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## WINDSOR VILLAGE HALL CONDITION REPORT

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**SURVEY DATE:** 3-13-18  
**REPORT DATE:** 3-26-18

**PROJECT:** WINDSOR VILLAGE HALL  
4084 Mueller Rd. DeForest, WI

**TO:** Jim Gersich, AIA Dimension IV Architects Madison  
**FROM:** Michael Hein, PE HEIN Engineering Group

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### EXISTING FACILITY:

The original facility appears to have been built in the mid 1990's with an approximately 4,000 square foot lower level serving the sheriff's department and 4,000 square feet upper level serving the town hall and administration. In 2004, a 2-level 2,400 square foot addition was added to the north for the sheriff's department on the lower level and village administration on the upper level. A handicapped lift is included in the original building from lower level to upper level. In both the original building and expansion addition, almost all building service equipment are original, and past or nearing the end of expected service life.

### PLUMBING:

A 2" water service is supplied by an onsite well pump to the lower level mechanical room with two pneumatic well pressure tanks. The building sewer is 4" and extends north of the site to a septic system. No storm water collection system is provided and drain by gutter to grade. The domestic hot water service for the building is softened by a 1" metered water softener and heated by a gas-fired gravity-vented, tank-type water heater. The water heater and softener appear to be original condition. The hot water system is provided with a recirculation pump added in 2004 as part of the addition and is maintained at about 110 deg F. Plumbing fixtures include tank-type water closets and wall-mounted urinals with flush valves. Metered faucet valves aer in various conditions. All plumbing fixtures appear to original to their construction phase.

Two natural gas meters are located on the southeast corner of the building and service the sheriff's department and village administration, separately.

### FIRE PROTECTION:

The existing building is not provided with a wet fire suppression system(sprinklers).

### HVAC:

The original facility is heated, cooled and ventilated by two furnaces on each level with split-system air-cooled condensers. The two furnace units serving the upper level are in an attic mezzanine space with pull-down stairs for access. One lower level furnace in the original section is provided with a bypass dehumidifier. The 2004 addition is provided with one upper level furnace(5 ton) and lower level furnace(3-1/2 ton). All the furnace units appear to be original construction with the exception of one air-cooled condenser, which appears to have been replaced recently. Compressors in air-cooled condensing units typically have an expected useful life expectancy of 15-20 years. Toilets and locker room areas are exhausted by inline exhaust fans. Supplemental electric heat is provided in perimeter and entry areas.

### ELECTRICAL:

The facility is provided with a 600-amp 120/240-volt/1-phase service from a utility pad-mounted transformer located northwest of the facility. The electric service is split into two 400-amp 1-phase services: one serving the sheriff's department and one serving the village administration. All of the distribution panels appear to be original construction. Lighting is predominantly fluorescent troffers and linear wraparound/strips. The original building does not meet current IECC standards for switching and control, and does not provide for emergency egress lighting as required by code. A typical building of this nature would be expected to be served by 3-phase power. A

The facility does not have a fire alarm or smoke detection system.

ENGINEERS SUMMARY COMMENTS:

The original village facility is about 25+ years old, and the addition is 14 years old. The plumbing, HVAC and electrical systems appear to be in working condition, but most of the mechanical/electrical equipment in the original facility is at the end of expected useful life. The operation and maintenance costs for the facility will most likely increase in the near term as energy costs rise and repair/replacement costs increase for mechanical/electrical equipment in the original facility.

The existing water softener and water heater equipment are in need of replacement. Plumbing fixtures in the original facility are in need of replacement. Water service for a future expansion could be limited by the water well available, unless municipal water becomes available.

Fire protection(sprinkler system) is not an option without a municipal water service of 6" in the locality.

The upper level furnaces are located in very limited-accessible attic mechanical spaces and should be relocated with a new replacement plan to an floor level closet for servicing. The original heating furnaces and air-cooled condensers are in need of replacement. All condensing units appear to be R-22 refrigerant which is no longer manufactured and expensive to replace.

The facility lighting system and controls will soon need to be updated with LED lighting with any future remodeling. Use of efficient lighting system will be required to meet the current IECC energy code requirements and new switching controls. LED lighting systems would be expected to reduce lighting energy costs by 40%. Emergency egress lighting is needed for the original facility to meet current codes.

Exterior building and parking lighting should be updated to more efficient sources(LED) and dark sky compliant fixtures. One parking lot pole appears to have been converted to LED.

A fire alarm system with smoke detection supervision is recommended, in particularly, since the building is not equipped with a wet sprinkler fire suppression system.

Future expansion of the facility would be limited by the existing 1-phase electric service, although 3-phase power appears to be available on poles south of the building.

*End of Condition Report*