Palm Beach State College
Facilities Department

District Wide Preventative
Maintenance Program

2014
The following is an outline of preventive and general maintenance programs performed by Facilities Department personnel district wide. It has been divided into the following categories:

I) AIR CONDITIONING - HVACR

II) ELECTRICAL

III) LIFE/SAFETY

IV) GENERAL BLDG. MAINTENANCE

V) PLUMBING

VI) GROUNDS

Latest Revision March 2014

**General Notes:**

1) (Documentation required) - Shall be listed next to all equipment that needs to be inspected and logged.

2) All records shall be kept on campus and a copy, unless directed otherwise shall be submitted to the Director of Facilities by March 1st of each year.

3) If not listed as either contractor or District staff responsibility all work should be performed by campus based maintenance personnel.
I) AIR CONDITIONING - HVACR

A. CHILLERS (* Documentation Required)
B. COOLING TOWERS (* Documentation Required)
C. CHEMICAL WATER TREATMENT
D. CONDENSATE & CONDENSER PUMPS (* Documentation Required)
E. AIR COMPRESSORS & AIR DRYERS
F. AIR HANDLER UNITS (Documentation Required)
G. BOILERS & GAS FIRED HEATERS (Documentation Required)
H. EMS
I. REFRIGERATION EQUIPMENT
J. A/C CONTROL SYSTEMS
K. ICE MACHINES
L. EXHAUST FANS
M. CHEMICAL FUME HOODS (Documentation Required)
N. FREON DETECTION UNITS (Documentation Required)
O. BIOLOGICAL SAFETY CABINETS (Documentation Required)
P. PAINT BOOTH
Q. SPECIALTY AIR SYSTEMS

General Note:

* See Appendix A - Central Campus Chiller Log for documentation example
A. 1) **CHILLERS - CENTRIFUGAL & SCREW**
   a) Inspected and logged daily (M-F).
   b) Complete chiller maintenance done by licensed A/C contractor on quarterly, semi-annual and annual basis.
   c) Thermal scanned every other year by outside contractor
   d) Each chiller is eddy scanned every three years on a rotating basis by an outside contractor

2) **CHILLERS – AIR COOLED**
   a) Visually inspected quarterly
   b) Coils cleaned annually and recoated every 5 years or as needed

B. **COOLING TOWERS**

1) Inspected and logged daily (M-F)

2) Towers, sumps and strainers cleaned annually or as needed.

3) Tower transmission (including oil, fittings, shafts and couplings), bearings and hot boxes are checked quarterly.

4) Wood towers are sealed with a wood preservative annually

5) Synthetic transmission oil shall be changed every 5 years by District personnel

C. **CHEMICAL WATER TREATMENT**

1) Inspected daily.

2) Confirmed biweekly by chemical treatment vendor and reports are sent to Facility managers and District A/C staff via e-mail

D. **CHILLED WATER & CONDENSOR PUMPS**

1) Inspected and logged daily (M-F).

2) Quarterly inspection of motor and pump bearings and seals (greased as needed)
3) Quarterly inspection of pump coupling for tightness, wear and alignment.

E. AIR COMPRESSORS, AIR DRYER & VACUUM PUMPS (Where applicable)
1) Plant compressors – checked daily (M-F).
2) Campus/ building compressor – checked weekly.
3) Change oil and adjust belts quarterly or replace as needed
4) Check air drier and auto drain - weekly
5) Check pressure regulator - monthly
6) Check pressure relief valve – monthly
7) Check water separator – monthly
8) Check Vacuum pumps - Daily

F. AIR HANDLER UNITS
1) Filters – visually checked and logged monthly replaced as needed.
2) Belts – inspected monthly for wear, tension and proper alignment at filter inspection, adjusted or replaced as needed.
3) Bearings – inspected for abnormal wear or noise and greased as necessary (at least bi-annually)
4) Condensate Lines & Pans – inspected for algae and rust build up monthly at filter inspection.
5) Coils – inspected for dirt, algae and corrosion and cleaned annually or as needed.
6) Blower Wheels – inspected annually for rust, imbalance and abnormal noise at time of coil cleaning.
7) Inlet guide vanes & outside air dampers – check operation and lubricate quarterly with Kimball Midwest Torq ”CB” Penetrating Oil
8) VAV Boxes – check damper actuator and controls – twice a year
9) Chilled water valves – Shall be checked monthly or as needed
G. **BOILERS & GAS FIRED HEATERS**
   1) Inspected quarterly for leaks and proper operation by District personnel
   2) Inspected annually by certified boiler inspector and documentation is filed and certificate is placed at boiler locations

H. **ENERGY MANAGEMENT SYSTEMS**
   1) Monitored continually by District A/C staff, Facilities Managers and maintenance staff
   2) Check and replace lithium controller batteries every 5 years and date them at time of change by District
   3) Clean dust from controllers twice yearly or as needed
   4) Check HOA switches yearly by District personnel
   5) Check temperature sensors daily with EMS start up by District personnel
   6) Check status switches monthly by District personnel
   7) Check controller input and output connections yearly by District personnel

I. **REFRIGERATION EQUIPMENT**
   1) Clean condensers – quarterly by District personnel
   2) Check the Freon charge – annually by District personnel
   3) Clean evaporator – annually by District personnel
   4) Clean pan and drain line – annually by District personnel
   5) Check box temperature – daily by cafeteria personnel, annually by District personnel
   6) Check and calibrate controls – annually by District personnel
   7) Lubricate motors – annually if necessary by District personnel
   8) Check sight glass for bubbles – annually by District personnel

J. **A/C CONTROL SYSTEMS**
1) Check pneumatic pressure regulator - monthly
2) Check pneumatic pressure relief valve – monthly
3) Check and calibrate pneumatic receiver controllers – annually by District personnel
4) Check and calibrate pneumatic thermostats – annually by District personnel
5) Check and calibrate pneumatic temperature transmitters – annually by District personnel
6) DDC input and output points are checked daily by A/C/EMS mechanics as well as program operation.
7) CO2 Sensors – Calibrate annually using trace gas kit – District personnel

K. **ICE MACHINES**

1) Clean condenser coils – semi-annually by campus maintenance personnel
2) Change filters
   a) Water filters - Checked quarterly, changed annually or as needed depending on water quality
   b) Air filter (if applicable) – Checked monthly replaced as needed
3) Flush annually by District personnel
4) Clean ice bins with proper cleaning agent – annually by District personnel

L. **EXHAUST FANS**

1) Inspected monthly for proper operation campus maintenance personnel
2) Check belts, bearings, pulleys and blades – quarterly campus maintenance personnel
3) Clean motor, blade and housing – quarterly or as needed campus maintenance personnel

M. **CHEMICAL FUME HOODS**

1) Visually inspected daily or as used by program personnel
2) Inspected, calibrated and recertified annually by certified contractor, inspection reports are kept by the campus Facilities Manager

3) Filters replaced as needed by Certified Contractor

N. FREON DETECTION UNITS

1) Visually inspected weekly by maintenance staff for proper operation

2) Inspected, recertified, calibrated and filters changed annually by certified contractor and records are kept by District A/C & EMS Specialist

O. BIOLOGICAL SAFETY CABINETS

1) Visually inspected daily by program personnel

2) Inspected, calibrated, recertified and HEPA filters changed annually by certified contractor hired by program personnel

P. PAINT BOOTH

1) Pressure equipment, hoses and couplings inspected monthly by District paint staff

2) Filter media replaced quarterly or as needed by District paint staff

3) Rooftop exhaust filters inspected twice a year by paint staff and replaced annually or as needed by maintenance staff

Q. SPECIALTY AIR SYSTEMS

1) Per NFPA 45 all laboratory and exhaust fan systems shall be tested and verified annually by a certified test and balance contractor, records kept by the Campus Facilities Manager

2) Per Florida Statue the shooting range ventilation system shall be tested and verified annually by a certified test and balance contractor coordinated and records kept by the Campus Facilities Manager
II) ELECTRICAL

A. LIGHTING

B. TIMECLOCKS, PHOTOCELLS, LIGHTING CONTACTORS

C. TRANSFORMERS

D. SWITCHGEAR / DISTRICT PANELS

E. VARIABLE SPEED DRIVES

F. MOTOR / STARTERS

G. PHOTOVOTAIC SOLAR PANELS
A. LIGHTING

1) Interior – classrooms, offices, common areas etc.
   a) Checked nightly by custodial, security and night maintenance staff.
   b) Repaired or replaced as needed.

2) Exterior – parking lot, walkway, security etc.
   a) Checked nightly by custodial, security and night maintenance staff.
   b) Repaired or replaced as needed by campus maintenance staff

3) Theater, sports fields and specialty areas should be lamped with the maximum long life lamp possible for each application

B. TIMECLOCKS, PHOTOCELLS, LIGHTING CONTACTORS

1) Checked twice a year at daylight savings time, time change (March & November).

2) Repaired or replaced as needed.

C. DISTRIBUTION TRANSFORMERS/ PAD MOUNTED SWITCHES

1) Visual inspections done quarterly on pad mounts, switches and vaults by campus maintenance personnel.
   a) Inspect for vegetation growth with enclosure or vegetation debris laying on the transformer housing
   b) Check for any sign of leakage from transformer housing
   c) Inspect housing of transformer to assure that no rusting or damage has occurred since last inspection

2) Thermographic scans done every other year by outside contractor

3) Oil samples are taken and analyzed every three years by an outside contractor

D. SWITCHGEAR AND DISTRIBUTION PANELS

1) Thermographic infrared scans done by every other year by outside contractor and records are kept by District Supervisor of Maintenance

2) De-energized maintenance includes cleaning of panels, all connections shall be re-torqued, and visual inspection to locate any discoloration or hot spots done by district personnel or contractor annually
E. VARIABLE SPEED DRIVES

1) Thermographic scans done every other year by outside contractor
2) Check fans - monthly
3) Blow out dust – Bi-annually
4) Check filters monthly on exterior drives

F. MOTORS/ STARTERS

1) Thermographic scans done every other year by outside contractor records are kept by District Supervisor of Maintenance
2) Clean and inspect contacts - annually
3) Lubricate slides – annually

G. PHOTOVOLTAIC SOLAR PANELS

1) Shall be cleaned twice a year or as need by campus staff.
III) LIFE/SAFETY

A. FIRE EXTINGUISHERS (Documentation Required)

B. FIRE SUPPRESSION SYSTEMS (FM-200, ANSUL, SPRINKLER) (Documentation Required)

C. FIRE PUMPS (Documentation Required)

D. FIRE HYDRANTS, HOSES AND STAND PIPES (Documentation Required)

E. SECURITY SYSTEMS

F. FIRE ALARM SYSTEM (Documentation Required)

G. GENERATOR / ATS SWITCH (Documentation required see Appendix B for example)

H. BATTERY BACK UP EXIT/EMERGENCY LIGHTS AND CABINETS (Documentation Required)

I. BLEACHER INSPECTION (Documentation Required)

J. VALCOM SYSTEM

K. AUTOMATIC EXTERNAL DEFIBRILATORS

L. RATED DOOR ASSEMBLY INSPECTIONS
A. **FIRE EXTINGUISHERS**

1) Inspected and tagged annually by State certified company.

2) Inspected annually by college Fire Safety Inspector

3) Visually inspected and logged monthly by security personnel

B. **FIRE SUPPRESSION SYSTEMS**

(FM -200, Ansal and Sprinkler/Stand Pipes)

1) Sprinkler systems and wet/dry stand pipes inspected, tested and tagged quarterly by State certified company.

2) Inspected annually by college fire inspector.

3) Ansal and FM – 200 systems are inspected, tested and tagged semiannually by State certified company and annually by college Fire Inspector records are kept by District Supervisor of Maintenance

5) All suppression systems are visually inspected and logged monthly by maintenance personnel

6) Kitchen hoods shall be cleaned daily by kitchen personnel and pressure cleaned, degreased and tagged every 6 months by hood cleaning contractor per NFPA.

C. **FIRE PUMPS**

1) Inspected, tested and tagged annually by State certified company records are kept by District Supervisor of Maintenance

2) Inspected annually by college Fire Safety Inspector.

3) Visually inspected, logged and test run weekly by maintenance personnel.

D. **FIRE HYDRANTS, HOSES AND FIRE BACKFLOWS**

1) Fire hydrants and fire backflows are tested annually (backflows are tagged) by state certified company records are kept by District Supervisor of Maintenance

2) Fire hoses are inspected annually and pressure tested every five years by state certified contractor records are kept by District Supervisor of Maintenance
3) Inspected annually by college Fire Safety Inspector.

E. SECURITY SYSTEM

1) Checked weekly by Security or designated staff repaired as needed. Tested annually by District staff.

2) Check back-up batteries annually, replace every 2 years.

F. FIRE ALARM SYSTEMS

1) Tested and certified annually by certified fire alarm contractor and by college fire safety inspector records are kept by District Supervisor of Maintenance

2) Check back-up batteries annually, replace as needed by District staff

3) Fire curtains, smoke hatches and vertical/horizontal fire doors shall be tested annually with the building fire alarm certification by certified fire alarm Contractor records are kept by District Supervisor of Maintenance

G. GENERATOR / ATS SWITCHES

1) Tested, inspected, and logged monthly by campus maintenance personnel.

2) Complete generator maintenance done by a licensed generator company on quarterly and annual basis records are kept by Campus Facilities Manager

3) A T S switches operated weekly by time clock, inspected, logged and tested quarterly by generator company for proper operation

4) Load bank testing performed annually on our IT and ETC generator by generator company records are kept by Campus Facilities Manager

5) Generator fuel tank inspections are preformed monthly on A.S.T. tanks with a fuel storage capacity over 550 gallons by District Grounds Supervisor. Inspections cover secondary containment, tank exterior integrity and liquid accumulation removal if any occurs. A fuel tank inspection consultant performs annual inspection and certification of interstitial alarms. Palm Beach County department of Environmental Protection annually inspects fuel tanks exceeding 550-gallon capacity. records are kept by District Supervisor of Grounds

H. BATTERY BACK UP EXIT / EMERGENCY LIGHTS AND CABINETS

1) Inspected, tested, and logged monthly by campus maintenance personnel and
documented per NFPA records are kept by Campus Facilities Manager

2) Inspected annually by college Fire Safety Inspector

I. BLEACHER INSPECTION

1) Bleacher inspections on sports fields (fixed, mobile types) and Gymnasium are performed every two years by a structural engineering firm and all documentation shall be filed on each campus for review

J. VALCOM SYSTEM

1) Inspected and tested weekly by Security and reports are sent to the Telecom Senior Analyst

K. AUTOMATIC EXTERNAL DEFIBRILATORS

1) Inspected and tested monthly by Security

2) Batteries changed every 2 years or as needed by Security

L. RATED DOOR ASSEMBLY INSPECTIONS

1) Per NFPA 80 all rated door assemblies shall be inspected annually by the Fire Safety Inspector
IV) GENERAL BUILDING MAINTENANCE

A. ROOFS AND GUTTERS
B. PAINTING
C. CLOCKS
D. EXIT DEVICES AND DOOR HARDWARE
E. ELEVATORS AND CHAIR LIFTS
F. PRESSURE CLEANING
G. INTERIOR PEST CONTROL
H. WINDOW WASHING
I. BATTERY OPERATED EQUIPMENT
J. INTERIOR BUILDING CLEANING
K. AUTOMATIC DOORS
L. FOLDING PARTIONS AND WALL SYSTEMS
M. ELECTRIC GATES
N. OVERHEAD GARAGE BAY DOORS
O. FIRING RANGE

P. DYSON HAND DRYERS

A. ROOFS AND GUTTERS

1) Inspected twice a year (April and November) by campus maintenance personnel.

2) Campus maintenance staff inspecting roofs twice a year should check all of the following items:

   a) Check that there is no area of the roof where water is ponding
   b) Inspect all roof drains and roof sumps to assure that they are clear of debris and obstructions (including leaves and loose gravel) and that drain strainers are not damaged
   c) Remove all accumulated foreign objects and/or vegetation from roof area and gutters
   d) Check all metal flashings, expansion joints and gutters to assure they are tight and not showing signs of separation or rusting
   e) Walk entire roof area to check for blister, soft spots, missing gravel (on built-up systems) and split or loose felts
   f) Check all roof top equipment, including lightning protection systems and roof hatches, to verify that they are still properly anchored, not showing signs of rusting or wear and visually is in good condition
   g) Fill any depressed pitch pan with proper material and crown to assure moisture runoff
   h) Check all base flashing material at parapets to assure that flashing has not cracked or separated
   i) Check condition of any skylight(s) to assure that frame work, glazing and flashings are in good repair
   j) Check for signs of animals on the roofs
   k) Any signs of problems identified during this inspection should be discussed in detail with the Campus Facility Manager and arrangements need to be made to effect repairs as quickly as is possible.
   l) Facilities planning will hire qualified consultants to perform district wide conditional assessments of roofs. Generally this will occur every 10 years or less. Reports and information on needed and recommended repairs will be issued to all campus based Facility Managers at the conclusion of the assessment outlining special repairs required. Campus based Facilities
Managers will direct qualified staff or contractors to make these needed repairs

B. 1) PAINTING – INTERIOR
   a) Per schedule attached in Appendix C1
   b) The Campus Facility Managers should have close inspection performed annually (usually in May) of all corridor walls in all classroom and lab buildings to determine if walls need to be repainted before start of fall term.
   c) Low VOC interior painting products shall be used where applicable

2) EXTERIOR
   a) Per schedule attached in Appendix C2
   b) Building exterior shall be painted approximately every 10 years as needed on a rotating district schedule.
   c) Campus Facility Managers on site should notify the District Supervisor of Maintenance if exterior of building walls are in need of pressure cleaning or repainting
   d) All paint products used on the exterior of buildings must have a minimum of seven to ten year written warranty against product failure.
   e) Low VOC exterior painting products shall be used where possible

C. CLOCKS
   1) Checked twice a year during daylight savings time (March and November). Repair or replace as needed.
   2) Batteries replaced annually during November time change.

D. EXIT DEVICES AND DOOR HARDWARE
   1) Checked twice a year.
   2) Repaired or replaced as needed by District locksmith
   2) Lubricated annually or as needed.
   3) Pad locks shall be checked and lubricated twice a year

E. ELEVATORS AND CHAIRLIFTS
   1) Inspected daily by security personnel.
2) Elevator door tracks shall be inspected weekly and cleaned if necessary by campus maintenance staff.

3) Complete elevator maintenance done by licensed elevator contractor on monthly, quarterly, semi-annual and annual basis records are kept by Campus Facilities Manager.

4) Annually inspected and certified by elevator inspection contractor records are kept by District Supervisor of Maintenance.

F. PRESSURE CLEANING

1) Pressure cleaning performed by cleaning contractors within 50’ of the building annually.

2) Exterior stairways, steps and walkways should be inspected by Facilities Managers monthly and pressure cleaned by outside contractor or Facilities staff as needed.

G. INTERIOR PEST CONTROL

1) Interior spraying done on monthly basis by license contractor or as needed and will also perform special call backs as needed.

H. WINDOW CLEANING

1) Interior window cleaning performed by college or contracted custodial personnel based on the cleaning scheduled attached in Appendix D.

2) Exterior window cleaning shall be performed by licensed contractor twice a year.

3) The indoor theater windows at Dolly Hand and Eissey Theaters performed by licensed contractor once a year.

I. BATTERY OPERATED EQUIPMENT

1) Battery operated equipment such as flushometers, auto faucets, door alarms, thermostats and door combination locks shall be changed annually by campus and District staff in November during time change.

J. INTERIOR BUILDING CLEANING

1) Building interiors are cleaned daily (Mon - Sat) by college personnel and contracted custodial service per cleaning schedule attached in Appendix D.
2) Contracted day porter or college custodial staff shall perform campus cleaning on all campuses Mon - Sat

K. AUTOMATIC DOORS

1) Inspected daily for proper operation by security staff as they open buildings
2) Inspected quarterly by District locksmith for proper operation and repaired as needed

L. FOLDING PARTITIONS AND WALL SYSTEMS

1) Tracks shall be cleaned and fittings lubricated annually or as needed by campus maintenance staff
2) Folding partitions should be operated and checked for proper working condition annually

M. ELECTRIC GATES

1) Inspected and greased annually or as needed by campus maintenance staff.

N. OVERHEAD GARAGE BAY DOORS

1) Inspected and greased annually or as needed by campus maintenance staff.

O. FIRING RANGE

1) Inspect all mechanical equipment related to range quarterly by District staff
2) Inspect AC filters monthly by campus staff

P. DYSON HAND DRYERS

1) Inspect air flow annually
2) Test hand dryer operation weekly for normal operation by custodial staff
3) Cleaned daily by custodial staff
V) PLUMBING

A. BACK FLOW PREVENTORS

B. FIRE HYDRANTS

C. WATER HEATERS

D. TRAP CLEANINGS

E. VALVES

F. ELECTRIC WATER COOLERS

G. DISTILLING UNITS

H. GREASE TRAPS

I. CIRCULATING PUMPS

J. LIFT STATIONS

K. DILUTION TANKS

L. EYE WASH STATIONS AND SHOWERS

M. OIL/WATER SEPARATORS
N. **SANITARY LINES**

O. **CISTERNS**

P. **AUTOMATIC FLUSH VALVES AND AUTO FAUCETS**

A. **BACK FLOW PREVENTORS**

1) Potable water backflows are tested and certified annually, by college plumber in March of each year during the spring break closing and sent to each of the city municipalities records are kept by District Supervisor of Maintenance

2) Fire backflows are tested and certified by our Life/Safety contractor annually in December during the Christmas closing records are kept by District Supervisor of Maintenance

B. **FIRE HYDRANTS**

1) Flushed annually by district plumber

2) Tested and certified by our Life/Safety contractor annually in December during the holiday closing records are kept by District Supervisor of Maintenance

3) Quarterly inspected by campus staff per work order system

C. **WATER HEATERS**

1) Flushed and visually inspected annually by District Plumber

2) Relief valves should be tested twice a year by District Plumber

3) Drain pans should be checked annually for water leaks or dirt that could clog the pan.

4) Gas water heater water filters shall be cleaned monthly by campus staff.

D. **SEDIMENT TRAP CLEANING**

1) Inspected and cleaned twice a year or as needed by campus maintenance staff

E. **POTABLE WATER VALVES**
1) Inspect and exercise valves – annually by district staff

2) All old gate type valves shall be replaced with ball valves and these replacements shall be scheduled when the college is closed

F. ELECTRIC WATER COOLERS

1) Annually checked for proper operation, clean coils, filters and fan blades, check flow at bubbler by campus maintenance staff

G. DISTILLING UNITS

1) Inspected annually for proper operation, units are cleaned, de-scaled and elements are checked by campus maintenance staff

2) Units with filters should be changed annually or as needed by maintenance staff

H. GREASE TRAPS

1) Inspected quarterly by District, cleaned annually or sooner by contractor depending on use.

I. CIRCULATING PUMPS

Inspected twice a year for proper operation, lubricate monthly or as needed by maintenance staff

J. LIFT STATIONS

1) Inspected quarterly for proper operation by District Plumber and cleaned as needed by licensed contractor

2) Inspected annually by a certified lift station contractor

K. DILUTION TANKS

1) Inspected annually and regenerated as needed by District, if cleaning is required Work shall be performed by a licensed contractor

L. EYE WASH STATIONS AND SHOWERS

1) Visually inspected daily or as used by program personnel

2) Inspected annually for proper operation and flow patterns by campus maintenance
M. **OIL/WATER SEPERATORS**

1) Visually inspected twice a year by program personnel

2) Cleaned, vacuumed, pumped out and properly disposed of annually or as needed by certified contractor

N. **SANITARY LINES**

1) Shall be carefully unclogged to prevent the possibility of a hazardous leak or spill and personal protective equipment shall be worn at all times by both district and maintenance staff

2) Lines should have a camera inspection twice a year or as needed

O. **CISTERN S**

1) Floating filter in cistern needs to be cleaned annually by campus maintenance staff.

P. **AUTOMATIC FLUSH VALVES AND AUTO FAUCETS**

1) Batteries change annually in November at the time change
VI) GROUNDS

A. VEHICLE MAINTENANCE

B. TURF

C. WALKWAYS

D. PARKING LOTS

E. IRRIGATION

F. EXTERIOR PEST CONTROL

G. TREE TRIMMING

H. ORNAMENTAL CARE

I. FUEL STATION

J. GROUNDS INSPECTIONS

K. STORM SEWERS

L. RECYCLE BINS

M. GROUNDS EQUIPMENT
A. VEHICLE MAINTENANCE:

1) **INSPECTIONS**

   Fleet Services Concern Checklist When vehicles and equipment are in for service, each mechanic will go through a checklist. (See attached in Appendix E) If any defects are determined, they will make a notation of this. Repairs will be remedied. The form will be filled out and filed appropriately. Security staff inspects the Fleet cars for cleanliness and determine when to issue work orders for required service.

2) **More Comprehensive Inspection** of vehicles is performed during the automated P.M. generated work order. This includes safety equipment in vehicle, damage assessments, tire wear, all fluid check, headlamp, tail lamp, turn signal, warning flasher, drive axle service, chassis lubrication by District Mechanic.

3) **Fleet-oil and filter changes** At 5000 mile intervals this service is automatically generated by the work order system. Campus designee and district mechanic changes oil and filters.

4) **Tire Rotation** every 5,000 miles by District staff.

5) **Wiper Blade Replacement** every six months wiper blades are replaced by campus designee and district mechanic.

6) **Exhaust System Inspection** is performed twice a year to inspect for leaking or deteriorating parts. Replaced as needed by District staff.

7) **Brake System Inspection** At 15,000 mile intervals items inspected are disc brake pads for wear, rear brake drums, wheel cylinder, calipers brake linings, parking brake adjustment, check rotors for wear or gouging. Clean and repack wheel bearings by District staff.
8) **Drive Train Inspection**, check transmission fluid at 5000 mile service interval, or if any mechanical problems exist by district mechanic.

9) **Wheel Alignment** Wheel alignment of front wheels is out-sourced to a local wheel alignment facility when necessary by District staff.

10) **Transmission Service** At 30,000 miles or refer to manufacturers recommendation, drain, refill automatic transmission fluids, replace filter, and adjust bands by District staff. Major repairs are outsourced.

11) **Other Fleet Services** Criminal Justice vehicles are repaired as needed through college work order system by district mechanic. Student Services vehicles receive oil and filter changes every 5,000 miles (currently outsourced by athletic department). Vehicles are repaired as needed through college work order system by district mechanic. Facilities is working with Safety/Risk Department to have all college vehicles serviced under this umbrella of services.

12) **Mobile Fleet Services** Vehicles and equipment off the main campus are serviced and repaired by the District mobile fleet mechanic. Mechanic responds to emergency road repairs to vehicles and equipment.

13) **EMS/Fire Services** Vehicles receive maintenance for minor mechanical repairs through college work order system by district mechanic. Pumps and aerial equipment and other specialty equipment is outsourced for repairs.

14) **Safety Inspections** are performed by district mechanics during any maintenance to vehicles or equipment to assess any malfunctioning components. Inspectors will use a checklist designed within the guidelines of the equipment and vehicle manufacturer. The checklist will be filled out by the persons conducting the inspection and locked out if any components pass or fail. The inspectors have the responsibility to remove the failed equipment from the fleet and will then generate a work order to be sent and filed by the facilities auto mechanic. All safety repairs will be prioritized and completed in a timely manner. When these repairs are made the District mechanic will then test operate the equipment and return to the fleet if found safe to operate. D.O.T. inspection to dump truck will be completed by an authorized inspection company. Records of work orders are stored in the vehicle file at the district auto shop.

15) **Electric Utility Vehicle Periodic Service Schedule**: Pre-operation inspection shall be done daily by operator by checking tire inflation, visually inspect charge cord and plug for loose connections, ensure brakes function properly, check parking brake. Brake system is inspected and adjusted semi-annually by district mechanic. Battery water level is checked monthly including battery cleaning, cleaning battery terminals, and adjusting tire pressure, inspecting brake cables and wire connections. Steering and suspension components are inspected semi-annually by district mechanic.
B. TURF

1) Sports Turf is mowed weekly by campus staff. Verticutted once a year by campus staff. Aerified twice a year by campus staff.

2) Sports Fields fertilized eight times a year by campus staff.

3) Pre-emergent Herbicides are applied twice a year by campus staff.

4) Insecticide Spraying of Sports Turf is sprayed on a needed basis by campus staff.

5) Selective Herbicide Treatment weeds are sprayed on Bermuda turf grass as needed using specialized equipment by campus staff.

6) Baseball & Softball Clay Infields are dragged and raked daily by campus staff.

7) Clay and Turf Edging is performed eight times a year by campus staff.

8) Turf Replacement around baseball infield is replaced as needed due to wear and tear by an outside contractor.

9) Turf Striping is striped on soccer, baseball and softball fields as needed by campus staff.

6) Turf Mowing is performed weekly during growing season. During winter season, some areas are mowed at 2-week intervals, by campus staff.

7) Common Area Turf Fertilization is fertilized 5-6 times per year by Campus staff.

8) Common Area Turf Pest Control insecticides are sprayed or granular insecticide is applied 5-6 times per year by licensed campus staff.

9) Pre-emergent Herbicide Treatment, granular herbicides are applied twice a year by licensed campus staff.

10) Selective Herbicide Treatment, spray able herbicides are applied as needed basis by licensed campus staff.

11) Turf Replacement generally occurs after a building or courtyard is re-constructed, new sidewalk installed, flooding of low-lying areas, or pest damage. Turf is replaced by campus staff.
C.  WALKWAYS

1) Trimmed and edged on a routine basis.

2) Sidewalks are blown off after every mowing.

3) Sidewalks Expansion Control Joints are inspected monthly for slip and trip hazards by campus facilities staff.

4) Sidewalk Repairs and Replacement are generally performed by an outside contractor.

5) Pressure Cleaned on an as needed basis by custodial vendor and campus staff.

D.  PARKING LOTS

1) Trash and Debris is removed daily, trashcans are emptied daily by campus staff.

2) Parking Bumpers shall be inspected by campus staff annually and replaced by an outside contractor or by college staff as needed.

3) Striping of parking lanes shall be inspected by campus staff annually, re-striping is performed by campus staff or an outside contractor.

4) Catch Basins are cleaned of debris after every rain event to prevent grate clogging.

5) Vacuuming Parking Lots throughout the year are vacuumed as needed by campus and district staff.

6) Resurfacing of Pavement is performed by outside vendor on a as needed basis.

7) Pot Holes and Patching is performed during a major construction project by outside vendor. Campus grounds staff repairs small potholes.

8) Traffic Signs are replaced on a needed basis with DOT approved signs.

9) Road Striping shall be inspected annually by campus grounds staff, re-striping shall be performed by outside contractor or college staff as needed.

10) Speed Humps are inspected annually and painted as needed.

11) Pervious Pavement shall be inspected monthly for loose debris impediments by
campus grounds staff. Pressure washing may be employed prior to sweeping to loosen debris. Vacuum or sweep to keep the surface free of debris as needed. Inspect pavement surface for deterioration or spalling annually by campus grounds staff.

E. IRRIGATION

1) **Mainline Pipe Breaks** are repaired by District irrigation Mechanics around the district as needed.

2) **Sprinkler Heads** are tested each week by campus and district staff for clogged nozzles or broken pop ups and rotation if they are rotor heads.

3) **Irrigation Valve Operations** are inspected each week by campus and district staff. Work orders are generated for valve solenoid replacement, filter and screen cleaning or replacement of inoperable valve assemblies.

4) **Pump Stations** around the district are inspected weekly for proper operation. This entails filter cleaning, pressure checks, and electro-mechanical inspection for malfunctions by District irrigation mechanics. Irrigation Variable frequency drives have their filters changed monthly by campus lead ground workers.

5) **Turbine Pumps** are lubricated bi-annually, all operations checked and logged by District irrigation mechanic.

6) **Centrifugal Pumps** are inspected weekly for proper operation and shall be lubricated as needed. The water pressure check shall be evaluated and logged by District irrigation mechanic.

7) **Submersible Pumps** shall be inspected for proper operation, water pressures shall be tested monthly by irrigation mechanics. Adjustments shall be made as needed per manufacturer specifications Air bladder tanks pressure is inspected quarterly by District irrigation mechanics.

8) **Anti-Rust Treatment** – pumps are inspected weekly for proper operation, rust preventative product levels in barrels is checked weekly by campus lead grounds worker. Vendors on two sites (Gardens, Boca) fill rust treatment product.

9) **Liquid Fertilizer Tanks** - Tanks and pumps are inspected monthly by campus lead grounds staff.

10) **Irrigation Time Clocks/VFD’s** – Shall be checked internally once a month for ants or other insects and treated as needed by campus lead grounds staff.

F. EXTERIOR PEST CONTROL
1) **Exterior Pest Control** is performed by state licensed staff at each campus.

2) **Lake Weed Control** is performed monthly by a licensed aquatic spraying contractor.

3) **Pre-emergent Weed Control** is performed and products are applied twice annually, spring and fall months by lead grounds worker.

4) **Flower and Ornamental Beds** are sprayed as needed by lead grounds worker.

5) **Insecticides** are applied by lead grounds worker as needed using I.P.M. (integrated pest management).

6) **Disease Control** products are applied as needed by lead grounds worker.

7) **Fire Ant Control** is performed as needed by campus grounds staff.

8) **Wasp and Hornet Control** is performed as needed by campus grounds staff.

9) **Termite Prevention** the Historical Bldg is under an annual contract to prevent reinfestation of dry wood and subterranean termites. Contract certifies that contractors are licensed with the state.

G. **TREE TRIMMING**

1) **Tree Trimming Deciduous Trees**
   Trees are pruned once a year by campus grounds staff. Major tree work is contracted out to a certified tree company as needed, preferably between January and June.

2) **Palm Tree Pruning** is performed on an as needed basis to remove fruit or dying palm fronds usually twice a year by campus grounds staff.

3) **Tree Installation** is performed by a licensed tree company on an as needed basis. Some small palms are installed by campus grounds staff on an as needed basis.

4) **Tree Take Downs** large trees are out sourced to a licensed tree professional. Campus grounds staff may remove small trees as needed.

H. **ORNAMENTAL CARE**

1) **Ornamentals** are planted and maintained by college employees on a routine basis. Plants are replaced as needed basis. Plants are cared for on a monthly basis through pruning or shaping by campus grounds staff.
2) **Annual Flowers** are planted and maintained by campus grounds staff seasonally. Not all campuses plant these.

3) **Pruning Ornamentals** at a minimum interval of six weeks hedges and ornamentals are pruned and detailed to precise specifications by campus grounds staff.

4) **Ornamental Fertilization** Plants are fertilized quarterly with formulated fertilizers by campus grounds staff.

5) **Ornamental Pest Control** Ornamentals are inspected and treated on a needed basis by a licensed pesticide applicator. (Lead groundskeeper)

I. **FUEL STATION**

1) **Pump** Fuel Island terminal and attached pump are inspected each month and logged into a Fuel station log manual. Inside of pump is inspected for fuel leaks and any other abnormalities. Belts are checked for any wear. Fuel dispensing hoses are checked for wear. Dispensing nozzle is inspected for leaks and trigger wear. Under pump fuel containment box is inspected for fuel spills and logged if any is present.

   **Fuel Tanks** Tanks are inspected quarterly for paint defects. Tanks are inspected weekly for fuel leaks. Over-Flow spill containment bucket is inspected during each tanks re-fueling for abnormalities. Interstitial area between double walled steel tanks is inspected for leaks quarterly. Underground interstitial fuel piping is inspected monthly for residual fuels, water, or leaks.

J. **GROUNDS ASSESMENTS** (See attached in Appendix F)

1) Conducted annually by lead worker and a designee

2) Assessment reports are developed by Campus Facilities Manager or designee

3) Director of Facilities, District Grounds Supervisor and Campus Facilities Managers meet with grounds staff and discuss the campus assessment reports.

K. **STORM SEWERS**

1) Storm grates are cleaned prior to major storm events by campus grounds staff.

2) Storm basins are inspected for debris routinely by leads ground worker.
3) Storm sewer pipe should be inspected with cameras as needed.

L. RECYCLE CONTAINERS

1) 95 gallon wheeled containers are washed and sanitized with water hose or pressure washer monthly.

2) Containers should be inspected weekly for defects in components.

3) Containers and lids are cleaned as needed

M. GROUNDS EQUIPMENT

1) Mowers: Refer to manufacturer Service Interval chart in all equipment operators manual for frequency of general service. Engine oil and oil filter changes range from 100 to 200 hour interval. Hydraulic fluids and filter change intervals range from 200 to 500 hours of operation. Lubrication of cutting decks should be performed daily after cleaning. All fluid check prior to operation. Serviced by campus grounds staff

2) Tractors: Refer to manufacturer Service Interval chart in all equipment operators manual for frequency of general service. Engine oil and filter changes range from 250 to 500 hours of operation. Hydraulic fluids and filter change intervals range from 500 to 1000 hours of operation. Lubrication intervals variable from 25 hours to 50 hours of operation. Refer to operators manual. All fluid check prior to operation. Serviced by District Vehicle Mechanics.

3) String Trimmers, Hedge Trimmers, Grass Edger’s: Clean after each use, change fuel filters seasonally, change air filter seasonally. Serviced by campus grounds staff

4) Aerial Lift Equipment: Refer to manufacturer Operation and Safety Manual for service interval specifications with oil, air, fuel conditions. Engine oil and oil filter changes range from 150 hours to 500 hours. Change in accordance with engine
service manual. Hydraulic fluid service interval range from 24 months to 1200 hours. Hydraulic filters service interval range from 300 to 500 hours or as indicated by equipment visual condition indicator. Lubrication intervals vary from 150 hours to 1200 hours refer to general specifications in all operator maintenance manuals. All fluid check prior to operation. Serviced by District Vehicle Mechanics or certified vendor.

5) Forklift: Refer to manufacturer maintenance manual for service interval specifications with oil air and fuel conditions. Engine oil and filter change is at 300 hour intervals. Hydraulic fluid service interval change fluid at 2000 hour. Change hydraulic filter range from 1500 to 2000 hours. Transmission fluid service interval change fluid at 2000 hours. Transmission filter service interval change filter at 2000 hours. Lubrication of fittings service interval at 1000 hours. Lubrication of fork mast and carriage service interval at 250 hours. All fluid check prior to operation. Serviced by District Vehicle Mechanics or certified vendor.

N. **GOLF CARTS**

1) Safety inspection (lights, brakes, operation) –Twice Annually by District Mechanic

O. **FOUNTAINS/PONDS**

1) Fountains shall be inspected weekly to check the chemicals, brush the pebble tech, clean out any debris and check for proper operation. Skimmer baskets and filters shall be cleaned monthly.

2) Floating fountains shall be inspected and cleaned annually (twice a year at Belle Glade). Lighting shall also be check at this time and any bad bulbs should be replaced in the Fountains by District Irrigation Mechanic.

3) Pond skimmer basket and filters shall be cleaned monthly, UV lights in filters and pumps shall be inspected monthly.

P. **EXTERIOR FURNITURE**

1) Tables shall be inspected at least once a year during the annual grounds inspections. Cleaning shall occur as needed by custodial staff.
2) Benches shall be inspected at least once a year during the annual grounds inspections. Cleaning shall occur as needed by custodial staff.

3) Trash Receptacles shall be inspected at least once a year during the annual grounds inspections. Cleaning shall occur monthly by custodial staff.

4) Ash Urns shall be cleaned weekly by campus staff. New media product shall be added as needed. Inspections shall occur during the annual grounds inspections.

5) Umbrellas shall be inspected at each use for defects. Cleaning shall occur as needed.

**APPENDIX**

**APPENDIX A** - Central Campus Chiller Log

**APPENDIX B** – Generator Log

**APPENDIX C 1** – Interior Painting Schedule

**APPENDIX C 2** - Exterior Painting Schedule

**APPENDIX D** – Building Interior Cleaning Schedule

**APPENDIX E** – Fleet Service Concern Checklist
APPENDIX F - Annual Grounds Condition Assessment