wetlands

The project area does not contain State Regulated Freshwater Wetlands according to the Environmental Resource Mapper (ERM) provided by the New York State Department of Environmental Conservation (NYS DEC). The figure below shows no highlighted areas within the project site that would represent State Regulated Wetlands.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper Base Map: Topographical Using this map

Search

Tools

Layers and Legend

All Layers

Unique Geological Features

Waterbody Classifications for Rivers/Streams

Waterbody Classifications for Lakes

State Regulated Freshwater Wetlands

State Regulated Wetland Checkzone

Significant Natural Communities

Natural Communities Near This Location

Other Wetland Layers

Reference Layers

Tell Me More...

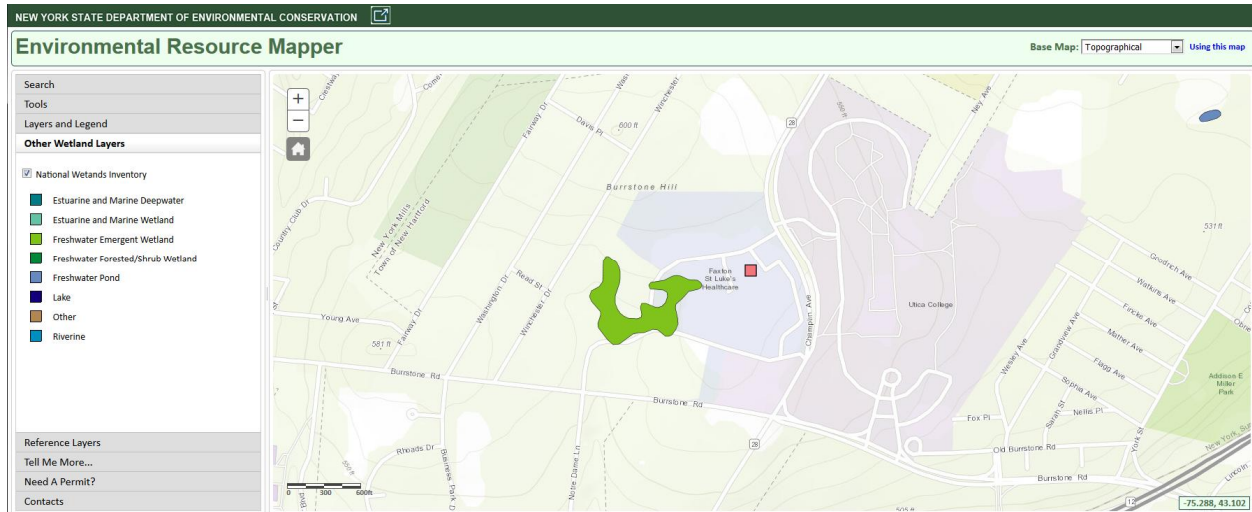
Need A Permit?

Contacts

Since the project appears to contain no State Regulated Freshwater Wetlands, a DEC Freshwater Wetlands permit and assessment is not applicable to this project.

1.2.3 National Regulated Waterbodies

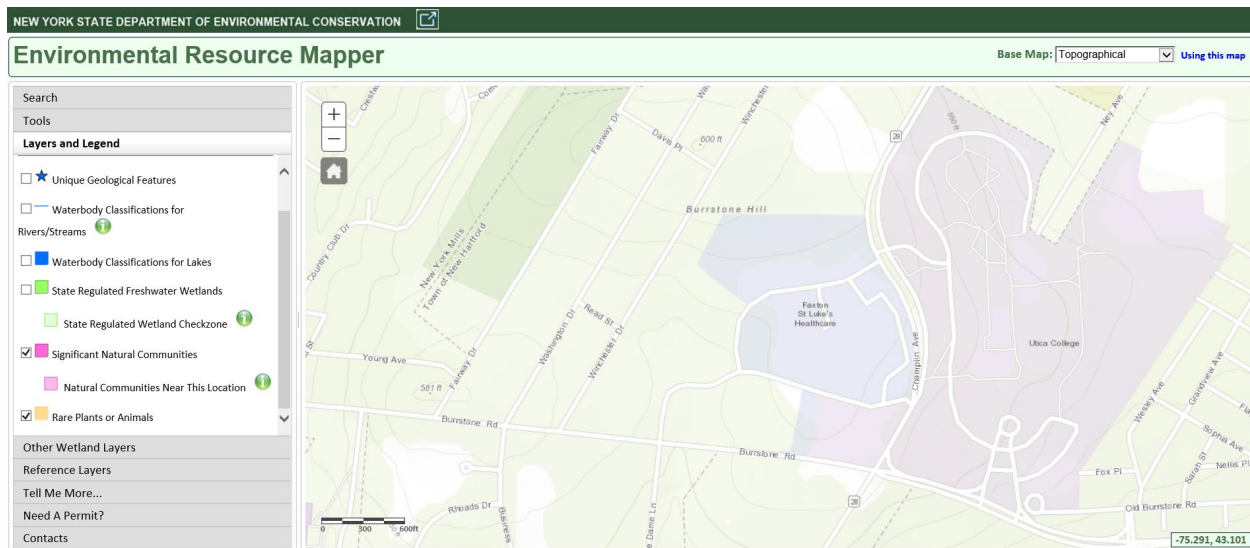
The project area appears to contain a wetland on the National Wetlands Inventory according to the Environmental Resource Mapper (ERM). The figure below shows a highlighted area adjacent to the project site.



Upon closer inspection, the highlighted area corresponds to a large on-site stormwater management system, constructed for the original medical facility project. The wetlands displayed by the mapper are not official mapping and are shown using a biological definition of wetlands and extrapolated data from color infrared imagery and topographical analysis. Most detention basins are non-jurisdictional and permitting through the Army Corps of Engineers is not anticipated.

1.2.4 Rare or Endangered Plants & Animals

The project site does not contain any rare or endangered plants or animals according to the Environmental Resource Mapper provided by the New York State DEC. In the figure below, there are no areas identified as containing rare plants or animals.



Since the project does not appear to be a location of rare or endangered plants or animals, no additional studies or permitting on this subject are anticipated.

1.3 ELECTRICAL CONDITIONS

The project site falls within the National Grid electric utility service territory. The existing site's electrical feeds are from (2) separate 13.2 kVA underground sources that terminate in a Westinghouse pad mounted switch rated at 1200A located in the garage building. One feed is called DeBalso and the other feed is called Terminal. The preferred power source, DeBalso, comes from Burrstone Road at the south border of the site. The standby source, Terminal, comes from Champlin Ave along the east side of the site. The main switchgear appears to be original and in good condition.

1.3.1 Medical Building Electric

The original one-line diagram indicates the Medical Building's electric feed steps down multiple times, from 13.2kV to 5kV, to 480V, and finally to 208/120V through additional transformers. There are several transformers and power panels at the site that all in good condition with no major issues reported at the facility.

There are four (4) electrical generators that can supply emergency power to the facility. Some upgrades were made to the emergency electrical service in 2009 along with new paralleling control equipment that still appears to be in very good condition. The newest generator, installed in 2008, is a 500kW, 480V Caterpillar. There are two (2) older 450kW, 480V Detroit Diesel generators that are in good condition but are likely nearing the end of their life expectancy. The fourth generator is a

500kW, 480V Caterpillar which appears to be newer than the Detroit Diesel generators and is also in good condition.

There are two (2) 480V emergency electric distribution switchboards that provide emergency power to multiple power panels throughout the building and all appear to be in good condition. No major issues with service from the utility company were noted. There is one electric meter located in the basement of the hospital. There are several motor control centers, panelboards and transfer switches that all appear to be in good working order and well maintained.

1.3.2 Medical Building Lighting

Lighting in the building consists of mostly fluorescent fixtures. LED fixtures have been installed as fixtures have needed replacement. Industrial 2-lamp, T-8 fixtures are located within electrical, mechanical, and utility type rooms. Medical floors mainly consist of 2'x4' and 2'x2' recessed fluorescent fixtures with decorative bowls, with downlights and wall washers in the front entrance. All appeared to be in good condition and illumination levels were adequate for the application. None of the areas appeared to have obsolete light fixtures or T-12 lamping. Old industrial lighting can contain fluorescent ballasts with PCB's, but that did not appear to be a problem at this site based on visual inspection.

1.3.3 Medical Building Fire Alarm System/Detection and Exit Signs

The fire alarm control panel is a Simplex series 4100 Fire Alarm Control Panel that can handle zone and addressable signals from indicating devices such as horns and bells. Addressable type devices identify where the actual alarm is occurring within the system. Smoke, duct smoke, and heat detectors which were observed throughout the building appeared to provide adequate coverage. Visual strobe devices were sporadically placed around the buildings as needed. The system appears to be in good working condition. During the day of the walk through the Fire Alarm Control Panel was indicating a trouble alarm, however the alarm was silenced. Regular inspections of the system are conducted by local code officials, as well as manufacturer reps to confirm the system meets the hospital and health code and NFPA requirements.

Exit signs throughout the site were LED type, red in color and varying styles, but appeared to be in good working condition.

1.3.4 Medical Building Telephone, Data and Nurse Call System

Cabling and connection boxes for telephone and data were present throughout the building. Telco boxes with punch down blocks were present in several closets and rooms. No major issues were reported relating to these systems.

There is an array of antennas located on the roof which are the property of a local wireless cellphone provider. Limited information was provided regarding the terms of the lease or the duration of the contract.

There is a nurse call system present on patient floors in the Medical Building. The system appeared to be functioning properly.

1.3.5 Boiler House Building

The main building electrical service enters the building via a single ended switchgear that contains a 500kVA transformer with a primary voltage of 13.2kV and a secondary voltage of 480/277V. This switchgear feeds power to the motor control centers, power panels, and lighting panels within the building.

The Boiler House building appears to contain the oldest electrical equipment. There are two (2) 120/208V motor control centers (MCC) that face an exterior glass wall where the sun shines on the equipment. The exposure has prematurely faded the paint on the enclosure and has subjected the MCC to un-necessary heat, potentially reducing its useful life.

The Boiler House building has its own fire alarm control panel (FACP) that appears to be in fairly new condition. The FACP is a Simplex Model 4006 and is Zone 76 on the hospital's main FACP.

Lighting for this building was typical industrial fluorescent fixtures. Some fixtures appeared very old and may be nearing the end of their useful life, therefore considered for replacement.

1.3.6 Co-Gen Plant

The Co-Gen plant is owned and maintained by a private supplier and was not part of our review scope. It was conveyed to CHA that the Co-Gen also supplies power to the neighboring nursing home, as well as, Utica College located adjacent to the project site. It is believed that underground conduits run across the hospital property to feed the neighboring buildings.

1.4 PLUMBING AND FIRE SUPPRESSION

The domestic water service pipe enters the building through the foundation wall in the basement. The piping splits into a dual backflow preventer arrangement after the service shutoff valve. The inlet piping and valves are in fair condition. The backflow preventers are in good condition. The piping insulation and hangers are deteriorated.

1.4.1 Domestic Hot Water

Domestic hot water is generated by seven (7) steam fired, storage tank style water heaters located throughout the facility. Steam is fed from the central heating plant, and the heaters range in age from seventeen (17) to sixty-four (64) years old. The two tanks in the acute tower have 750-gallon capacities and have been in service for 64 years. Both tanks are currently in service and the tank and piping insulation are stained and showing signs of deterioration. The tank insulation appears to be of a material containing asbestos and would require hazardous materials protocol be followed if removed. . All domestic hot water heaters and tanks are aged beyond their useful life expectancy in accordance with ASHRAE standards. The cold water supply to these tanks is preheated through a heat exchanger using the Co-Gen hot water as the primary heating medium. Other tanks throughout the building are operational and appear to be in fair to good condition as listed in table 1 below.

Table 1. St. Luke's Hot Water Tanks

Location:	Capacity:	Year Installed:
Mental Health Unit	750 gal	1992
Professional Office Building	600 gal	1980
Coronary Care Unit	Instantaneous Steam	Unknown
Emergency Room	Tied into instantaneous tanks above	1973
Allen Calder	600 gal	1967 Hazmat Insulation Likely
Allen Calder	600 gal	1992 Hazmat Insulation Likely

1.4.2 Plumbing Fixtures and Storm Drainage

The majority of the plumbing fixtures in the hospital building are located in single water closets and lavatory toilet rooms within individual patient rooms. There are also several group public and staff restrooms. Single head shower rooms are located throughout the building, servicing individual and

group patient rooms. Fixtures appear to be original to the building and do not appear to be low-water use models.

The roof drains that were observed are in good condition. The conductor piping and insulation at the drain body and the piping are in good condition.

1.4.3 Medical Air and Vacuum

The medical air system is relatively new and is in very good condition. There is an older back-up unit that is operational and appears to be in fair condition. Ages of these units are unknown.

There are three (3) medical vacuum units located throughout the facility. Each is a duplex unit and their information is listed below in Table 2.

Table 2. St. Luke's Vacuum Systems

Location:	System Capacity:	Year Installed:
Ground Floor Surgery	15 hp (7.5 hp each)	2008
Ground Floor MHU	10 hp (5 hp each)	2012
Old Endo/CCU	15 hp (7.5 hp each)	2007

1.4.4 Sprinkler System

All floors from the basement through fourth floor penthouse in the Allen Calder Wing are fully sprinklered with an automatic wet pipe sprinkler system. A mixture of concealed and semi-recessed sprinklers are installed in the occupied areas. Upright heads were found in the mechanical equipment rooms. In general, all sprinkler heads appear to be in good condition. The piping in occupied areas was concealed and un-observable. The piping in the mechanical equipment rooms is exposed and appears to be in good condition.

1.4.5 Standpipe System and Fire Pump

The standpipe system in the Allen Calder Wing consists of a standpipe with 2 ½ inch hose valves in the stairwells and fire hose cabinets, 1 ½ inch hose valve with hose removed in corridors. Piping, valves and fire hose cabinets are in good condition.

The sprinkler and fire standpipe systems in the Allen Calder Wing are pressurized with a 75 Hp, electric driven, fire pump rated for 1,000 gallons per minute. The age of the pump is unknown.

1.5 BUILDING MECHANICAL

The medical building ventilation is provided by a mix of air handling units, roof top units, and fan coil units. Each unit serves a medical unit, group of rooms or floor, such as maternity wards, laundry areas, surgery rooms, pediatrics and nurseries. The air handlers are ducted units ranging in manufacturer between Trane, Governair, Ventrol, and McQuay, providing ventilation air and typically include a combination of chilled water cooling coils, hot water heating coils, or steam coils. Ducted along with some units were relief fans; however, individual exhaust fans throughout the medical building provided exhaust and relief air for different units, rooms, or floors.

Steam was provided to the building at 100 PSI and reduced in each mechanical room to 10 PSI. Hot water was provided through multiple shell-and-tube heat exchangers, with a steam source, located in each mechanical room. Hot water was at times used for duct mounted reheat coils. Low pressure steam is also used to supply unit heaters in mechanical rooms.

Most of these units are past their life expectancy, and need replacement, with exception of the units serving the Allen Calder building. Insulation for older equipment and piping throughout the hospital is in need of replacement, and it is likely that piping needs repair. Steam can be visibly seen escaping from some of the piping.

Chilled water was produced by two (2) 500 ton, water cooled Carrier chillers, one (1) Carrier Sanyo 80 ton absorption chiller, and one (1) Trane Absorption 200 ton chiller. There are also three (3) cooling towers, serving the chillers, in various locations, made by Daikin, Evapco, and BAC. All controls are a mix of both DDC (provided by Pasco), and pneumatic controls.

1.5.1 Energy Rejection Center

The Energy Rejection Center Mechanical Room has three cooling towers on the roof, providing condenser water. Piping from the condensers continue underground to chillers on site. The Energy Center contains one (1) Cleaver Brooks natural gas boiler, installed in 2013, with an output of 16,736 MBH. There are also two (2) Babcock Wilson boilers, with a capacity of 38,000 lb/hr of steam, installed in 1976. These boilers are in good condition, and maintained on a timely schedule, per the facilities personnel. The second floor of the center contains a boiler feed system, including a tank, and associated pumps, and multiple shell and tube heat exchangers.

1.6 ARCHITECTURAL

The following is a documentation of interview comments provided by Kevin Leach, Facilities Manager for the St. Luke's campus:

- When asked about the condition of the exterior windows and curtain wall systems, Mr. Leach stated that there are no issues with the majority of the Hospital complex's windows, although the curtain wall systems on the Allen Calder Wings were original from the early 1970's and 1990's. The curtain wall system leaks, has glass breakage, and the solid porcelain panels are badly deteriorated.
- There are no known exterior wall issues requiring attention.
- The interior of the Hospital is maintained in good condition using a "patient room a day refurbishment program" that updates, on average, eighty (80) rooms per year.
- There are no known issues with the exterior doors other than usual maintenance associated with power operated doors.
- Most of the roofs have been replaced, leaving the PCU roof to be replaced either this year or next year.
- It was noted on the campus tour, conducted in July of this year (2019), that the glass curtain wall of the Energy Center is problematic due to both its age and the heat buildup created within the building.

Overall, the complex is in excellent to good condition and well maintained except for the Allen Calder Wing exterior envelope.

TABLES

Table 3. St. Luke’s Hospital Campus Facilities Condition Matrix

	Exterior Walls	Roofs	Exterior Windows	Curtain Walls	Exterior Doors	Interiors	Structure
Acute Hospital	GC	N	EC	EC	GC	EC	EC
Professional Office Bldg	GC	NR	GC	NA	GC	GC	EC
Allen Calder Wing	GC	N	NR	NR	GC	GC	EC
Surgery	FC	N	NA	NA	GC	NA	EC
Intensive Care Unit	EC	NR	EC	NA	GC	EC	EC
Emergency	EC	NR	EC	NA	GC	EC	EC
Progressive Care Unit	FC	NR	FC	NA	GC	FC	EC
Mental Health	GC	NR	EC	NA	GC	GC	EC
Maintenance Building	GC	NR	GC	NA	GC	GC	GC
Energy Rejection Center	GC	N	NR	NR	GC	GC	EC
Energy/Co-Gen Center	GC	N	NA	NA	GC	GC	EC

Conditions Key:

- FC – Fair Condition
- EC – Excellent Condition
- GC – Good Condition
- N – New
- NA – Not Applicable
- NP – Needs Pointing
- NR – Needs Replacement
- NRe – Needs Restoration

APPENDIX A

St. Luke's Campus Exterior Photos





CHIA

