

## Preventative Maintenance Guidelines

### 1. INTRODUCTION

All buildings weaken and deteriorate in time unless they are properly maintained. The maintenance of Archdiocesan buildings, therefore, is a priority that requires constant attention.

Building maintenance may be neglected for a variety of reasons:

- a. The staff is too busy with other matters;
- b. The parish “cannot afford expensive maintenance”;
- c. The parish buildings are fairly new and do not require inspection.

This type of neglect can sometimes lead to major problems and major expense, especially with church buildings. The best and most cost effective solution is to have a stable program for constant and consistent maintenance of all Archdiocesan buildings.

### 2. MAINTENANCE OF FACILITIES

Every church, parish, mission, and chapel should establish a Maintenance Committee. The Committee members should consist of parishioners who possess construction or engineering and/or architectural knowledge and experience.

This committee should compile all building plans from the Architect or City/Town Hall ‘As-built’ drawings, have access to all technical manuals and service contracts, etc., and store all documents in a safe and easily accessible location. The committee should also become familiar with the location of all key maintenance equipment in the parish buildings.

An organized preventative maintenance (PM) system and effective communication are both critical to proper facility maintenance. Communication between the Maintenance Committee and the maintenance personnel, secretary, parishioners and contractors is absolutely imperative. The observed problems should be immediately addressed (i.e. repaired or replaced). Facility maintenance is time sensitive and must be approached aggressively by professionals, tradesmen, maintenance personnel and qualified volunteers.

The Maintenance Committee Chairperson must communicate and inform the pastor or administrator of the committee’s findings, including cost of maintenance issues, and obtain the Pastor’s approval prior to further action. For repair/replacement costs in excess of \$15,000, please refer to the policy for requests to the College of Consultors.

Prioritizing the PM procedure may be required if there is a shortage of maintenance staff or a lack of funds. In these cases the task that poses the least threat to life safety can be deferred. It is recommended that the PM tasks be done in the following order:

- a. Life Safety: Items that, if not addressed immediately, potentially threaten the lives of the parishioners or the public;
- b. Regulatory Requirements: Items that are not in compliance with the Building Code or other regulations (note items that are 'grandfathered');
- c. Equipment Life Cycle: Items that require routine life cycle maintenance, such as mechanical system, roofing, alarm system security, lights, etc.;
- d. Building Maintenance: Items such as painting, caulking, cleaning, etc.;
- e. Long-term maintenance items.

- i. Asbestos

Asbestos has been found in many products around buildings built prior to 1980. It has been used in shingles and felt for roofing, exterior siding, pipe and boiler coverings, compounds and cements, such as caulking, putty, roof patching, internal cement in the furnace, wall boards, textured ceilings, acoustical ceiling tiles, plaster, and vinyl floor tiles.

Asbestos poses health risks only when the fibres are in the air that people breathe. Asbestos poses health risks only when the fibres are in the air. When people breathe in the fibres, they will lodge in their lungs, causing scarring that can ultimately lead to severely impaired lung function (asbestosis) and cancer of the lungs.

If it is suspected asbestos may be present in a building, an environmental consultant should be brought in to look into the matter. If asbestos is found, and there are immediate health concerns, the Pastor should authorize the consultant to draw up specifications, and invite qualified restoration environmental contractors to bid on the removal of the hazardous material.

- ii. PCB in Fluorescent Light Ballasts

All fluorescent lamps manufactured prior to 1978 contained PCB (polychlorinated biphenyls) in their ballasts. PCB ballasts were available until 1980. As they age, these ballasts become more likely to leak or drip.

The common health effect of PCB contacting the skin are skin conditions such as acne and rashes, liver effects and damage, impaired reproduction, affected motor skills and cancer.

It is recommended that parishes and schools hire a professional electrician to check their ballasts and replace them if PCBs are found in them.

General and PM cannot be done by permanent parish maintenance personnel alone. Some items should be/must be taken care of by certified professionals who are familiar with that particular trade, such as elevators, HVAC equipment, boilers, electrical, etc.

### **3. PREVENTATIVE MAINTENANCE AUDIT AND ESTIMATED COST**

Preventive Maintenance utilizes a planned and controlled program of periodic testing, inspection and replacement of components to prevent potential failures from occurring, and to permanently preserve the building or equipment. Preventive Maintenance activities are performed at regular intervals (i.e. daily, weekly, monthly, semi-annually, annually, two years, five years, etc.) to prevent unnecessary expenditures and to extend the life of each element.

In order to establish an annual maintenance budget, it is essential to develop a facility audit system. The facility audit is a system for thoroughly assessing the existing physical conditions and performance of the buildings, grounds, equipment, and so on. It is necessary to predict the frequency, scope and cost of the maintenance work to be performed during the year.

Auditing the facility is absolutely essential if the churches are to develop a PM Program. The audit procedures and forms shown here are for the purpose of identifying the condition of the building(s) and equipment, and assessing the cost and priority of their repair or replacement. This guideline provides examples of some items; it is up to the Maintenance Committee to develop its own complete maintenance audit list and costs.

In summary, the maintenance audit will result in the parish having the following information:

- a. List of items to be inspected;
- b. Frequency with which inspections should be carried out;
- c. Cost of the repair(s) or replacement;
- d. Proposed date of the repair(s) or replacement.

Other items such as plumbing, electrical, fire alarm systems, sprinkler system, etc., should be audited by a professional tradesman or company; these have not been listed in the example for the sake of brevity.

From the information provided, a work schedule can be developed, and the maintenance cost can be included in the annual budget.

You will see on the following page a sample format for a maintenance audit, as well as cost and frequency of maintenance items:

Sample - Property Management Audit and Estimated Cost							
Church:	ABC Parish			Report Date:			
Facility:	Rectory						
Description of Work	Inspection Frequency (Years)	Inspection Date	Inspected by	Quantity	Estimated Cost	Proposed Replacement or Repair Date	Comments
<b>CONCRETE SLAB on GRADE</b>							
Replace unfinished concrete floor	40	10-Sep-17	P.Eng.	10,000 sf			Slab is cracked in multiple locations
<b>METAL HAND RAIL</b>							
Sand off rust and repaint	10	10-Sep-17	Audit Team	40 ft			Scaling and rusting
<b>WINDOWS</b>							
Recaulking windows	15	10-Sep-17	Audit Team	12 windows			Water entering between wall and window
Remove and replace all windows	40	10-Sep-17	Mtnce Cmtee	12 windows			Humidity between window panes
<b>ROOF</b>							
Remove debris from around drains	0.5	10-Sep-17	Mtnce Cmtee	13,000 sf			To be done in spring and fall
Tar & gravel roof inspection	5	10-Sep-17	Bldg. Env. Insp.	18,000 sf			Roof has 5 years of life
<b>PAINTING INTERIOR &amp; EXTERIOR</b>							
Interior Painting	10	10-Sep-17	Mtnce Cmtee	4,000 sf			Paint has peeled off
Exterior Painting	10	10-Sep-17	Mtnce Cmtee	1,500 sf			Weathered badly
<b>BRICK AND STONE MASONRY</b>							
Clean wall moss, algae & mildew	5	10-Sep-17	Mtnce Cmtee				Wash with bleach/water
Fill all cracks w/ appropriate mortar	5	10-Sep-17	Mtnce Cmtee				Lime mortar and grout
Remove vegetation from wall	5	10-Sep-17	Audit Team				Treat and remove
<b>MECHANICAL</b>							
Quarterly Service	0.25	10-Sep-17					Items as per the contract
Replace all filters							
Inspection operational & Safety controls							
Lubricate all equipment							
Annual service	1	10-Sep-17	Contractor				Items as per the contract
Testing of operating & Safety controls							
Fire alarm test	1	10-Sep-17	Contractor				Items as per the contract
<b>ELECTRICAL</b>							
Thermographic scans of equipment and panels							
Maintenance of Hydro Vault							
Replace loose electrical sockets							

#### **4. BUDGETING AND FUNDING**

The scope of a maintenance plan depends on the predetermined budgetary allotments. Maintaining facilities will minimize safety hazards and sustain the life of the structure and equipment. Facilities have been known to crumble due to a lack of budgetary allocation and inattentive maintenance.

A Maintenance Budget is derived from auditing of the facility. The facility audit is a system that thoroughly assesses the existing physical condition and performance of the buildings, grounds, utilities and equipment. The audit will determine the major and minor, urgent or long-term needs that require corrective action and, hence, will determine the need for short-term and/or long-term financial planning.

For example, the item “Remove and replace all windows”. The estimated cost by a contractor was \$45,000 in 2017. The roofing inspector advised that the windows should be replaced in 2020 (three years from the inspection date).

Using the assumption that the inflation index is 2.5 percent per annum, the cost of replacing the roof would be \$45,000 times 1.075 (the 1.075 being the simple formula of one plus the number of years times the inflation rate) which equals \$48,375. Dividing this amount by the number of years when the work is to be performed, which is 3 in this case, equals \$16,125. Hence the parish must raise \$16,125 for the next three years in order to meet the budget to replace the windows.

Similarly, the building maintenance budget for other items, as listed in the sample Audit Report, is calculated.

Other costs such as maintenance of the heating system, the future painting of the interior and exterior walls, and replacement of the flooring system, and so on, should also be included in the budget. All of these items should be found in the maintenance audit of estimated costs of the audited items.

Sample - Maintenance Budget							
Church:	ABC Parish						
Facility:	Rectory						
Description of Work	Estimated Cost in 2017	Proposed Years Repair or Replace	Budget in 2018	Budget in 2019	Budget in 2020	Budget in 2021	Comments
<b>CONCRETE SLAB on GRADE</b>							
Replace unfinished concrete floor							
<b>METAL HAND RAIL</b>							
Sand off rust and repaint							
<b>WINDOWS</b>							
Recaulking windows							
Remove and replace all windows	\$ 45,000	3			\$ 48,375		
<b>ROOF</b>							
Remove debris from around drains							
Tar & gravel roof inspection	\$ 125,000	4			\$ 137,500		
<b>PAINTING INTERIOR &amp; EXTERIOR</b>							
Interior Painting							
Exterior Painting							
<b>BRICK AND STONE MASONRY</b>							
Clean wall moss, algae & mildew							
Fill all cracks w/ appropriate mortar							
Remove vegetation from wall							
<b>MECHANICAL</b>							
Quarterly Service							
Replace all filters							
Inspection operational & Safety controls							
Lubricate all equipment							
Annual service							
Testing of operating & Safety controls							
Fire alarm test							
<b>ELECTRICAL</b>							
Thermographic scans of equipment and panels							
Maintenance of Hydro Vault							
Replace loose electrical sockets							

## 5. MAINTENANCE CHECKLIST

All parishes should establish a Maintenance Checklist to ensure all components of the buildings and site are audited. An example of a checklist is shown below.

Maintenance Checklist					
<b>COMMUNICATION &amp; SECURITY</b>		<b>ELECTRICAL SYSTEM</b>		<b>EQUIPMENT &amp; CONVEYING SYSTEM</b>	
Telephone system	PA System	Distribution system	Lighting controls	Gas system	Refrigerator
Master clock system	Security System	Transformer	Fluorescent lights	Kitchen range	Elevator
TV cables	Annunciation panel	Emergency lights	Exterior lights	Dishwasher	Elevating devices
Network cables		Electric motors	Exit signs	Hood fans	
		Light switches			
<b>EXTERIOR CLOSURES</b>		<b>EXTERIOR &amp; INTERIOR DOORS</b>		<b>EXTERIOR WINDOWS</b>	
Concrete block wall	Louvers	Aluminium, steel or	Weather-stripping	Steel frame	Glass blocks
Clay brick walls	Recaulking	wood doors	Door closures	Aluminum frame	Aluminium shutters
Masonry stone walls		Bi-fold doors	Deal bolts	Wood frame	Window screens
Aluminum siding		Roll-up doors	Gates	Storm windows	Window thermal glass
Vinyl siding		Garage doors	Hinges, locksets		
		Metal & wrought iron			
		gates			
<b>FINISHES</b>		<b>FIRE PROTECTION SYSTEM</b>		<b>FLOOR FINISHES</b>	
Wall coverings	Plywood panels	Alarm system	Sprinkler system	Concrete floors	Hardwood floors
Acoustic tiles	Kitchen cupboards	Smoke, heat &	Hose cabinets	Epoxy floors	Terrazzo floors
Drywall	Stainless steel	CO <sup>2</sup> detectors	Kitchen suppression	Vinyl sheet & tile	Carpet
Ceramic tiles			system	Marble floors	
<b>FOUNDATIONS &amp; SUPERSTRUCTURES</b>		<b>HVAC - HEATING &amp; COOLING</b>		<b>INTERIOR CONSTRUCTION</b>	
Slab on grade	Balustrade	Boilers	Control & radiator	Concrete block	Toilet partitions
Concrete stairs	Steel decking	Ventilation system	valves	Curtain walls	Interior stairs
Wood stairs	Metal grating	Electrical heating	Circulation pumps	Plaster or gypsum	Stair nosing
Railings	Timbre beams	A/C system	Expansion tanks	board	Railings
Stone Foundation		Exhaust fan	Heat Exchangers	Demountable	
		Ducts and chimneys	Pipe insulation	partitions	
		Gas piping & fittings	Heat pump		
			Residential furnace		
<b>LANDSCAPING</b>		<b>PLUMBING</b>		<b>ROOFING</b>	
Watering plants	Sidewalks	Water closets &	Emergency shower	Built-up roofing	Asphalt shingles
Lawn mowing	Driveways	urinals	Emergency eye wash	Modified bituminous	Cedar shingles
Weeding	Parking lots	Lavatories	Water valves	membrane	Attic ventilation
Automatic watering		Bathubs	Pipe insulation	Metal roof	Skylights
systems		Showers	Water meter	Tile roof	
		Drinking fountain	Hose bibs		
		Water heater			
<b>SANITARY / STORM SYSTEMS</b>					
Pipes & fittings	Gutters				
Storm drainage	Roof drains				
Cleanouts	Eaves trough				
	Sump pump				