EMCS CONTROL SYSTEM INFORMATION (CSI) OUTLINE

1. GENERAL

The consultant shall be required to respond to the Control System Information (CSI) not later than 50% construction document phase review, which must be finalized and approved by Seattle Parks and Recreation (SPR) prior to bidding.

2. CONTROL SYSTEM INFORMATION (CSI) OUTLINE

A. Sequence of Operation of the Primary Systems and/or Control System Input/output Summary Table: The sequence of operation shall be complete and self-explanatory and shall describe the mechanical and electrical equipment response to the building demand for all modes of operation. The Control System Input/Output Summary Table shall include all digital and analog inputs required to control and monitor the building variables, and shall also indicate the functions applicable to the systems involved.

B. Equipment Schedule: The equipment schedule shall include the type, quantity and capacity or rating of all major equipment such as a boiler, heat pump, furnace, air handling unit, heat recovery unit, domestic hot water heater, etc. used in the design.

C. Sensor Schedule: The sensor schedule shall include the type (temperature, humidity, pressure, pH, flow, oxidation/reduction, etc.), range, quantity and location of the sensors.

D. Controlled Devices Schedule: This schedule shall include the classification (valves, dampers, and motors, etc.), quantity and location of the controlled devices. The type of controlled devices shall also be indicated, such as a 3-way mixing or diverting valve, spring return or reversible electric motor operators, and quick opening opposed blade damper.

E. Temperature Schedule: Temperature schedule shall include the zone where the temperature is being controlled (or location of the thermostat), sensor location where the temperature is being measured, and the set point for each zone. A plan of the facility indicating various zones and location of SCUs, TCUs, and other equipment must be provided.

F. Flow Schedule: The rate of fluid flow in cfm of air or gpm of water and the location where it was measured shall be included in this schedule.

G. Pump/Motor Schedule: his schedule shall include the quantity, pump capacity and performance curve and motor rating, and location of the pumps.

H. Fan Schedule: his schedule shall include the quantity, performance curves, motor rating and location of the supply and exhaust fans.

I. Coil Schedule: This schedule shall include the size and location of the coils, also the entering and leaving fluids flow rate and temperature. For heat recovery coils, include performance curves for a range of outside temperature.

J. Lighting Schedule.

K. Projected Annual Maintenance and Operation Cost.

3. THE FOLLOWING EMCS FUNCTIONS AND ALARMS SHALL BE CONSIDERED WHERE APPLICABLE:

- Scheduled Start/Stop
- Optimum Start/Stop
- Demand Limiting
- Ventilation/Re-circulation
- Temperature Control
- Hot Water Boiler, Steam Boiler or Hot Air Furnace Optimizatio
- HW/OA or Steam/OA reset
- Lighting Control
- Day/Night Setback
- Equipment Status Alarm
- Maintenance Alarm
- High Limit Alarm
- Low Limit Alarm
- Run Time

Depending on the site, other EMCS functions and alarms may be considered.

4. Listing Points: A complete list of points with names, addresses, and functions may also be provided.

END OF SECTION