ADMINISTRATION BUILDING

HVAC

M-01 Heating Plant:

Observations:
The existing boiler was manufactured by Burnham circa (1967) and appears in poor condition. The existing hot water system operates in connection with the chilled water system – a 2-pipe system. The hot water is distributed to a system of perimeter fan coils and fin-tube radiation. The boiler is controlled by a stand-alone ATC system. The boiler breeching connects to the original masonry chimney.

Recommendations:
The boiler is far beyond its' useful life and needs to replaced in the very near future. Since the boilers utilize a positive pressure flue venting system, the chimney should be fitted with a metal chimney liner for protection of the building occupants.

M-02 Heating & Ventilating Systems:

Observations:
Not Applicable.

M-03 Cooling Systems:

Observations:
Office Areas (interior) – The interior of the administration area currently utilizes a Carrier heating/cooling rooftop unit (model #48HJD008) to provide conditioning to the various spaces.

Office Areas (perimeter) – The perimeter spaces of the administration building currently utilize a 2-pipe changeover system. The system provides chilled water in the summer and hot water in the winter months. The chiller and associated condensing unit are brand new.

Network Room - The room containing the District's main computer hub has a Liebert unit that provides the cooling to the room. We did experience warm room conditions at the time of our visit.

Recommendations:
The heating only devices that are connected to the 2-pipe changeover loop need to be isolated from the water loop during the summer months. Condensation from unit heaters, fan coils, etc is occurring as a result. The system water circulation pump appears to be in need of replacement. Network Room load calculations should be performed to check against the capacity of the existing Liebert unit.

M-04 Temperature Control Systems:

Observations:
With the exception of the new chiller, heating, ventilation and temperature control of the spaces is accomplished via older, stand-alone controls. The chiller has been connected to the Districts' Johnson-Metasys DDC controls.

Recommendations:
Consideration should be for a complete upgrade of the existing temperature control system. A new system of direct digital controls (DDC) should be employed. The DDC system will automate the operation of the HVAC equipment, aid in maintenance efforts, signal trouble alarms and reduce overall building energy usage. The new DDC system should be based on Johnson-Metasys (or another compatible company), which is currently in use in the District. The system will be networked to a district-wide monitoring system

M-05 Plumbing:

Observations:

The domestic water service enters the Boiler Room on the lower level. Service size is 1-1/2" and there is no backflow prevention.

Natural gas enters the building in the same Boiler Room and supplies the boiler and domestic water heater.

The women's toilet room has an ADA compliant water closet only. The lav is a countertop lav. The men's room is not ADA compliant. There is one uni-sex toilet room that is not ADA compliant.

The roof drained by exterior perimeter gutters and downspouts to below grade. The leaders appear to be in good condition and functioning properly.

Recommendations:
The toilet rooms should be upgraded to fully comply with all ADA requirements.

M-06 Fire Protection:

Observations:
There are no sprinklers in this facility.

Recommendations:
Fire Sprinkler Systems are not required by code for this facility.

ELECTRICAL

E-01 Service Entrance:

Observations:
A JCP&L utility pole # JC1027LVT with (3) 50kVA pots (transformers) on Foxcroft Drive runs secondary voltage, 120/208V, 3 phase, 4 wire underground to the basement electrical room. There the service entrance splits into two MDP's. One old Federal Pacific Electric (FPE) MDP-1 with

(6) distribution circuit breakers and one new Square “D” MDP-2 with (3) distribution circuit breakers. MDP-1 is protected with a 400A main circuit breaker (MCB). MDP-2 is protected with a 200A MCB. JCP&L is the utility company serving electrical power under account #100006467532. In August of 2007 the max demand was 67.4 kw/187A.

Recommendations:
MDP-2 has 34 spaces. No recommendations at this time.

E-02 Distribution:

Observations:
Local panelboards distribute power to lighting, devices and equipment. Most panelboards were
found to be loaded to circuit breaker capacity and lacking spares or spaces. A newer computer panel (that also serves fire alarm) has been installed that is fed by an Onan RS 12000 natural gas generator via an automatic transfer switch.

Recommendations:
While antiquated FPE panels still function they are hard to find parts for and difficult to repair. Consideration should be given to replacing/upgrading panelboards as new loads are added to the building.

E-03 Devices:

Observations:
Local receptacles were sparse as the building is 1968 vintage. Currently additional power has been provided via power poles and surface mounted raceway.

Recommendations:
No recommendations at this time.

E-04 Normal Lighting:

Observations:
The majority of the building is served via linear fluorescent fixtures. 2x4 and 2x2 recessed prismatic troffers are used in most office areas. Surface mounted prismatic wrap fixtures are used in corridors and utility areas with fluorescent industrials with tube schrouds in the basement. A small conference room has parabolic micro-cubes installed.

Recommendations:
Most light levels are adequate. No recommendations at this time.

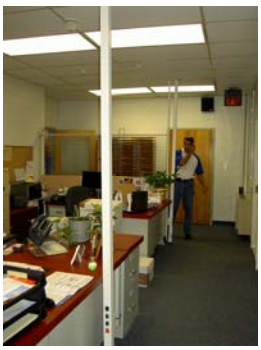
E-05 Emergency lighting:

Observations:
Emergency lighting is supported by the use of local and remote unitized battery packs with local and remote unitized heads.

Recommendations:
Coverage seems deficient. Employ the services of a lighting professional to meter and record emergency lighting levels and add battery ballasts to existing fixtures to supplement existing conditions.

E-06 Exit Lighting:

Observations:
Exit lighting was provided by mostly battery backed up fixtures. Units were seen with a mixture of incandescent and replacement L.E.D. sticks.



Recommendations:
Replace exit signs with factory L.E.D. units as the L.E.D. light sticks do not meet NFPA 101 required face illuminances.

E-07 Egress Lighting:

Observations:
Egress lighting was not seen at this facility.

Recommendations:
Provide and install combination normal and emergency light fixtures incorporating local or remote battery ballasts.

E-08 Exterior Security lighting:

Observations:
Wall mounted H.I.D. fixtures are located around the perimeter. H.I.D. posts were seen at walkways for pedestrian traffic.

Recommendations:
H.I.D. cannot be used for emergency lighting. See E-07.

E-09 Fire Alarm:

Observations:
An EST-2 serves as the F.A.C.P. It is a digital addressable system. It is located directly in the reception lobby for firefighter diagnosis. Manual pull stations (MPS) were seen to be located at the exits without covers to prevent nuisance alarms. Smoke detectors were seen throughout.

Recommendations:
As students aren't trafficing through this facility MPS covers shouldn't be an issue. No recommendations at this time.

E-10 Tele/data:

Observations:
Telephone enters overhead from a utility pole # 50S BT1814LVT on Foxcroft Drive and enters the building through the rear and drops down to the basement where the demarc exists.

The services are fiber optic (FO), CATV, and Copper phone lines. Voice over internet
protocol (VOIP) is distributed through a Meridian system and utilizes Cisco IP handsets. Copper is distributed to the desktop for telephone and computer services via surface mounted raceways and power poles where block walls exist and in partitions where available.

The telephone servie is provided by Verizon PRI-T1, digital circutis and various copper POTS lines. The telephone service is distributed to users over combiend voice data network via Cisco Unity Servers.

Recommendations:
Verify TIA/EIA standards were used for distance limitations, cable mapping, etc. Verify TVSS devices were used on utility and emergency links (faxes, 911, F.A.C.P. dialer, etc.) Verify that all computer power feeds originate from a panel employing a transient voltage surge suppressor (TVSS) device. If TVSS devices are missing provide and install.

E-11 Clock/Speaker/Intercom:

Observations:
No master clock system was seen as this is a BOE office not a school. Speakers were seen in interior spaces.

Recommendations:
No recommendations at this time.

E-12 Security:

Observations:
A Radionics Alpha II system keypad was seen in the stairwell leading to the parking lot. Motion
detectors were seen at interior spaces.

Recommendations:
No recommendations at this time.