Mechanical and Electrical Systems
Existing Conditions Narrative

Surf Club
Madison, Connecticut

3/11/10

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A. ***PLUMBING NARRATIVE***

APPLICABLE CODES AND STANDARDS

The plumbing systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Plumbing Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

PLUMBING UTILITIES

1. Domestic Water:
   a. Existing Domestic Water Service: The building is currently served by a domestic water main fed from Connecticut Water Company. This water service currently serves all of the building's domestic water needs.
2. Natural Gas:
   a. Existing Natural Gas Service: There is currently no natural gas service to the building.
3. Sanitary:
   a. Existing Sanitary Service: The building's sanitary sewer system provides sanitary waste drainage for plumbing fixtures located throughout the building. The sanitary waste piping discharges to a septic tank and leaching field.
4. Storm:
   a. Existing Storm System: Building is served primarily by gutters.

PLUMBING FIXTURES AND SPECIALTIES

1. Existing plumbing fixtures are as follows:
   a. In general, fixtures are in fair condition.
   b. The water closets are floor mounted; tank type, vitreous china.
   c. The lavatories are vitreous china.

d. The urinals are wall mounted; vitreous china with hand operated valves.

DOMESTIC HOT WATER SYSTEMS

1. Existing Domestic Hot Water System: The domestic hot water is generated by an electric water heater which is in good condition. The water heater is located in the basement.

B. ***FIRE PROTECTION NARRATIVE***

FIRE PROTECTION SERVICE

1. There is no central fire protection system (sprinklers) currently at the facility.

C. ***MECHANICAL NARRATIVE***

APPLICABLE CODES AND STANDARDS

The mechanical systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Mechanical Code
5. 2003 International Energy Conservation Code
6. NFPA, Latest Version
7. ASHRAE 90.1

EXISTING SYSTEMS

1. The building is served by a single forced air, heating and ventilation unit located in the basement.

2. The forced air unit has features as follows:
    a. Provides mechanical ventilation to the spaces.
    b. Fuel oil fired for heat.
    c. Unit is ducted to floor grilles and ceiling grilles at the floor above. There is no "zoning" at the floor above; all areas are served by one thermostat.
3. A/C is accomplished through a window air conditioning units.
4. Buried Fuel Tanks: Refer to 2004 Underground Storage Tank Report done by Flagship Environmental LLC, 2004.
5. Temperature controls are local, stand alone electric type.

D. ***ELECTRICAL NARRATIVE***

APPLICABLE CODES AND STANDARDS

The electrical power, interior lighting, and fire alarm systems will be reviewed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 2005 Connecticut State Building Code
2. 2005 Connecticut State Fire Safety Code
3. 2003 International Building Code(IBC)
4. 2003 International Energy Conservation Code

5. 2005 National Electrical Code, NFPA 70 (NEC)
6. Illuminating Engineering Society Lighting Handbook (IESNA), 9th Edition

EXISTING SYSTEMS

1. The building is served by a distribution panel, rated at 200 amperes, 240 volts, 1 phase. This service equipment consists of a 200amp main circuit breaker, distribution section and metering per utility company requirements. The service equipment is located in the basement and is in fair condition.

2. Branch Circuits: Wiring and end devices such as receptacles are in fair condition.
3. Lighting, in general, consists of a variety of fixtures; many in need of updating for energy efficiency.
4. Site lighting does not exist.
5. Emergency lighting is handled by 2-head emergency lighting fixtures with integral battery packs.

E. ***MEP SYSTEMS CONCLUSION***

1. The MEP systems are in fair condition and should be scheduled for replacement and/or upgrading in the near future. In particular, the forced air HVAC unit will need to be replaced in the near future. HVAC systems should be upgraded to be DDC type. The building is in a flood zone. If substantial renovations occur to the building, it is our understanding the building will need to be raised in elevation up out of the flood zone. Also, mechanical and electrical equipment cannot be installed in the basement area and will need to be relocated. The following capital needs survey form highlights the major systems in need of replacement and their respective capital costs to implement.

Town of Madison								
Capital Needs Survey Form								Total Floor Area (sf):
Surf Club								5,000

Note: The "System Priority Rating" (1 to 4 rating) and "Condition of the Existing System Rating" (1 to 5 rating) are to be reviewed together to assist in prioritizing replacement and/or upgrades. As an example, we recommend line items with a System Priority rating of 1 and Existing Conditions rating of 1 be prioritized for replacement and/or upgrades.

SYSTEM	System Priority 1 to 4 (1-Highest Priority, 4-Lowest Priority)	Condition of the Existing System 1 to 5 (1 Poor, 5 Excellent)	Last Major Reconstruction (Year)	Projected Replacement (Year)	Quantity	Unit Price	Current Replacement Cost	REMARKS
Division 2 - Site Construction								
Site - Electrical	3	3		2010	1	$ 35,000	$35,000	upgrade to 3 phase
Site - Lighting	2	1		2010	1	$ 10,000	$10,000	
Division 15 - Fire Protection								
Overall Fire Protection Reno - includes:	3	N/A		2015	5,000	$10	$50,000	
New fire service from street								
New sprinkler system throughout								
Assumes a fire pump is not needed								
Division 15 -Plumbing								
Overall Plumbing Renovations - includes:	3	3		2015	5,000	$12	$60,000	
Water Distribution System								
Plumbing Fixtures								
Water Heater								
Division 15 - HVAC								
Overall HVAC Renovations - includes:	3	3		2015	5,000	$30	$150,000	
Ventilation Systems								
Air Handling Systems								
Exhaust Systems								
Temperature Control Systems								
Air Conditioning								
New Furnace	1	1		2012	5,000	$10	$50,000	
Division 16 - Electrical								
Overall Electrical Renovations - includes:	3	2		2015	5,000	$18	$90,000	
Electrical Service								Upgrade to 400A - 480Y/277V
Distribution and Local Panels								
Lighting								
Emergency Lighting								
Misc Low Voltage Systems								
Fire Alarm System								
							$ 445,000	
							$ 89	per sf