

CF OPERATING PROCEDURE
NO. 70-15

STATE OF FLORIDA
DEPARTMENT OF
CHILDREN AND FAMILIES
TALLAHASSEE, March 23, 2010

Facilities Acquisition and Management

HOUSEKEEPING

This operating procedure establishes uniform policies and procedures for cleanliness and sanitation within the Department of Children and Families' residential and non-residential facilities. The operating procedure will be used for good job planning and scheduling using modern tools and capable staff.

BY DIRECTION OF THE SECRETARY:

(Signed original copy on file)

BARBARA PALMER
Assistant Secretary for
Administration

SUMMARY OF REVISED, DELETED, OR ADDED MATERIAL

Paragraph 2-1a has been revised to clarify the procedure for reporting a work-related injury.

The operating procedure supersedes CFOP 70-15 dated December 1, 2008.

OPR: ASG

DISTRIBUTION: X: OSES; OSLS; ASGO; Regional Directors; Region/Circuit Mental Health Treatment Facilities.

CONTENTS

	Paragraph	Page
Chapter 1 – GENERAL		
Purpose and Scope	1-1	1
Authority	1-2	1
Duties and Responsibilities	1-3	1
Training	1-4	1
Chapter 2 – SAFETY		
Safety Program Objective	2-1	1
What To Do in Case of Fire	2-2	2
What To Do in Case of Flood Water in Building	2-3	2
Chapter 3 – WORK METHODS AND EQUIPMENT		
Duties of a Custodian in the Building Services Section	3-1	3
Carpet Vacuuming	3-2	3
Dust Mopping Floors	3-3	4
Mopping Floors	3-4	4
Scrubbing Floors	3-5	5
Spray Buffing	3-6	6
Stripping Floors	3-7	7
Waxing or Refinishing Floors	3-8	8
Trash and Refuse Removal from Offices	3-9	9
Wall and Ceiling Washing	3-10	9
General Cleaning	3-11	10
Cleaning EDP (Electronic Data Processing) Areas with Raised Floors	3-12	11
Cleaning Elevators	3-13	12
Cleaning Auditoriums	3-14	12
Cleaning Classrooms - Daily	3-15	13
Cleaning Entrances, Lobbies, and Halls	3-16	13
Cleaning Showers	3-17	14
Cleaning Stairs - Daily	3-18	14
Cleaning Library Stacks	3-19	15
Cleaning Locker Rooms - Daily	3-20	15
Cleaning Restrooms	3-21	15
Cleaning Medical Areas (First Aid)	3-22	17
Cleaning Offices, Lounges, Conference Rooms, Libraries, Reading Rooms, Practice Rooms, Carrels, Display Rooms, Studios, and Work Rooms	3-23	17
Cleaning Entrances, Lobbies, Halls and Other Public Areas	3-24	18
Cleaning Storage and Mechanical Equipment Areas	3-25	19
Daily Housekeeping Duties in Secured Areas	3-26	19
Chapter 4 – SANITATION		
Sanitation Tools, Equipment, and Supplies	4-1	20
Corn Brooms (Straw Brooms)	4-2	20
Hand Sprayers	4-3	20
Spray Bottles	4-4	20
Pump-Up Sprayer	4-5	20
Wet Mops	4-6	21
Mop Wringers	4-7	21
Mop Buckets	4-8	22
Toothbrush	4-9	22
Toilet Brushes	4-10	22

CONTENTS

	Paragraph	Page
Toilet Cleaning Kits	4-11	23
Force Cup (Plumber's Friend)	4-12	23
Snake (Plumber's Auger)	4-13	23
Hand Mirror	4-14	23
Sponges, Cellulose	4-15	23
Floor Squeegee.....	4-16	23
Chamois.....	4-17	23
Garbage Cans.....	4-18	24
Measuring Cup.....	4-19	24
Door Wedges	4-20	24
Mop Rack.....	4-21	24
Sanitation Supplies	4-22	24
Commodes.....	4-23	25
Lavatories	4-24	26
Soap Dispensers.....	4-25	26
Towel Dispensers.....	4-26	26
Toilet Tissue Dispensers	4-27	26
Wall Mirrors.....	4-28	27
Surface Finishes in Sanitation	4-29	27
Sanitizing Methods.....	4-30	28
Critical Areas.....	4-31	29
Locker Rooms.....	4-32	29
Shower Rooms.....	4-33	30
Toilet Facilities	4-34	30
Waste Disposal Area.....	4-35	30
Grease Traps	4-36	31
Empty Milk Containers	4-37	31
Sweeping	4-38	31
 Chapter 5 – CLEANING AGENTS		
Commonly Used Cleaning Agents.....	5-1	32
Water	5-2	33
Soap	5-3	33
Useful Terms When Discussing Soaps and Detergents	5-4	33
Hand Soaps	5-5	33
Synthetic Detergents.....	5-6	34
Other Cleaners.....	5-7	35
Ammonia.....	5-8	36
Toilet Bowl Cleaner	5-9	36
Germicidal Detergents.....	5-10	36
Spot and Stain Removal Supplies	5-11	37
Stain Removal Techniques.....	5-12	37
 Chapter 6 – TIME TABLE FOR CLEANING		
Average Time for Various Cleaning Operations.....	6-1	39
Suggested Estimates of Cleaning Time for Various Operations	6-2	39

CONTENTS

	Paragraph	Page
Chapter 7 – ORGANIZING THE MAINTENANCE STAFF		
How to Get Started.....	7-1	42
Determine Work Zones	7-2	43
How to Assign Work.....	7-3	43
How to Supervise the Work Done.....	7-4	43

Chapter 1

GENERAL

1-1. Purpose and Scope. This operating procedure establishes uniform policies and procedures for cleanliness and sanitation within the Department's residential and nonresidential facilities. The operating procedure will be used for good job planning and scheduling using modern tools and capable staff.

1-2. Authority. All facets of the housekeeping operation in the Department's facilities such as organization, cleaning, safety, manpower allotment, sanitation, housekeeping tools, equipment and supplies are covered by sections of this manual. Some aspects are governed by state and federal regulating agencies in addition to the Department's office of general services. Other sources of authority with respect to the Department's facilities are as follows:

- a. Section 20.19, Florida Statutes (F.S.).
- b. Chapter 394, F.S.
- c. Section 395.1055, F.S.
- d. Joint Commission on Accreditation of Healthcare Organizations.

1-3. Duties and Responsibilities.

a. Headquarters General Services (ASG). The office of headquarters general services has the responsibility to develop, review, and implement policies and procedures relative to the housekeeping operation within the Department. Headquarters general services serves as a liaison between circuit/regions, institutions and facilities. Further, general services will conduct training sessions and provide technical assistance to housekeeping personnel.

b. General Services Managers. Circuit/region general services managers have responsibility through the circuit/region facility managers and facility superintendents for housekeeping services within the circuit/regions.

1-4. Training. Employees will be required, when directed, to attend quality or Department training sessions. When these classes do not occur during the employee shift, compensatory time-off will be granted. Attendance for all classes concerning safety is mandatory. All other classes are up to the supervisor.

Chapter 2

SAFETY

2-1. Safety Program Objective. A safe and healthy place to work is the objective of every safety program. Each of us must help prevent accidents by advising our supervisor of unsafe conditions. Safety rules are for your protection and for the protection of your fellow employees. In general, the following instructions should be followed:

a. If you are injured on the job, report immediately to your supervisor. You and your supervisor must report the injury to the worker's compensation medical provider. If your supervisor is not readily available, you should contact a higher level supervisor or manager. In the event of a medical

emergency, immediately contact 911 and then have your supervisor call the worker's compensation medical provider as soon as possible.

b. Fire alarms, fire extinguishers, fire hose cabinets, and safety showers are plainly marked and must be kept free of obstruction for emergency use.

c. Do not smoke unless signs exist designating a smoking area.

d. The use of intoxicants or being under the influence of intoxicants while on the job is prohibited.

e. Horseplay and practical joking while on the job are prohibited.

f. Machines must not be operated if any part of the machine, service cord, or plug is defective. All guards must be in place.

g. The containers for solvents, acids, and waxes must be kept closed.

h. Wear protective devices and use safety equipment whenever indicated.

i. Never use a ladder that is in need of repair. Report all equipment in need of repair to your supervisor. Never stand on the top step of a ladder.

j. Before emptying ashtrays, check to make sure all butts are extinguished.

k. Used, oily, or waxy rags should never be left piled on the floor or on shelves in storerooms or closets. Keep them in covered metal cans or hang them loosely to air.

l. Employees will be required to wear suitable, sturdy, hard soled footwear, not to include: sandals, flip flops, footies, bedroom slippers or "slides".

2-2. What To Do In Case of Fire.

a. Turn in the alarm.

b. Alert others without causing panic.

c. Use available fire fighting equipment.

d. Follow fire evacuation procedures.

e. Keep out of the way when professional firefighters arrive.

2-3. What To Do In Case of Flood Water in Building.

a. If you see water in your building that should not be there, determine the source and amount.

b. If you can correct the situation and clean up the area without a plumber or other outside help, do so.

c. If you need a plumber, call the maintenance department and report the problem.

d. Make every effort to keep the water from getting to carpeted areas.

e. If necessary, notify your supervisor and seek extra help from your co-workers in the building.

Chapter 3

WORK METHODS AND EQUIPMENT

3-1. Duties of a Custodian in the Building Services Section. General responsibilities include:

a. The custodian is responsible for the routine cleaning of offices, classrooms, gymnasiums, shower rooms, laboratories, restrooms, conference rooms, seminar rooms, stock rooms, dark rooms, lounges, kitchens, projector rooms, stairwells, elevators, hallways, foyers, and other areas assigned.

b. The custodian is also responsible for other assigned tasks such as the timely removal of trash and debris for disposal, replacement of fluorescent lamps, and the daily resupply of restroom dispensing units.

3-2. Carpet Vacuuming.

a. Equipment Required.

(1) Heavy-duty, upright, industrial vacuum with revolving brush powered by a separate motor.

(2) Medium weight, industrial vacuum with revolving brush and beater bar.

(3) Tank-type, commercial vacuum (may be a wet/dry pick-up type) set up for dry vacuuming complete with wand and carpet tools.

b. Instructions.

(1) A carpet needs regular cleaning. Daily cleaning is desirable on heavily traveled areas or near a street entrance. Non-slip carpet walk-off mats are recommended at entrances to aid in keeping dirt, dust, rain, etc., from being tracked onto the carpet.

(2) The heavy-duty upright cleaner combines strong suction with a revolving brush driven by a separate motor. The medium weight upright machine equipped with a brush and beater bar removes surface litter as well as soil embedded deep in the pile. The straight suction or tank-type vacuum is efficient for lightly trafficked areas in removing surface litter and in getting into difficult to reach places such as under furniture.

(3) The heavy-duty vacuum should require only one stroke or pass on lightly soiled carpets. For maximum speed and efficiency, you should work from one end of the carpet or as far from the electrical outlet and cable permits, then return alongside and slightly overlap the edge of the first pass. For medium soil which requires two passes, you should return over the same path. Generally, this heavy duty machine should be limited to scheduled weekly thorough cleaning and special projects work. Daily use of this type of machine may pull carpeting from floors and tack strips and/or loosen tufts from backing, especially if the machine is improperly adjusted.

(4) The use of lighter-duty equipment operating both vacuum and brush/beater bar from the same motor will take three-times the number of passes required by the heavy-duty machine. The light duty machine should be used for daily maintenance. It is more maneuverable, requires less precise adjustment, is relatively inexpensive, and is far less likely to cause any carpet damage.

3-3. Dust Mopping Floors. The following procedure should be used when dust mopping floors:

- a. Use as wide a dust mop head as is practical.
- b. Use a treated or untreated dust mop as specified for the task.
- c. Keep dust mop head in contact with the floor at all times.
- d. Pick up soil with a dustpan.
- e. Vacuum dust mop heads periodically to remove dust or shake out into an empty plastic bag if a vacuum is not available. Keep the head in the bag while shaking out dust.

3-4. Mopping Floors.

- a. Material required is detergent or germicidal detergent where specified.
- b. Equipment Required.
 - (1) 2 mop buckets;
 - (2) 2 wringers;
 - (3) 2 mops;
 - (4) 1 putty knife; and,
 - (5) A wet vacuum (for large areas).
- c. Instructions.
 - (1) Mix a detergent solution using manufacturer's dilution instructions.
 - (2) Remove loose soil with a clean, treated dust mop.
 - (3) Scrape up gum, grease, and other sticky material with putty knife.
 - (4) Provide working room by moving as many portable items out of the way as you can, such as chairs, urns, small tables, etc.
 - (5) Dip mop into cleaning solution bucket, and wring excess solution by slight pressure in the cleaning bucket wringer. Apply solution to floors moving mop in a side-to-side pattern; overlap strokes. Do not flood the floor. Turn the mop over regularly to remove bad marks, scrub back and forth with the heel of the mop. Do not allow water to run under desk and table legs or file and cabinet bases.
 - (6) Permit the solution to stand for 3 or 4 minutes to allow the chemical cleaning action to take place.
 - (7) When heavy soil requires a more generous use of the cleaning solution, pick up excess with mop and wringer. Use a wet vacuum on large areas for faster work and cleaner floors. Discard the dirty solution.
 - (8) Rinse heavily soiled floors with a mop and clear water. Turn the mop frequently and wring it regularly. Change the water as often as necessary to keep rinse water clean.

(9) Keep traffic off the floor until thoroughly dry.

(10) Clean and put away all equipment.

(11) For spot-mopping or damp mopping lightly soiled floors, wring the mop more thoroughly and dip and wring often enough to keep mop clean. Rinsing can then usually be omitted.

(12) If cleaning is being done in trafficked areas, put out "WET FLOOR--CAUTION" signs to prevent accidents.

3-5. Scrubbing Floors.

a. Material required is detergent.

b. Equipment Required.

(1) Mop buckets.

(2) Clean rags.

(3) 1 wringer.

(4) Floor machine with scrub brush or scrubbing pad.

(5) 2 mops.

(6) 1 dust mop.

(7) 1 wet vacuum (optional).

(8) 1 push broom.

(9) 1 putty knife.

c. Instructions.

(1) Sweep or dust mop floor thoroughly.

(2) Scrape up gum, grease, and other sticky materials with putty knife.

(3) Mix a solution of detergent in one bucket according to manufacturer's dilution instructions.

(4) Apply detergent solution to floor. Do not flood floor.

(5) Allow detergent solution to stand for three to four minutes.

(6) Scrub floor with floor machine and scrubbing brush or scrubbing pad where necessary.

(7) Pick up dirty solution with mop and second bucket with wringers or with wet vacuum.

(8) If floor is heavily soiled, rinse with clear water after scrubbing. Change water frequently.

(9) Spot-clean baseboards with mop or with rags and detergent solution.

(10) Allow floor to dry thoroughly.

(11) Clean and put away all equipment.

(12) If cleaning is being done in trafficked areas put out "WET FLOOR--CAUTION" signs to prevent accidents.

3-6. Spray Buffing.

a. Material required is a suitable polymer floor finish.

b. Equipment Required.

(1) 1 medium or heavy duty single disc floor machine.

(2) 1 thick spray-buffing pad (open weave).

(3) 1 driving block for pad, or pad holder.

(4) 1 pistol-grip spray bottle (or machine attachment).

c. Instructions.

(1) The spray buffing technique may be utilized for entire areas, for problem spots, or for combined light duty cleaning, refinishing, and polishing.

(2) Of primary importance is the selection of the type of polymer floor finish. On spray buffing, it must not powder (leave a dusty film on the floor when dry), become tacky while being wet buffed, or yellow with age or repeated application. (Some products are manufactured specifically for spray buffing, although these are not necessarily the best materials to use.)

(3) Select the proper type of pad for this work. Although a standard nylon-buffing pad can be successful, best results are obtained with a special open-weave spray-buffing pad. Greatest success is usually achieved with thicker pads of from one-half to one and one-quarter inch thickness.

(4) Dust mop floor to remove surface soil. Wet mop as needed to remove soil.

(5) Prepare spray buffing solution. This should be mixed for most floor finishes as follows:

(a) One part polymer floor finish;

(b) One part water; and,

(c) About 1 or 2 ounces per gallon of mixture of synthetic detergent.

(6) Pour solution into the sprayer. Be sure the sprayer is operating properly. If a flask-type container is used, the sprayer may be kept in the pocket; otherwise, provide a hook for hanging the solution container on the floor machine handle.

(7) Select the proper floor for the spray buffing technique. It is not successful on a floor that is heavily soiled or that does not have permanent type protective finish.

(8) Move the machine ahead of you. Spray a small quantity of the solution onto the floor in front of the machine. This may be done from a standing position while the machine is in motion. The spray should lightly wet a small area in front of the machine. Avoid excessive spraying since too much time will be required for buffing the surface dry. Buff until dry and gloss appears. When the pad becomes loaded, it should be turned over or replaced with a fresh pad.

(9) Dust mop after spray-buffing.

(10) Regular use of this technique provides a surface that improves in appearance and durability with each application, while considerably extending the period of time between stripping of the finished surface.

(11) When finished, the solution should be emptied from the sprayer into a clean closed top container and the sprayer washed out by spraying with warm water.

(12) The pads can be steam cleaned or soaked in stripping solution when they become extremely loaded.

(13) Clean and put away all equipment.

3-7. Stripping Floors.

a. Material required is a stripping solution.

b. Equipment Required.

- (1) 2 mop buckets.
- (2) 1 baseboard brush.
- (3) 1 wringer.
- (4) Clean rags.
- (5) 2 wet mops.
- (6) 1 floor machine.
- (7) 1 push broom or untreated dust mop.
- (8) 1 stripping pad.
- (9) 1 putty knife.

c. Instructions.

- (1) Sweep floor thoroughly with dust mop or push broom.
- (2) Scrape up gum, grease, or other sticky materials with putty knife.
- (3) Mix the stripping solution according to manufacturer's dilution recommendations.
Use hot water.
- (4) Apply stripping solution liberally to floor. The floor should be wet but not flooded.

(5) Allow the solution to stand three to four minutes, then scrub with stripping pad. Very old or heavy build-ups may require more soaking time or repeated application.

(6) If baseboards have been previously waxed, clean with rags dipped in stripper-diluted with an equal portion of water. Use baseboard brush as needed.

(7) Pick up dirty solution with wet vacuum or with mop and second bucket with wringer.

(8) After removal of stripper, rinse thoroughly with clear water. Change water frequently and repeat rinsing if needed to remove all the emulsified wax or finish.

(9) Allow floor to dry thoroughly.

(10) Clean and put away all equipment.

3-8. Waxing or Refinishing Floors.

a. Material required is a floor finish or floor wax.

b. Equipment Required.

(1) 1 fine strand clean mop.

(2) 1 bucket with wringer.

c. Instructions.

(1) Floors should be properly cleaned and/or stripped before waxing is begun.

(2) Allow floor to dry thoroughly.

(3) Pour required amount of wax or finish into clean mop bucket.

(4) Unused portions of wax or finish should never be poured back into original container. Estimate amount needed on basis of one gallon provides one coat for 1200 square feet.

(5) Wet the mop head in the wax or finish. Mop heads should be wrung fairly dry, so that when lifted, wax does not drip steadily. If a white film is formed immediately after the wax or finish is applied, too much is being put down and the mop or applicator should be wrung out more.

(6) Allow finish or wax to dry for thirty minutes before subjecting to traffic or applying a second coat (if necessary).

(7) Apply no more than one coat within six to twelve inches of walls and permanent fixtures or other areas where people do not walk.

(8) Floor finishes dry with a good gloss and smooth finish. Buffing is therefore not necessary until a day or two after application. Buff "waxed" floors with floor machine to achieve desired gloss.

(9) Rearrange furniture.

(10) Wash applicator in hot water and rinse. Clean and put away all equipment.

3-9. Trash and Refuse Removal from Offices.

a. Be particularly careful that you do not consider as trash, or refuse, material that may have blown off of a desk or temporarily been placed in a box on the floor, etc.

b. Remove only the material found within the confines of a bona fide trash container. Boxes are not considered trash containers. Nothing more should be removed from office areas. Any paper material found on office floors should be placed on the nearest desk or table. Refuse material found in boxes outside the office area in the hallway and clearly marked trash, garbage, for disposal, etc., may be removed. If you are ever in doubt, check with your supervisor before disposing of anything that is not in a bona fide trash container. There is no margin for error.

3-10. Wall and Ceiling Washing.

a. Materials Required.

(1) Method A.

- (a) Scaffolding or ladder.
- (b) 2 buckets.
- (c) 2 sponges (or soft cloths).
- (d) Vacuum or triangular dust mops.
- (e) Large drop cloth (if needed).

(2) Method B.

- (a) 2 buckets.
- (b) Light weight sponge mop.
- (c) Triangular dust mop or second sponge mop.
- (d) Sponges or cloths.
- (e) Large drop cloth (if needed).

b. Instructions.

(1) Method A.

- (a) Remove all furniture, pictures, and other objects from area to be cleaned.
- (b) Remove dust and cobwebs from ceiling and walls with vacuum or dust mop. Use bottom-to-top stroke to catch hanging cobwebs.
- (c) Make cleaning solution using warm water.
- (d) Fill second pail with warm, clear rinse water.
- (e) Spread drop cloth to control spillage and move it as you progress.

(f) Be sure ceiling is washable (metal or plaster). Begin at one corner of the ceiling. Sponge the cleaner-disinfectant solution onto an area about four feet square. Use a left-to-right stroke.

(g) Squeeze cleaner-disinfectant sponge dry and pick up the cleaner-disinfectant solution.

(h) Apply rinse sponge to the same area, then squeeze dry and pick up rinse water. Change rinse water frequently.

(i) Continue across ceiling in this manner until finished.

(j) Begin at the bottom of the wall and work toward the top, following the same washing and rinsing technique used on the ceiling. Try not to let solution run down wall.

(k) Wash adjacent woodwork and baseboards using above methods.

(l) When possible, two persons should wash walls as a team, one doing the lower half, the other following with the upper half.

(m) Clean all equipment and return to housekeeping storage areas.

(2) Method B.

(a) Complete steps (a) through (m) as above.

(b) Dip sponge mop in cleaner solution and squeeze it to the point where it is wet but not dripping.

3-11. General Cleaning.

a. Daily.

(1) Empty all waste receptacles. Do not reach into the receptacles, but carefully dump the contents of the receptacles into the waste collection bag. Damp wipe soiled receptacles. Replace liners when used. Empty ashtrays.

(2) Carefully clean and damp wipe the chalk tray beneath chalkboards.

(3) Dust mop smooth floors with a treated dust mop. Sweep rough wood or concrete floors.

b. Every Other Day. Using a mop, spot-clean all floors to remove heavy soil.

c. Weekly.

(1) Dust horizontal surfaces such as window ledges, sills, displays, and furniture tops using a cloth, dusting mitt or short handled dust mop.

(2) Empty pencil sharpeners. Hold sharpener deep in waste collection bag to prevent spillage of lead and shavings.

(3) Use a dusting cloth, dusting mitt, or a short handled dust mop to dust vertical furniture surface, wall vents, and vertical wall trim.

(4) Spot-clean glass doors, partitions, and the inside of windows using a soft, clean cloth and glass cleaner in a spray bottle.

(5) Spot-clean walls, doors, lab benches, cabinet tops, and ledges as needed using a clean cloth or sponge and detergent solution in a plastic spray bottle.

(6) Rinse with clear water from a spray bottle.

d. Monthly.

(1) Clean all metal with metal polish.

(2) In areas which have ceramic, concrete, terrazzo or resilient tile floors, mop the complete area.

(3) Wet the ceiling or wall area to be cleaned. It is usually desirable to work from the top down with this method. To remove marks or heavily soiled spots, squeeze the mop out and touch it to scouring paste and rub the soiled area carefully.

(4) Rinse the area using the triangle dust mop or second sponge mop, wetting it in clear rinse water. Wring the mop out by hand or by pressing it before applying to wall or ceiling.

(5) When cleaning or rinsing walls, be careful not to wet acoustical ceilings. The small wall area near the ceiling should be cleaned with a hand sponge.

(6) Wash adjacent woodwork and baseboards using sponges.

(7) When possible, two persons should work as a team, one washing and the other rinsing behind the first.

(8) Clean all equipment and return to maintenance storage areas.

(9) New products and equipment require special attention to proper mix, use and operation.

3-12. Cleaning EDP (Electronic Data Processing) Areas with Raised Floors.

a. Daily.

(1) Empty waste containers into waste collection container and dust inside of unlined waste containers with treated cloth or damp sponge. When there appears to be dust inside a filled waste container, that container should be moved outside of the clean area for emptying.

(2) Vacuum clean furniture and ledges. Use a duster tool on a filtered, dry vacuum. Do not dust mop equipment unless directed by your supervisor.

(3) Pick up litter from floors.

(4) Dust mop floors.

(5) Spot-clean glass in partitions and interior doors. Use glass cleaner in a spray bottle and clean, lint-free cloths or paper towels.

b. Twice Weekly.

(1) Spot-clean doors, walls and woodwork. Use detergent solution in spray bottle and sponge. Wipe with dry cloth.

(2) Damp mop floors with detergent solution. Use a lint-free mop.

c. Weekly.

(1) Vacuum all walls, ceilings, vents, and light fixtures using a pack or tank vacuum.

(2) Clean glass in partitions and interior doors. Use glass cleaner in a spray bottle and clean lint-free cloths or paper towels. WARNING: Do not use electric powered equipment such as floor machines, vacuums, etc., in the vicinity of magnetic tape storage or operating computers.

3-13. Cleaning Elevators.a. Daily.

(1) Dust mop floor of elevator with treated dust mop. (Vacuum carpeted floors.)

(2) Mop floor. Use detergent solution. Rinse floor with damp mop and clear water.

b. Twice Weekly. Buff waxed floors and dust mop afterwards, as needed.

c. Weekly. Damp clean elevator walls and all elevator doors with sponge or mop.

3-14. Cleaning Auditoriums.a. Daily, When Used.

(1) Empty and clean all urns and waste receptacles.

(2) Dust podium area, sills, and ledges with dusting cloth, short handled dust mop or mitts.

(3) Spot-clean glass in interior doors. Use soft clean cloth and glass cleaner in spray bottle.

(4) Dust mop uncarpeted floors. Use treated dust mop. (Policing to pick up trash may replace dust mopping where floors are not dusty.)

(5) Spot vacuum carpeting and check for spot-cleaning.

(6) Arrange movable furniture and adjust blinds uniformly.

b. Every Two Weeks.

(1) Dust vertical surfaces and group seating area. Check chair arms for writing and marks and clean with detergent in spray bottle and cloth or sponge.

(2) Vacuum all carpeting.

c. When Needed OR At Least Monthly.

- (1) Damp mop soiled floors with detergent solution. Rinse if required.
- (2) Buff or spray-buff scuffed or dulled floors. Dust mop after spray-buffing.
- (3) Spot-clean walls and doors with sponge or cloth and detergent plastic spray bottle. Rinse with clear water if needed.
- (4) Vacuum fabric upholstery.

3-15. Cleaning Classrooms - Daily.

a. Empty all waste receptacles. Do not reach into the receptacles, but carefully dump the contents of the receptacles into the waste collection bag. Damp wipe soiled receptacles. Replace plastic liners if used.

b. Dry with clean dry cloth. (Spot-clean daily to remove marks and smudges and completely clean weekly.)

3-16. Cleaning Entrances, Lobbies, and Halls.a. Daily.

(1) Empty waste receptacles into waste bag on the cart. Damp wipe soiled receptacles. Replace plastic liners when used.

(2) Empty ashtrays and urns.

(3) Dust mop floors with treated dust mop.

(4) Sweep wood and rough concrete floors.

(5) Spot mop uncarpeted floors.

(6) Vacuum traffic patterns in carpeted areas.

(7) Vacuum entrance mats and check carpets for spot cleaning.

(8) Clean water fountains with a lotion type of cleanser and a clean cloth or sponge. Use a percolator brush to clean the fountain drains.

(9) Spot clean glass entry doors. Use glass cleaner in spray bottle and a clean cloth.

(10) Sweep outside areas and entrances.

b. Twice Weekly.

(1) Dust horizontal surfaces such as windowsills, ledges, and furniture tops. Use a treated cloth, dusting mitt, or dust mop with a short handle.

(2) Spot clean glass. Use glass cleaner in a spray bottle and a clean cloth.

(3) Use a lightly dampened mop to spot mop wooden floors if heavily soiled. Mop ceramic, concrete, terrazzo, and resilient tile floors completely.

c. Weekly.

(1) Spot clean walls, door facings, and doors. Use a detergent solution in a spray bottle and a clean cloth or sponge. Rinse with sponge and clear water in plastic spray bottle as needed.

(2) Vacuum all carpets with heavy-duty equipment.

d. Every Two Weeks.

(1) Dust vertical furniture surfaces, wall vents, and vertical wall trim.

(2) Use a treated cloth, dusting mitt, or short handled dust mop.

e. Monthly.

(1) Clean all metal trim with metal polish.

(2) Spot-clean glass in doors and partitions. Use glass cleaner from a plastic spray bottle and clean cloth.

(3) Spot-clean walls. Use detergent solution from a plastic spray bottle and a cloth or sponge.

3-17. Cleaning Showers.a. Daily.

(1) Remove all pieces of soap and foreign matter.

(2) Flood floor and then pour on cleaner-disinfectant solution. Spread solution over floor with mop and let stand for about three minutes. Scrub floor with mop or long-handled deck scrub brush - use floor machine for large areas.

(3) Wipe down walls with disinfectant detergent solution. Use sponge, cloth or short handled sponge mop. Rinse with clear water.

(4) Flush floor with clear water and squeegee dry.

(5) Report any fixture stoppage and/or leaks to supervisor.

b. Weekly. Polish handles, shower heads, and other fixture hardware. Use lotion cleanser with dampened sponge. Wipe dry with clean cloth.

c. Monthly. Scour shower walls. Use lotion cleanser and wet cloth or sponge. Rinse with sponge or cloth and clear water.

3-18. Cleaning Stairs - Daily.

a. Dust mop. Use a small treated dust mop with short handle where treads are smooth and soil is light. If soil is heavy or abrasive, use a broom. Pick up soil and litter at bottom of stairs with a dust pan. Dust handrail and windowsills or ledge. Use a dust cloth, dusting mitt, or small dust mop with short handle.

b. Floors that are coated with floor finish or floor wax are to be buffed. Use a floor machine equipped with buffing brush or buffing pad. (Spray-buff floor finish.) Dust mop after buffing.

- c. Rearrange furniture as needed.

3-19. Cleaning Library Stacks.

- a. Daily.

- (1) Empty waste receptacles.
- (2) Dust mop floors with a treated dust mop.
- (3) Sweep rough or wet floors with a push broom.
- (4) Vacuum traffic patterns where carpet is used.
- (5) Spot-clean walls with detergent solution in a plastic spray bottle and a clean cloth or sponge.

- b. Weekly.

- (1) Dust all vacant shelves as required.
- (2) Vacuum entire carpeted area.

- c. Monthly.

- (1) Mop floors with detergent solution.
- (2) Buff resilient tile floors which are coated with floor finish or wax. (Spray-buff floor finish.) Dust mop after buffing as needed.

3-20. Cleaning Locker Rooms - Daily.

- a. Empty and clean all waste receptacles and urns.
- b. Sweep floor with a treated dust mop. Use a push broom for wet or rough floors.
- c. Mop floor with cleaner-disinfectant solution and slightly wrung mop. Rinse with clear water as needed.
- d. Damp-clean benches and furniture. Use a cloth dampened in cleaner-disinfectant solution from a plastic spray bottle.
- e. Spot-clean walls, furniture, and lockers with a sponge wet with solution.
- f. Rinse with sponge and clear water.

3-21. Cleaning Restrooms. Place all required equipment and supplies into or just outside entrance to restroom. Install "Restroom Closed" sign or prop entrance door open to indicate that cleaning is in progress.

- a. Daily.

- (1) Check and fill if necessary:
 - (a) Toilet tissue holders;

(b) Hand-towel dispensers; and,

(c) Individual liquid soap dispenser or other hand soap supply.

(2) Empty waste containers and urns into the waste bag and clean containers.

(3) High dust walls, ledges, shelves, vents, light fixtures, etc.

(4) Remove trash from floor by sweeping with broom and picking up with dustpan. Use putty knife to remove gum and similar matter. Clean mirrors with glass cleaner in plastic spray bottle and clean soft cloth.

(5) Prepare a cleaner-disinfectant solution in a ten-quart plastic pail. Clean basins, shelves, and hardware. Spot-clean partitions, furniture, and walls with sponge wet with cleaner-disinfectant solution from plastic pail or plastic spray bottle. Use cream cleanser and sponge for removing stains or heavy soil, especially on basins.

(6) Walls and partitions are to be wiped dry with cloth to prevent streaks. Remove graffiti.

(7) Clean toilet seats and outside of toilets and urinals with sponge and cleaner-disinfectant solution from plastic pail or plastic spray bottle. Use cloth to wipe seats dry.

(8) Clean inside of bowls and urinals with bowl mop using the cleaner-disinfectant solution poured from plastic pail over the mop. Wear rubber gloves for this task. Be sure to clean under rim and hidden edges. Flush toilets and urinals.

(9) Spot-clean stainless steel and chrome surfaces. Use cloth dampened with stainless steel cleaner or metal polish. A piece of discarded polishing pad is very effective for removing stubborn spots and will not scratch a chrome surface. Dry with cloth to prevent scratches.

(10) Wash waste containers and urns as needed, or at least weekly.

(11) Mop floor. Use cleaner-disinfectant solution in a mopping bucket (in the cleaning cart, if one is being used). Pick up solution with wrung out mop.

(12) About once a week or as needed, the floors should be rinsed with clear water after mopping. Use the plastic pail on the cart, if a cart is being used.

b. Weekly, or More Often If Needed.

(1) Use acid-type cleaner in place of cleanser in the commode and/or urinal cleaning operations. Be careful not to splash it on floors or other surfaces.

(2) Never use caustic or acid-type cleaner in lavatories.

(3) Check to be sure that floor traps are full of water and add a small amount of disinfectant detergent.

3-22. Cleaning Medical Areas (First Aid).

a. Daily.

(1) Empty waste receptacles into collection cart. Damp wipe soiled receptacles. Replace plastic liners when used.

- (2) Empty ashtrays and urns and wipe with damp or treated cloth.
- (3) Dust windowsills, ledges, and other building surfaces. Use a treated cloth.
- (4) Dust tops of desks and non-treatment furniture.
- (5) Clean smudges and soil from glass displays, partitions, and interior doors.
- (6) Use glass cleaner in spray bottle and clean cloth.
- (7) Spot clean walls, door facings, doors, and non-treatment furniture. Use disinfectant solution in a spray bottle and a cloth or sponge.
- (8) Clean sinks (except those containing instruments or equipment) according to restroom procedure.
- (9) Dust mop entire floor and pick up all litter.
- (10) Mop floor with cleaner-disinfectant solution. Use clear water to rinse, if necessary.

b. Weekly.

- (1) Spray buff finished resilient floors and dust mop floor afterward.
- (2) Dust vertical building trim, wall vents, and sides of furniture.
- (3) Clean all metal trim with metal polish.

3-23. Cleaning Offices, Lounges, Conference Rooms, Libraries, Reading Rooms, Practice Rooms, Carrels, Display Rooms, Studios, and Work Rooms.

a. Daily, If Used.

- (1) Empty all waste receptacles, ashtrays, and pencil sharpeners. Damp wipe them as necessary and replace plastic liners where used, as needed. Dust cleared areas of furniture tops, pianos, organs, vacant shelves, sills, and ledges. Use cloth or dusting mitts. (Dust only horizontal surfaces daily.)
- (2) Spot-clean glass in doors, partitions, mirrors, and displays. Use soft, clean cloth with glass cleaner in spray bottle.
- (3) Spot-clean doors and walls with cloth or sponge wet with detergent solution from a plastic spray bottle. Wipe dry as needed.
- (4) Dust mop smooth floors with a treated dust mop. Sweep wooden or concrete floors that are too rough to dust mop.
- (5) Use a mop and a detergent solution to spot mop all floors except carpeted floors to remove heavy soil.
- (6) Vacuum traffic pattern on carpeted floors. (Vacuum the entire carpeted area once each week.)
- (7) Rearrange furniture as needed.

b. Weekly.

(1) Use a cloth, dusting mitt or small dust mop with short handle to dust vertical furniture surfaces, wall vents, and vertical wall trim.

(2) Clean all metal trim.

c. Every Two Weeks.

(1) Floors that are coated with floor finish or wax are to be buffed. Use a floor machine equipped with a buffing pad or buffing brush. (Spray-buff floor finish.) Dust mop the floor after buffing, as needed.

(2) In areas that have ceramic, concrete, terrazzo, or resilient tile floors, mop the entire area.

3-24. Cleaning Entrances, Lobbies, Halls, and Other Public Areas.a. Daily.

(1) Sweep outside steps or nearby sidewalk to keep soil away from doors and entrances.

(2) Sweep entrance mats and runners clean and dry. Use vacuum, if necessary.

(3) Spot-mop these areas to remove tracked-in water or soil. These are very important jobs.

(4) Keep waste receptacles emptied, as required.

(5) Pick up any items that have been dropped on floors.

(6) Clean any spillage or soiled spots on floors.

(7) Replace burned-out light bulbs and fluorescent lamps.

(8) Restrooms.

(a) Empty restroom receptacles, as required.

(b) Check paper dispensers for needed refill.

(c) Spot clean soiled basins, toilet seats, or any other fixtures or partitions.

b. Three Times Weekly.

(1) Mop stair treads.

(2) Spot-clean walls. Use detergent solution from spray bottle with a sponge or cloth. Carefully applying lotion type cleanser with damp sponge or cloth and rinsing thoroughly with clean water may remove difficult marks.

c. Monthly.

(1) Wash handrails with detergent solution and cloth. Use lotion type cleanser where soil remains.

(2) Remove soil, scuffs, and shoe marks from stair risers with lotion type cleanser and a heavy cloth or scrubbing brush.

3-25. Cleaning Storage and Mechanical Equipment Areas.a. Weekly.

(1) Empty waste receptacles.

(2) Clean up any spills or gross oil.

b. Monthly.

(1) Dust mop smooth floors. Sweep rough wooden or concrete floors.

(2) Spot mop floors to remove heavy soil.

c. Quarterly. Damp mop the entire area of ceramic, concrete, terrazzo, and resilient tile floors.

3-26. Daily Housekeeping Duties in Secured Areas.

a. Keep all supplies in eye view and close to your side and don't give the chemicals to residents or clients.

b. In areas where housekeeping does all of the cleaning, make sure that the area is safe and treatment staff is present when cleaning is taking place.

c. If a cart is being utilized, everything should be where the custodian can see and get to it with ease.

d. If a client comes into the area, precautions should be taken to make sure they don't get into cleaning supplies or chemicals.

e. In areas where clients are responsible for cleaning their own rooms, the treatment staff should issue all supplies and supervise the cleaning.

f. All chemicals in secured areas, when not in use, should be locked in janitorial closets or building supply rooms.

g. Cleaning equipment such as mop buckets, mops, mop handles, vacuum cleaners and buffing machines, should not be left unattended because they can be used as a weapon.

Chapter 4

SANITATION

4-1. Sanitation Tools, Equipment, and Supplies. Proper tools and equipment and their use and care are very important items in cleaning. The provision of standard tools for custodians is a mark of good

administration. The tools and equipment should be suitable to the needs of the job, of good quality, and efficient. Wages make up 80 to 95 percent of the cost of cleaning and the custodians need the right kind of supplies to perform efficiently and to avoid waste of the most expensive commodity - labor.

4-2. Corn Brooms (Straw Brooms).

a. The old fashioned corn broom still has many uses. It is used for sweeping out-of-the-way places. It is good for sweeping down cobwebs, sweeping in water, or wet areas. It is very effective in sweeping out the paper on the restroom floors. NOTE: ICF/MR rules prohibit the use of corn brooms in ICF/MR facilities.

b. Straw brooms are manufactured in several sizes and of different qualities. The standard sizes of these brooms are determined by the weight per dozen and the number of times the brooms are sewn. Sizes used by custodians are:

Extra Large	32 lbs./doz.	6 sew;
Large	30 lbs./doz.	5 sew;
Medium	20 lbs./doz.	5 sew; and,
Toy	6 lbs./doz.	2 sew.

4-3. Hand Sprayers.

a. Every custodian will need one or more spray guns at his facility for the application of insecticides such as fly or roach spray. It is usually more practical to use a large spray gun so that a large area may be sprayed at one time without stopping to refill. A quart size is a good practical size.

b. The best way to apply mop treatment is with a spray gun when the floor mops are being treated. Since this is a frequent process, a sprayer should be kept for this job and used for nothing else.

c. Hand sprayers are also practical in applying a germicidal - detergent solution in certain areas or on surfaces that cannot be reached by a mop.

4-4. Spray Bottles. One of the most convenient pieces of equipment for custodians is a pint size bottle fitted with a push down sprayer. These spray bottles are available in either plastic or glass. The plastic type is recommended to avoid breakage. Many of the larger chemical manufacturers have these available with graduations on the sides to aid in making a useable dilution of cleaner. If one or more spray bottles are kept with a mild neutral cleaner solution in them, they will be found to be very convenient for spot cleaning around the facility. The spray bottle is also very handy for a solution of glass cleaner for windows and doors. Some facilities use a germicidal cleaner solution in spray bottles to avoid having to carry so many pieces of equipment when cleaning drinking fountains and disinfecting toilet fixtures during the day in addition to the daily cleaning.

4-5. Pump-Up Sprayer. A two or three gallon tank pump-up sprayer can be used advantageously in most facilities. Whether it is a shoulder strap model, hand carried, or on small wheels is a matter of individual preference. Some of the uses for this type sprayer, other than spraying insecticides, are spraying disinfectant cleaner solutions when cleaning large toilet and shower rooms, applying whitewash to tree trunks and fences, spray painting on rough exterior surfaces, and applying lines on playing fields.

4-6. Wet Mops.

a. Mop heads for wet mopping are made from cotton, linen, and nylon. Linen is the best material but is not often used in facilities because it is very expensive. There are many sizes and

weights of mops used and all of these are available from the supply houses. Most custodians use a mop about 3" wide and 36" long. The length is doubled so that the strands are 18" long when placed in the mop holder.

b. The size of the mop is designated by its dry weight. Some supply houses list this weight for a dozen mops and some list it for a single mop. The small size is 9 pounds per dozen or 12 ounces each. The next size is 12 pounds per dozen or 16 ounces each. These are the smallest sizes practical for facility use.

c. In selecting the mop to be used, you should select the largest practical size for the job. Much time will be saved when a large mop can be used. A custodian will want to have more than one mop with the tools, and will want to always wash the mop out after it has been used.

d. A mop should have a handle of the proper length. It should be long enough to reach from the floor to the forehead of the user. This will permit the user to make a long stroke of 6 feet or more crosswise to his body. A short handle will cause the custodian to stoop and get tired. Short push and pull strokes used in household work will cause the custodian to become tired too fast if they have a large area to mop.

e. Standard lengths of mop handles as they come from the vendor are 54", 60", and 72". A 72" handle is recommended so that it can be cut to fit the height of the custodian. Handles should be kept clean and dry and can be cleaned by sanding it lightly.

4-7. Mop Wringers.

a. Mop wringers are available in several sizes. Consideration should be given to several points when a selection is being made. The wringer must be large enough to fit the size mop that is to be used. Also, the wringer must be a size that fits the bucket. A large wringer will not fit a small bucket. The sizes of wringers that are used in facilities are:

- (1) # 2 -- small
- (2) # 1 -- small
- (3) # 0 -- medium
- (4) # 00 -- large

b. A wringer that presses down is desirable because it will not squirt water all over the floor as it is used.

c. Each time a wringer is used, the bits of string and pieces of mop head should be removed as the wringer is cleaned. These will harden and become difficult to remove if left on too long. One drop of oil on moving parts occasionally will prolong the life of the wringer.

d. Following are corresponding sizes of mop buckets, mops, and wringers.

<u>Mops</u>	<u>Bucket</u>	<u>Wringer</u>
12 oz.	10 quart	#2
16 oz.	12 quart	#2
18 oz.	14 quart	#1
20 oz.	20 quart	#0
24 oz.	28 quart	#00

4-8. Mop Buckets.

a. Mop buckets are usually oblong in shape. For facility use they should be mounted on casters or a dolly. A custodian can avoid much fatigue by rolling these buckets of water instead of carrying them. There are a number of different sizes of mop buckets, and the custodian should select the size that fits his needs.

b. Home size mop buckets are 10, 12, and 14 quarts. Medium size buckets are 20 quarts. Large size buckets are 28 to 32 quarts. Giant sizes go up to 50 quarts.

c. Single mop buckets are satisfactory if you are not rinsing at the same time. Two buckets mounted on one dolly will save much time when the surface is being both washed and rinsed at the same time.

d. Mop buckets are available with the wringer attached. This type does not prove to be too satisfactory for facility use. It is recommended that mop buckets be purchased with the wringers separate or detachable.

e. Metal mop buckets can become corroded by continuous contact with cleaning solutions. To prevent this, the bucket and wringer should be rinsed with clear water each time after it is used.

4-9. Toothbrush. Many custodians have found that a toothbrush is very helpful in cleaning in hard-to-reach places, such as around the heads of drinking fountains and around faucets of lavatories. The ones used for drinking fountains should be kept separate from others and should be used only for this purpose.

4-10. Toilet Brushes.

a. Toilet brushes come with straight or with curved handles and with tufted or looped ends. Tampico or palmetto bristles are best for facility use. The light household toilet brushes are not satisfactory for facility use.

b. A sponge is recommended where daily or more frequent cleaning has been done. When a day or more has been skipped or where a buildup has been allowed to accumulate, a good brush is a better tool.

c. When using a brush to wash toilets and urinals, care should be exercised at all times to avoid jamming the brush against the porcelain in a way which might scratch or damage. As soon as the bristles are worn away from the end of the brush, it should be discarded.

d. Some facilities instruct the custodians to use toilet bowl brushes for washing garbage cans. They are good for this because the length of the handle is correct and because the sides of the brush wear well. It is the end of the brush that wears out quickly.

4-11. Toilet Cleaning Kits.

a. Several manufacturers now provide a toilet cleaning kit for use when an acid type toilet bowl cleaner is used. This kit consists of a holder for the cleaner container, a toilet bowl mop, and a mirror for inspecting the under-side of the rim. These kits are handy because they keep all the materials together for this one particular job.

b. One type has a sprayer with a length of plastic hose attached for spraying the cleaning solution up under the rim of the fixture. Most supply houses carry at least one type of the kit and they are not too expensive.

4-12. Force Cup (Plumber's Friend). The best type of force cup for facility use is the large rubber ball with the hole in the bottom. This tool is used for unclogging toilets and sinks. A downward thrust on the handle forces air through the drain and then as the ball resumes its shape a suction is created in the line. If the pressure will not loosen the obstruction, then the suction often will, especially if the process is repeated several times.

4-13. Snake (Plumber's Auger). A snake or plumber's auger is a flexible steel cable with a hook or barb on the end. Usually there is a crank on the other end so that the cable may be turned. This tool is manufactured in different lengths and sizes. Some of the more expensive models are powered with an electric motor. This tool is used to remove obstructions which are clogging sewer lines. The cable with the barb is extended into the line. The cable is kept revolving so that it will bore through resistance and snag the obstruction with the barb.

4-14. Hand Mirror.

a. A hand mirror should be available for inspecting the hidden rims of toilet fixtures for rust or stain. These may be of the small type used for applying cosmetics or one that has been developed for the purpose.

b. Those that have been manufactured for this purpose resemble a dentist's or a mechanic's inspection mirror, being approximately one inch square in area and having a 6- or 8-inch handle set on the mirror at a slight angle.

4-15. Sponges, Cellulose. Many custodial jobs are best accomplished by the use of cellulose sponges. These are manufactured in many different sizes. Some facilities purchase large sponges or large blocks of cellulose and cut them into smaller ones.

4-16. Floor Squeegee.

a. The floor squeegee is a large strip of rubber attached to a straight or slightly curved support frame with a handle. It is used to push water. Sometimes they can be used to good advantage on washroom or shower room floors. During or following storms, they are good to push water from corridors and are also useful when water has been spilled or toilet fixtures overflow.

b. In purchasing a squeegee, it is best to select a type where the rubber can be replaced. In the long run, this will reduce costs.

c. The rubber of the squeegee will be softened if it is used in oil or solvent-like material.

4-17. Chamois.

a. A chamois skin should always be washed in warm (not hot) water and squeezed (not wrung) dry.

b. In testing, the following are characteristics of good chamois: uniform thickness throughout; velvety nap; and when washed it may be held firmly in the hands. Sheepskin, when squeezed, seems to ooze out between the fingers like angleworms.

4-18. Garbage Cans. Garbage cans should be of good quality synthetic or the galvanized type since regular metal does not resist the acid and other chemical action of decomposing foods. The size selected will vary with the local needs. They should always have a cover for them that is tight fitting to keep out flies and insects. Garbage cans and the garbage area should be sprayed with a germicide after they have been thoroughly scrubbed.

4-19. Measuring Cup. A small graduated plastic measuring cup (usually an 8-ounce size is quite adequate) is indispensable to the custodian for properly measuring the mixtures for disinfecting and cleaning solutions. Almost all modern compounds are meant to be used in specific solutions that are the result of careful research by the manufacturer and may become inefficient or even a hindrance to the cleaning effort if improperly mixed. If more than what is recommended is used, the result can be damaging to the surface and a waste of money.

4-20. Door Wedges. A few assorted wooden door wedges may be made locally in the shop to hold open those doors that have a door closer. Many times in the cleaning program, this will create a draft to help in drying and odor elimination and often prevents damage to both the door and cleaning equipment as it is moved through the door.

4-21. Mop Rack. A mop rack for drying wet mops and storing them should be considered a must for the custodian. These can be made locally or can be purchased commercially. A rack for drying mops outside in the sunlight and fresh air is advisable in addition to the rack inside the custodians' storage area.

4-22. Sanitation Supplies. A list of some commonly used sanitation supplies is as follows:

- a. Ammonia (household)
- b. Acid-resistant bowl and urinal swab and brush
- c. Acid bowl cleaner
- d. Buckets or Pails
- e. Cleaning Compounds - Synthetic or Neutral Detergents
 - (1) All purpose cleaners
 - (2) Germicidal detergents
- f. Disinfectants (fungicidal)
- g. Paper - Towels and Toilet Tissue
- h. Rubber Gloves
- i. Soap (Liquid Hand Soap Concentrate)
- j. Sponges or Cellulose
- k. Squeeze Bottles (Plastic)
- l. Service Cart
- m. Sprayer
- n. Sign ("Toilet Closed")
- o. T.S.P. (Trisodium Phosphate)
- p. Safety Goggles

4-23. Commodes.

a. Commodes are available in many types and sizes and can be classified in the following manner:

(1) Mounting.

(a) Floor mounted.

(b) Wall hung.

(2) Flush water supply.

(a) Tank.

(b) Flushometer (sloan) valve.

b. Wall-mounted commodes are more sanitary than the floor mounted ones because they are much easier to clean. The floor-mounted models are difficult to clean around and behind and at times will leak around the base. The height of the seat above the floor is dependent on the fixture itself and the initial installation. The two basic commode shapes are round and elongated.

c. Some commodes with a water tank supply are still in use, but the majority being installed in facilities today are fed directly from the water supply line through a flushometer valve, commonly called in many areas a "sloan valve." Regardless of the type supply or manner of mounting, all models operate on the same basic principal. All of them have a water seal in the bowl. When the fixture is flushed, water enters the bowl through a series of small holes beneath the rim. This extra water starts a syphoning action over the trap, sometimes aided by what is called "jet action" through a small hole near the bottom of the bowl and pointed in the direction of the flush flow over the trap. When the flush water supply stops, the water seal again settles into the bowl. Sometimes the trap is in the front of the fixture, sometimes in the rear.

d. Urinals, like commodes, can be either wall mounted or floor (pedestal) mounted. The wall type can be a halfstall, wall-hung type, or the stall type that is mounted in the wall and floor. Some facilities have women's models of the pedestal type, which are only modifications of the men's type.

e. The flushing action of the urinal is very similar to that of commodes. Water enters through holes in the rim (in the case of pedestal types,) or through holes at the top (in the case of stall types). Some models have a water seal, as in commodes, while others have just a drain at the bottom.

f. In some rare instances, the trough-type urinal is still in use. This type is most unsanitary and difficult to keep clean and odor free.

4-24. Lavatories.

a. Lavatories, hand basins, or face basins are fairly standard, the chief differences being in the type of material used to fabricate the basin. The most common materials used are porcelain on metal and vitreous china. Some stainless steel basins are seen, and some facilities have recently installed basins and sinks made from fiberglass.

b. Most lavatories are mounted to the wall by brackets hidden under the rim. A few are pedestal mounted and some are set into a counter. The pedestal-mounted basin presents a problem when cleaning the floor around the basins. Different methods of plumbing the drain in the bottom of the basin are by use of a rubber plug, drop core, or flat drain cover. Of the three methods, the drop core is

the most permanent and looks the best but can be the most unsanitary. The drain core is the spot most forgotten when cleaning and sanitizing a lavatory. All drain cores are easily removable for cleaning and should be cleaned weekly.

4-25. Soap Dispensers.

a. Since the Florida Sanitary Code forbids the use of bar soap in a public place, the problem of dispensing individual portions of cleaning materials for the hands and face must be overcome with some type of mechanical dispenser. They will range from elaborate multiple heads, central tank units, down to the use of a soda pop bottle by the custodian who has had dispensers torn down or ruined to the point where the stock has been exhausted.

b. The most common types of liquid dispensers are the globe type, which are the simplest mechanically, and the tank-type lather or liquid dispensers. The globe type will have a glass globe atop the dispensing nozzle that has a plunger spring loaded to the closed position. Globes made of plastic are also available as a safety factor against breakage.

c. Dry hand soap dispensers dispense a form of powder that is either loaded into the dispensers in powder form or in a cake that is ground into individual portions each time the dispenser is activated. The merits and demerits of the two types are discussed constantly, but it appears to be a matter of which type the facility prefers.

d. Metal dispensers are usually chrome plated though some of the powder types are available in enamel paint. The painted models are much less expensive.

4-26. Towel Dispensers.

a. Since the common towel is outlawed in Florida's public facilities, there must be a sanitary method of dispensing individual towels. The paper towel is almost universal. These may be of the folded, pack type, or roll type. The cabinets vary in design and shape to suit the individual towel manufacturer. Many of the towel dispensers will dispense the towels from several manufacturers. Some will not, and a specific brand must be used in them. This disadvantage is most noticeable in the roll type dispensers. When mounting the dispensers, make sure they are located near the lavatory yet to one side so that the person drying his hands is not in the way of another person who is washing. The waste paper receptacle should be placed directly underneath the dispenser to help minimize floor litter.

b. The standard dispenser in the past has been enamel on metal, but the trend is toward aluminum or other unpainted alloy metal.

4-27. Toilet Tissue Dispensers. Toilet tissue dispensers hold one of the two types of toilet tissue; the roll pack or the flat, interlocking pack. As in the case of the towel dispensers, the previous models have been painted metal which tend to rust or corrode. The latest models are stainless steel, aluminum, or another alloy. Each custodian should familiarize themselves with the models found in the facility so they can be maintained quickly and easily.

4-28. Wall Mirrors. Most wall mirrors are glass and flush mounted to the wall above the lavatories in toilet rooms. Those with a frame around them seem to be less subject to breakage. Highly polished stainless steel mirrors are also available for areas where breakage of glass mirrors has been high, but they are quite expensive. In addition, the metal mirror is more subject to scratching and will lose its finish if not properly cared for.

4-29. Surface Finishes in Sanitation. In the past, the facilities had relatively few different types of surface finishes for which they were required to remember specific cleaning and sanitizing directions.

Today science is developing and producing new materials for the architect to use almost faster than the architect can find uses for them. Some of these materials are so new that we are still developing the best methods for the care and sanitation of them. This section will attempt to cover some of the classifications of these materials and specific examples in each class that one might encounter with any peculiarities of each which should be known when cleaning and sanitizing them. In all instances, where manufacturers' instructions are available, it is well worth the time to study them in detail.

a. Aluminum. Aluminum is derived from the chemical alumina, a kind of earth. One-twelfth of the earth's surface is alumina in various compounds which makes it seem plentiful, but many intricate processes are involved in extracting it for use.

(1) Many uses for aluminum are found around a facility. Some custodial equipment is made of this metal, as well as dispensers, window frames and door frames, wall partitions, and many other items.

(2) New aluminum can be kept bright and shining for a long time by using mild soap or detergent and water. Rinse with warm or hot water and polish with a soft clean cloth. Mild soap or detergent is recommended because strong alkaline cleaners tend to dull the finish. Stubborn dirt can be removed with very fine steel wool rubbing in one direction only, not in a circle. Rub spun aluminum the direction of the surface lines. Ordinary abrasive cleaners are too harsh for aluminum. Cleaning compounds containing soda lye, ammonia, and other strong alkalis injure the surface and discolor the metal. Alkalis tend to darken aluminum; mild acid brightens it. Strong acids attack aluminum.

b. Chromium. Chromium is a soft, silver-colored, rustproof metal. It is prepared from its oxide and is never found in metallic state. As a metal, chromium is used as plating for plumbing fixtures, metal furniture, electrical appliances, etc. and is easily recognizable by its bluish sheen. It is also used in making stainless steel. Chromium usually needs only to be wiped with a soft, damp cloth and polished with a dry one. If very dirty, it may be washed with a mild soap or detergent. Harsh metal polishes and cleaning powders should never be used on chromium. They are totally unnecessary and wear off the plating. Faucets, waterpipes, etc., that become green with corrosion do so because of pitting of the plating from abuse or where the plating has been broken in some manner. This green corrosion is not on the chromium itself, but the brass undermetal. This problem should be treated as brass corrosion. Afterwards, a light oily film will help retard further corrosion. Replating is the only way to stop this corrosion completely.

c. Stainless Steel. Stainless steel is an iron alloy containing chromium. It seldom requires more attention than washing in hot suds, rinsing, and drying. Stainless steel is rustproof, but salt and acid can cause pit marks if left in contact too long. If spots do appear, clean with fine stainless steel wool and whiting. Polish with a soft cloth. The use of abrasive cleaning powder will scratch the surface and dull it very quickly. Many products that are used in the facilities are made from stainless steel.

d. Glass. Glass is made by fusing silica with alkalis, metal oxides, and salts. It can be cleaned with many different substances. Glass is very easy to maintain. Do not use an abrasive cleaner or steel wool on glass, as they will scratch the surface. The film left by dirty cleaning water or some soap is very noticeable; it should be rinsed well after cleaning and polished with a soft cloth. There are many glass cleaners on the market; however, some custodians prefer to use a little kerosene or vinegar mixed with water for cleaning.

e. Glazed Ceramic Tile. As the name implies, glazed ceramic tile has a glass-like finish and should be treated as such. Abrasives will ruin the finish, as it will glass, and strong acid cleaners can damage it and the ceramic grouting.

f. Unglazed Ceramic Tile. Unglazed ceramic tile is manufactured in the same manner as glazed ceramic tile except that the second glaze firing is eliminated. It can be cleaned with most cleaners, including scouring powders, but strong acid will harm it.

g. Concrete Floors. Untreated concrete floors are difficult to keep clean and sanitary. This is especially true if they are in toilet rooms where uric acid and salts attack the floor and create an unsanitary condition. Cement floors should be sealed with a clear plastic-type penetrating sealer and painted to give them an impervious surface.

h. Quarry Tile. Quarry or promenade tile is semi-vitreous and comes in a variety of colors. It is used in vestibules, kitchens, cafeterias, patios, and toilet rooms. This tile is very easy to maintain and should not be waxed. Quarry tile is very slippery when wet. It can be cleaned and scrubbed with strong cleaners and abrasives without harming it. However, strong alkalis will harm the grouting. Mopping with a solution of germicidal detergent is recommended in areas where sanitation is a factor.

i. Resilient Flooring. All “soft tile” floors, such as linoleum, asphalt tile, vinyl asbestos, and vinyl should not be abused with strong alkaline or acid cleaners. A good neutral cleaner will do the cleaning job quite well and a properly used disinfectant in the cleaning solution or rinse water will not harm them.

j. Rubber. Oil and other petroleum products attack rubber products. Strong alkalis tend to “dry out” rubber and make it brittle and age prematurely. Rubber should be rinsed thoroughly after coming in contact with strong cleaners. Acid attacks rubber very quickly. A mild synthetic detergent should be used to clean rubber products, and they should be rinsed promptly.

4-30. Sanitizing Methods.

a. Now that the different tools, fixtures, and surfaces in sanitation have been discussed, the best method of employing the tools and supplies furnished us is naturally the next step. Regardless of the supplies on hand, if they are not used to the best advantage, the results will either be a poor job or more time and energy will be expended than is necessary. With greater demands for the custodian’s time, the custodian must strive to “streamline” the work at every opportunity or face the possibility of never completing it. The methods discussed in this chapter are aimed toward this end of “streamlining” the custodian’s work without sacrificing quality.

b. While the succeeding procedures may seem new to some, they are not to be construed as the ultimate by any means. These procedures come from many sources. They have all been tried and are in use in some facilities. Modification of some will be necessary to fit the exact conditions of a particular facility. You will find that they are not “iron-clad” and can be adjusted to fit most situations.

c. Toilet Rooms.

(1) Cleaning of toilet rooms should be rated as one of the most important jobs of the custodial staff.

(2) It is important to properly clean toilet rooms for a number of reasons:

(a) They have to be clean and sanitary in order to meet proper standards of sanitation necessary to control the organisms that cause disease and infection;

(b) Clean toilet rooms should encourage high standards of cleanliness;

(c) Dirty toilet rooms tend to build ill will for the facility;

(d) Dirty toilet rooms tend to be disagreeably smelly and may be responsible for odors in nearby corridors; and,

(e) Dirty toilet rooms tend to encourage messiness, mischief, and vandalism on the part of clients.

(3) The cleaning of toilet rooms need not be a disagreeable job; however, improperly maintained toilet rooms, those that have been allowed to become excessively dirty and smelly, are troublesome. The cleaning of toilet rooms and fixtures should be a daily task. In fact, some toilets with a lot of traffic or use may need attention two or three times a day. This can be done easily and quickly with a plastic squeeze bottle filled with a germicidal detergent solution and sprayed on the commodes, urinals, and floor drains. It is good to check the condition of the toilet rooms to see if the floors need sweeping or dust mopping, or if some of the fixtures need extra cleaning. A clean toilet is not likely to have a disagreeable odor.

4-31. Critical Areas.

a. Drinking Fountains. Enameled cast iron, vitreous china, stainless steel, and aluminum are the most common upward surfaces of drinking fountains. Most health authorities require slanted protected jets. Drinking fountains give clean, sanitary water if they are kept clean and are used and protected in a sanitary manner. Attention to drinking fountains should be given as needed by the custodian to keep them sanitary and in working order. Behavior of users must be supervised. Staff can be of great help by giving proper instructions. A plastic squeeze bottle filled with sanitizing solution, a sponge, and a toothbrush are the only items needed when proper attention has been given to the drinking fountains. If drinking fountains are properly cleaned daily, the use of an abrasive cleaner is not necessary. Do not use an acid on drinking fountains, but carefully scrape with a razor blade if cleaning does not remove scale.

b. Shower Heads. The custodian should inspect and clean, if necessary, all showerheads once each week. Most showerheads can be cleaned while in place. If it is one of the older types, it will have to be removed for a thorough cleaning. The toothbrush is a good tool to use to clean the hard-to-get places and around the mouthpiece and handle. A small, fine grade nylon abrasive pad will help remove scale where an abrasive cannot be used. Never use abrasive on aluminum or the new fiberglass plastics. Use a fine abrading pad instead.

4-32. Locker Rooms.

a. Lockers. The tops of lockers should be dusted periodically and the floor under the lockers swept every day. The front of the lockers should be washed periodically with a disinfectant cleaner.

b. Floors and Drains. Floors of locker rooms require daily sanitizing and receive the same care as those in toilet rooms. The drains should be checked often to ensure they are clean and clear of any obstructions.

c. Benches. The tops of the benches in the locker room should be cleaned each day using a cleaning disinfecting solution and allowed to air dry. The legs should receive this treatment at least once each week.

d. Ventilation. While proper cleaning will eliminate the source of many locker room odors, proper ventilation, as in the case of toilet rooms, is essential. Use the same methods of ventilating as in the case of toilet rooms. Remember that toilet facilities in locker and shower rooms require the same daily care as those in the toilet rooms.

4-33. Shower Rooms. Shower and locker rooms require care similar to that afforded toilet rooms. Floors of shower and locker rooms require daily sanitation care. Shower stalls and partitions and the walls of gang showers may become coated with oily deposits from bodies, and with an insoluble soap curd, particularly in areas with hard water. The frequency of cleaning these partitions and walls can best be determined by experience.

4-34. Toilet Facilities.

a. Where clean and proper toilet facilities are provided, the food service personnel are more likely to have a proper attitude toward sanitary practices and conditions in the kitchen. All toilet rooms should have self-closing doors and should be kept clean, well-lighted, well ventilated, and in good repair.

b. Hands cannot be cleaned effectively without the use of hand cleaning compounds and warm water. Unless clean towels or other satisfactory hand drying devices are provided, hands may become recontaminated.

4-35. Waste Disposal Area.

a. Trash Cans. Trashcans are differentiated from garbage cans in that they hold only dry waste or trash, where the garbage can is for wet materials and food. Trashcans should be emptied daily. Under no circumstances should waste paper be stored in combustible containers; use metal containers for this.

b. Garbage Cans.

(1) Garbage cans should be standard in size and sturdy in quality.

(2) Garbage cans should be stored in a screened garbage room with a supply of both hot and cold water. This room should have a floor drain.

(3) Garbage cans that are placed outside should be kept covered with a tight-fitting lid and in secluded places not clearly visible to passers-by.

(4) All garbage cans should be labeled with the name of the facility on the can and lid.

(5) Areas in which the garbage cans are kept should be sprayed with insecticide during the insect and pest season.

(6) Empty cans should be kept in assigned places.

(7) All garbage cans, lids, and garbage areas require daily care by scrubbing with hot water and sanitizing with a germicidal detergent.

(8) If the garbage cans are extremely dirty, first flush with cold water. Then fill about one-third full with hot water. The sides and bottoms should be scrubbed with an old broom until thoroughly cleaned. The cans should then be emptied, drained, flushed, sanitized, dried, and returned to their proper locations.

4-36. Grease Traps.

a. Every kitchen should have a grease trap either inside or outside, very near the unit which it serves if the facility uses an on-site waste disposal system. The residue from the sinks fills grease traps with solids that must be removed. The custodian should watch this unit, clean it, and keep it

functioning properly. Under no circumstances should a trap be left open. A complete stoppage usually requires additional manpower to eliminate the trouble.

b. A grease trap, unless properly maintained, may be a hazard instead of a help in the operation of an institutional type sewage disposal system. It is, therefore, important that it is cleaned frequently and the intervals between cleaning should be determined by experience in any given location. A rule of thumb to follow is to clean when 75 percent of the grease retention capacity is reached.

c. It is necessary to remove not only the top layer of grease from the top of the water level, but also any solids that may have accumulated on the bottom. This may call for the use of long handled ladles and a GI can on a dolly to receive the wastes. These wastes should be properly disposed of, preferably through the garbage removal system utilized by the facility. Care should be taken to keep the water content of removed grease trap contents as low as possible to minimize the weight of containers in which these wastes are placed for removal from the premises. The capacity of grease interceptors and traps may be gauged at approximately two pounds of grease for each gallon per minute of flow-through of waste water.

4-37. Empty Milk Containers. Unrefrigerated milk spoils or sours quickly and attracts flies and insects. Empty milk containers afford food and harborage for these insects if not properly stored. They should be stored in covered garbage cans until burned or picked up.

4-38. Sweeping. From the standpoint of cleanliness and sanitation, perhaps no duty of the custodian is more important than that of sweeping and dusting. Not only is dirt brought into the building on feet, but a surprising amount of dust also infiltrates the premises via the atmosphere. This dust may originate from many sources and may contain harmful ingredients. For example, an analysis of dust taken from the window ledges of buildings in large cities revealed that it contained ashes, sand, plaster, soot, brick dust, clothing fibers, hair, steel, and micro-organisms.

Chapter 5

CLEANING AGENTS

5-1. CommonLY Used Cleaning Agents.

a. The custodian's ultimate job in a building is to maintain a clean and sanitary facility that will improve the environment. This is a definite factor in selecting the cleaning material for a facility. All facilities have this same objective; however, the cleaning materials and the cleaning problems will vary within each facility. Specifications for liquid hand soap, general purpose synthetic detergent, toilet bowl cleaner, dust mop treatment, germicidal detergents, etc. are now available with plans for drafting additional specifications for custodial cleaning supplies in the near future.

b. Dirt could be defined as dust mixed with a moisturizing agent, such as water or oil, which causes it to stick to a surface. Dirt removal consists of releasing this binder and then removing the loosened residue. The "unlocking" of the dirt may be accomplished with different cleaning agents; however, consideration must be given as to which agent is best suited for the particular job. Some agents, while being very effective, will prove harmful to the surface being cleaned and irritate the hands. As a result, they can prove more harmful than leaving the surface dirty.

c. Four points to consider in selecting cleaning materials are:

(1) The strength. Does it have the necessary cleaning power?

- (2) Labor required. Is it easy to use?
- (3) Cost. Is the product economical?
- (4) Safety. Can it be used safely on surface and hands?

d. Generally speaking, two classes of custodial cleaning agents are used: (1) abrasive or scouring powders and (2) emulsifying agents. Abrasives or scouring powders require chemical action; emulsifying agents have a chemical reaction.

e. There is a trend toward buying more general or all-purpose types of a variety of individual products. Many facilities buy certain chemicals in large quantity rather than brand name and effect considerable savings. Generally speaking, it is safer to buy from a reliable, established concern, even if the price is slightly higher, than to purchase from a company whose business reputation may be in doubt. The old saying "you will get what you pay for" is seldom more appropriate than when buying operational supplies and equipment.

f. Abrasive or scouring powder is a combination of soap powder and some abrasive material, such as pumice, quartz, ground silica (sand), volcanic ash, etc. These abrasive materials should pass through a No.100 sieve in order to prevent serious scratching of the surface to be cleaned. Abrasives are seldom used alone in cleaning. The continued use of abrasive cleaners will damage and destroy the surface upon which they are used. T. S. P. is often added to these abrasives to improve the cleaning power; however, this mixture should not be used on terrazzo, wood, asphalt tile, rubber tile, or as a metal polish. Note: If proper cleaning is done on a regular basis, there will be little or no need for abrasive cleaners. These cleaners, used with care, can remove stubborn stain or rust from hard surfaces such as ceramic, quarry tile, or porcelain. In many cases, the active chemical ingredients contain a powdered synthetic detergent, some "builder" alkali, and some powdered bleaching agent. Some precautions in using cleaning agents:

- (1) Use the proper dilution. Never use a solution stronger than necessary.
- (2) Allow the solution to remain on the surface only long enough to remove or loosen the dirt.
- (3) Rinse well with clean water.

5-2. Water. Perhaps the simplest and oldest cleaning agent is water. Dust and dirt can often be removed by simply washing it away or by using a damp cloth or sponge. Water does not have the ability to emulsify, or cut, grease and oil as is so often found in perspiration, body oils, kitchen and cigarette smoke, and dust particles floating around in the air. Certain materials are water soluble, such as finger paints, and can be easily dissolved in water.

5-3. Soap. Two common types of soap are alkaline and neutral.

a. Alkaline soap contains a lot of "building" material, such as trisodium phosphate, soda ash, water glass, or other similar substances to increase the detergency action. Heavy alkaline soaps may contain up to 11 percent of some such "builder." They can be so harsh as to remove paint and varnish and can dull finishes. In fact, if they are used to excess on tile floors, they will remove the oil from the tile, it will get brittle and hard, and will eventually crack.

b. Neutral soaps are mild; they contain only about 1 percent builder. Such soap should be used for cleaning walls, toilet rooms, all types of floors, and any surface which has an oil base paint on it. Most fabrics and plastics require the use of neutral soap.

5-4. Useful Terms When Discussing Soaps And Detergents.

a. Wetting Power. A cleaner added to water would increase its ability to penetrate into the tiny cracks of a soiled surface even faster than water alone. A detergent will lower the surface tension of the water.

b. Emulsifying Power. This means the solution has the ability to break up and remove oily particles from the surface and suspend them in the cleaning solution. The solution must also prevent them from coming together again and redepositing themselves back on the surface. If they are broken up finely, the particles can be easily removed by rinsing.

c. Dispersing Power. A cleaning material must have wetting and emulsifying power in addition to the ability to keep particles in suspension in the cleaning solution; in other words, dispersing power breaks up dirt into very small particles. No distinct lines can be drawn between wetting, emulsifying and dispersing agents; too many chemicals have one or more of these properties.

d. Hard Water. If the water in your area contains such minerals as calcium, iron, magnesium, suspended matter, and oil, it is considered "hard water." These materials render part of the soap ineffective and form scum that must be emulsified by the rest of the soap. Cleaning can be done satisfactorily with hard water if a softening agent like soda ash, trisodium phosphate, borax, etc. is mixed with it, or by using a "built" soap which already contains these materials.

5-5. Hand Soaps. Soap is available in bar, liquid, or powder form.

a. Bar soap is most used in lavatories or showers, although the State Sanitary Code forbids its use in public toilet rooms because of the possibility of transferring germs from one person to the other. It may be used in such places as the custodian's work room or some place that is not public. Some facilities do not purchase soap in bar form to avoid the possibility that it might be placed in general use.

b. Liquid toilet soaps are water solutions, usually of a neutral coconut oil potash soap which may have glycerol, sugar, or alcohol added to lower the freezing point and prevent foaming. Sometimes another vegetable oil such as palm kernel oil or olive oil is substituted for part of the Coconut oil. Glycerol is probably unobjectionable since it has softening qualities, but sugar has no beneficial action on the soap itself and may be objectionable because it leaves the hands sticky.

c. Powdered soaps (flake and granulated) are available in small quantities, like hand soaps, or in large quantities, as used in scrubbing. Powdered soaps are made by mixing dry sal soda or borax with a liquid soap, dried, then milled into a powder. Powdered hand soaps are used in some restrooms, but you will find the dispensers often become plugged up, the powder falls on the sink and forms a messy paste, and it will collect under fingernails.

d. Liquid hand soap is the most desirable for toilet room use. It should be thinned down to about a 10 percent solution to prevent gumming the dispenser and to save soap.

e. Oil or Soft soaps are paste soaps made from certain vegetable oils and caustic potash (or a mixture of caustic soda and caustic potash). The terms "oil soap" and "soft soap" are broad ones. Green Soap is a name frequently applied to oil soap, even though the latter is usually amber in color. Other names for oil soap are potash soap and jelly soap. Oil soaps dissolve easily, are harmless to most surfaces, rinse quickly and leave no residue. Cake, chip, and powdered soaps in general do not have these qualities, or if they do have them, it is to a lesser degree.

(1) Potash soap does a better job on wood floors than any other soap. It prevents checking and splintering and aids in maintaining the natural resiliency of the wood.

(2) If oil soap dries on a floor, it remains transparent; soda soaps, on the other hand, form a white film.

f. Before leaving the subject of soaps, there is one difference between “soap powder” and “powdered soap.” “Powdered soap” is an approximately 88 percent neutral soap in powdered form. On the other hand, “soap powder” is a strong alkaline soap compound that generally has a high percentage of cheap soda.

5-6. Synthetic Detergents.

a. “Detergents” actually means any cleaning agents. There are two main types of detergents: the soaps already mentioned and the nonsoaps, which are commonly referred to as “synthetic detergents”. Synthetics were originally developed not because of a scarcity of soap, but to overcome its disadvantages. While soap is a very good general cleaning agent in soft water, it is not so satisfactory when used in hard or cold water. Calcium and magnesium salts, in hard water, react with soap to form soft, gummy scum that stick to the surface being cleaned. This scum is as difficult to wash off as is the original dirt itself. This means that part of the soap added to hard water is consumed in softening the water, and only after that can the leftover soap do the cleaning for which it is intended.

b. Synthetic detergents are not made from a combination of oils, fats, and alkalis. Some are made as a by-product of refining petroleum products, especially kerosene and benzene. Others are made from a group of chemicals called fatty acids. These acids occur in fats and have some of their characteristics, yet are not fats. Synthetic detergents do not form scums, regardless of the hardness of the water.

c. Light duty detergents are used for cleaning lightly soiled surfaces; for instance, washing dishes. They have a pH value of almost 7. In this group are the commercial detergents such as Dreft, Vel, Breeze, and Trend, etc.

d. Heavy duty or all purpose detergents are used for cleaning badly soiled surfaces. They have a pH value considerably above 7. This high pH result is from the use of alkaline builders, the phosphates and silicates. In this group are the commercial detergents such as Tide, Fab, Surf, and Cheer that are known as the low suds group.

e. Synthetic detergents have some other advantages that the soaps do not. One advantage being they have been approved for use in cleaning rubber. Another is that some of them have been compounded so that rinsing the surface after washing it is almost eliminated. Detergents are available in either powder or liquid form. The liquid has an advantage over the powder in that it mixes into solutions more readily and without leaving any residue in the bottom of the cleaning bucket. It is easier to measure and generally is less wasteful.

f. In 1965 the synthetic detergent industry went into full production of a new type of synthetic detergent known as “Biodegradable”. Called LAS (for Linear Alkylate Sulfonate), this new material replaced the widely used sudsing ingredient called ABS (Alkyl Benzene Sulfonats). ABS decomposes slowly after it has done its job of cleaning, and after it has gone down the drain with wastewater it causes foam buildup on rivers and streams. On the other hand, LAS breaks down in treatment plants as readily as organic sewage.

g. Although ABS and LAS may sound technical, it is not difficult to understand; ABS, the basic surface active and the foaming agent in most of yesterday’s detergents, was not generally broken down completely by bacteria in sewage treatment. In other words, this residue persisted and upon reaching the streams created the foam problem.

h. LAS and “other soft” ingredients which replaced ABS have at least equal cleaning power and do not change the appearance of the product. Because the chemical structure of LAS is more amenable to the action of bacteria, it breaks down rapidly in modern sewage treatment facilities.

5-7. Other Cleaners.

a. Trisodium Phosphate is made by mixing soda and phosphoric acid to form disodium phosphate to which is added caustic soda. The result is colorless crystals soluble in water. One tablespoon full in a gallon of water will serve most cleaning purposes. It is especially effective in cutting oil and grease. “TSP”, as it is generally called, is a strong cleaning agent for all around work. It emulsifies oils, and in stronger solutions (two to three tablespoons full to the gallon of water) can be used to clean up heavy grease and to wash dirty oil mops, dusters, and dust cloths. It does show its effect on derivatives of petroleum products so it will damage linoleum, rubber, and asphalt tile floorings that contain oil. In fact, if the solution is very strong, it will act as a paint and varnish remover. Care should be taken when using this cleaner at full strength or for long periods of time due to the possible irritating effect it can have on the skin.

b. Bleaches. All bleaches are designed to purify and whiten certain substances. All bleaching depends on chemical action with oxygen, either the oxygen of the air or oxygen in a chemical solution. Bleaching is actually removing or destroying the color pigment, which is caused by this reaction with free oxygen liberated by the bleach.

(1) One form of bleach, “Clorox” or “Purex” (5-1/4 percent sodium hypochlorite) is often used as a disinfectant; however, being a hypochlorite, it requires the surface to be cleaned before it can work properly as a disinfectant.

(2) In addition, bleach can be used as a grout whitener, if a weak solution is mopped on and allowed to dry over a weekend.

5-8. Ammonia. A simple chemical compound made of hydrogen and nitrogen. The “household” ammonia we use is a solution of ammonia gas in water. Ammonia has many varied uses in industry such as drugs, dyes, synthetic fibers, rubber, petroleum, fertilizer, metallurgy, etc.; however, its value as a cleaning agent is the primary concern here. Ammonia is a good grease emulsifier and was used extensively in the past wherever there was a need for removing a heavy grease deposit. The main disadvantages of ammonia are its odor, the harsh reaction to the hands of the user, and its damaging effect to the surface being cleaned. Today there are cleaning agents, strippers, and floor finishes which have ammonia added to them in a balanced, controlled formula which eliminates the guess work and does not necessitate the custodian adding ammonia to his cleaning water. Some custodians still use a few drops of ammonia in water for washing windows and cleaning glass. It is also advisable to have a container of household ammonia for the removal of some spots and stains.

5-9. Toilet Bowl Cleaner.

a. Many companies today produce a cleaner designed especially to remove stains and mineral deposits from toilet bowls and urinals. Most of these bowl cleaners are acids in nature and will dissolve the deposits. The most common form of bowl cleaner is liquid, though crystals and tablets are also available. The acid most widely used is hydrochloric (muriatic), although phosphoric is gaining recognition in some areas. The formula usually has between 20 and 30 percent acid in it. In addition, detergents, deodorizers, disinfectants, and chemicals to “inhibit” the acid action in the pipes are added to the compound.

b. On this action, the acid of the bowl cleaner dissolves the uric salts and mineral deposit buildups that is basically a form of limestone. The porcelain found on many wash basins are limestone deposited on metal, and if an acid bowl cleaner is used, damage to the metal will result. These

cleaners will not noticeably harm the vitreous china used to make commodes and urinals. All acid cleaning compounds are poisonous and must be so labeled. They are harmful to the skin when touched, to the lungs when inhaled, some clothing can be dissolved, the concrete grouting and floors, and many other different surfaces. There are certain bowl cleaners that may also be used on porcelain, but you should check the directions on the type you have very carefully before attempting this.

5-10. Germicidal Detergents.

a. There are numerous chemical elements such as iron, sulfur, calcium, and magnesium salts, etc. dissolved in the water throughout the state. These minerals cause "hard" water, and when passing through the plumbing system causes an encrustation or stain build-up on the fixtures. When these organic substances decompose, especially in urinals, commodes, and floor drains, there is an offensive odor produced. A detergent for cleaning and a disinfectant or germicide for killing germs forms a compound called a germicidal detergent. These agents will eliminate the need for a second step of disinfecting after cleaning, or trying to mix a proper balance of disinfectant into a cleaning solution. The improvement, in either case, is obvious in money and time saved.

b. The two main advantages in the use of these compounds are: (1) the cleaning solution contains a disinfectant and in the proper amount, thereby avoiding the possibility of neglecting to disinfect; and (2) the cost of the compound, though higher than regular soap or detergent, is usually less than the combined cost of soap plus the individual disinfectant. The disinfectants have been discussed earlier, and it is mainly a matter of deciding which type compound will best serve and solve your particular problems.

5-11. Soot and Stain Removal Supplies. Due to the variety of the stains found on the many surfaces in a facility which require certain chemicals to remove them successfully, and the danger of improperly using these chemicals, it would be advisable for the custodians to confine themselves to the use of water, soap and water, detergents, or commercial bleaches. However, if they do not remove the stain, the following information may prove beneficial. One should know what the stain is and the properties of the chemical being used. Materials that may be used for removing stains may be classified under three headings:

a. Absorbents. Absorbents prevent the stain from spreading and from penetrating into the surface. To facilitate quick removal of the stain, apply the absorbent immediately when any substance has been spilled on the surface. If a stain-removing solvent is applied freely, the absorbent may be used to prevent the stain from spreading. Some examples of absorbents are cloths, talcum powder, detergents, French chalk, blotting paper, dry cement, sawdust, and fuller's earth.

b. Volatile Solvents. Most stains are greasy in nature and soluble in certain volatile solvents. The selection of solvents for stain removal is a matter of preference since many solvents are very much alike. Some examples of volatile solvents are cleaning solvents, turpentine, alcohol, ether, carbon tetrachloride, benzol, and acetone.

c. Bleaches. All bleaching depends on chemical action with oxygen, either with the oxygen of the air or oxygen in a chemical solution. Bleaching is the actual removal or destruction of the pigment, not a neutralization of its color. Wet the stained surface with the bleach and allow it to dry slowly. Do not rub it with a cloth or remove the bleach until it has done its work. Then neutralize it with a neutral soap or detergent. Good quality inks are very difficult to remove, and ordinary commercial bleaches have no effect whatever. Some examples of bleaches are chlorine, oxalic acid, javelle water, ammonia, chloride of lime, permanganate of potash, hydrogen peroxide, and household bleach.

5-12. Stain Removal Techniques.

a. It should be understood that no formula is infallible, and that in many cases small preliminary tests should be made in the least conspicuous places. It is also recommended that in all cases of removing stains that you begin at the outer edge and work toward the middle, thereby preventing the stain from spreading.

b. Poultices are often recommended for removing certain stains. A poultice is an absorbent powder made into a thick paste with hot water or with the proper liquid chemical. First, the stained area should be wet with water, or the recommended solution removing the stain, and then the poultice applied from $\frac{1}{4}$ to $\frac{1}{2}$ inch thick. It should be allowed to dry 24 to 48 hours. Theoretically, the solution has penetrated the surface and as the poultice dries, the penetrated moisture is drawn out into the drying poultice and the stain along with it. Therefore, ample drying time is essential. Although the poultice may be dry on top, it is still absorbing the embedded moisture underneath. The following techniques refer to some of the more common specific stains:

(1) Blood Stains. Fresh blood can usually be removed from a nonporous surface with clear water or a detergent. To remove penetrated stains or to remove old bloodstains, wet the spot and sprinkle freely with malt diastase. Distribute evenly and allow stand time of one hour. Then rinse.

(2) Chewing Gum. Apply dry ice until the deposit is brittle enough to crumble off. If dry ice is not available, use ordinary ice, although it is slower. A bucket full of chipped ice pushed slowly over a gum spotted floor and followed promptly with a scraper is sometimes effective on large areas. Carbon tetrachloride poured around a gum deposit (not on) soaks under the deposit and loosens it.

(3) Cigarette Burns. If not too deep, steel wool will often remove them. Soap and water will make the steel wool more effective.

(4) Coffee Stains. Dilute one part of glycerin with four parts water. Apply to the stained area with a cloth saturated in the solution. Allow this to soak for fifteen minutes, and then flush with water. To remove difficult coffee stains, apply a strip of cotton batting saturated with hydrogen peroxide, and over this apply another strip saturated with ammonia.

(5) Tea Stains. Use detergent or soap and water. If this is not satisfactory, dry cleaning fluid should work.

(6) Human or Animal Stains. If a recent occurrence, sponge with several applications of lukewarm water, wipe dry, and follow with a solution of one part vinegar to three parts water. If an old stain, try the suggestion for removing rust.

(7) Synthetic Dye Inks. The bright red, green and violet inks are synthetic dyes in water. Such inks contain no acids and do not etch the surface. Ammonia water or liquid household bleach when applied with a piece of cotton will quite often remove these stains.

(8) Ordinary Writing Ink. Make a strong solution of powdered laundry bleach in hot water. Mix this to a thick paste with powdered chalk or whiting, which may be bought at any paint or hardware store for a nominal price. Apply a layer $\frac{1}{4}$ inch thick and let dry. Remove the poultice, and if some of the stain remains, repeat the operation.

(9) Ballpoint Ink. Dry cleaning fluid should remove most stains of this type.

(10) Nail Polish. Wipe or blot as soon as possible, but do not spread. Acetone or polish remover should remove the spot.

(11) Ink on Marble and Terrazzo. Avoid acids, all of which dissolve marble. Use a solution of sodium bicarbonate; two teaspoonfuls dissolved in a pint of water. Add whiting to form a paste and apply as a poultice $\frac{1}{4}$ inch thick. Allow to dry. If a blue color remains, repeat the operation. If a brown stain remains, treat as a rust stain.

(12) Indelible Ink from Any Floor. This includes inkpads, ballpoint pens, etc. Wipe the stain with cotton saturated with ammonia or javelle water. Or apply a poultice of equal parts of chlorinated lime and whiting. Add sufficient water to make a paste.

(13) Iodine Stains. On most surfaces, apply ammonia to remove the stain. If the stain is deep and/or old, apply cotton batting soaked with ammonia until stain disappears.

(14) Grease Stains. There are several absorbents available such as talc, hydrated lime, Portland cement, and other powders especially prepared to remove oil and grease stains. If none are available, saturate a layer of cotton with peroxide and lay over the stain. Saturate a second layer of cotton with ammonia and place over the first. Repeat this process until the stain is removed.

(15) Oil Stains. These stains are not difficult to remove if treated at once. If possible, wipe up the oil as soon as it strikes the surface. Then cover the stain with a dry powdered material, such as powdered chalk or Portland cement that will absorb the oil. If the oil stain is an old one, repeat this operation daily until the stain is gone.

(16) Rust Stain. Use one-part sodium citrate crystals to six-parts water and add an equal portion of glycerin. Make into poultice with whiting. Allow two or three days to dry.

(17) Paint or Varnish. Use a paint and varnish remover or make a thick solution of TSP and water and apply it to the spot. Keep it wet for five minutes and scrub using steel wool if necessary.

(18) Silver Nitrate Stains. Apply iodine. Allow to dry and then remove both stains with ammonia.

(19) Sugary Substances. For the removal of candy or other sugary substances, clear warm water should be tried first. If this fails, add a little soap or neutral synthetic detergent. Alcohol, diluted with an equal part of water, may be tried next.

(20) Chocolate Stains. Use alcohol nine-parts to one-part stronger ammonia. Use sparingly or you may strip the color from a carpet.

(21) Tobacco. Use the same formula suggested for regular ink.

(22) Soft Drinks. If the stains cannot be removed with clear or soapy water, use the formula recommended for removing regular ink.

(23) Rouge. Use soap or detergent and water first; if this fails, use equal parts of denatured alcohol, acetone, and glacial acetic acid (99 percent). Avoid getting the cleaner on the hands as it may cause a skin burn; it will not harm fabrics, except those of a cellulose acetate nature.

(24) Mildew. Can usually be removed with 10 percent ammonia. In bad cases of mold, clean with 10 percent solution of permanganate of potash.

Chapter 6

TIME TABLE FOR CLEANING

6-1. Average Time for Various Cleaning Operations.

a. Custodians today cannot afford the luxury of “flying by the seat of their pants” when planning and carrying out the maintenance program for the buildings they service. There is simply too much involved and non-scientific methods can easily result in sheer economic waste.

b. One of the most productive areas for using scientific studies lies in the measuring of your work performance. You can plan and schedule your maintenance program much more effectively if you know how much time is required to perform various cleaning operations. This is not always easy to determine. Every building presents its own, individual set of cleaning problems, and standard time values cannot always be applied.

c. You can, however, develop some values of your own through observation and the use of your wristwatch. When undertaking this type of study, however, you must remember that your time values should be based on the average worker, which means you will have to compensate for above-average and below-average workers when making and recording your observations. This may sound very complicated, but it does not have to be. It is admittedly more work than “flying by the seat of your pants”, but it will enable you to increase the efficiency of your existing personnel, if you tackle the job on a scientifically sound basis, and follow it through.

6-2. Suggested Estimates of Cleaning Time for Various Operations.

- a. Sweep – general rooms: 1,000 square feet per 20 minutes.
- b. Sweep – unobstructed halls, corridors: 1,000 square feet per 10 minutes.
- c. Sweep – stairways: 40 steps and landing in 12 minutes.
- d. Damp mop: 1,000 square feet per 10 minutes.
- e. Wet mop and rinse: 1,000 square feet per 30 minutes
- f. Machine scrub – unobstructed - (16” Floor Machine): 1,000 square feet per hour.
- g. Hand scrub: 150 - 250 square feet per hour.
- h. Deck scrub brush with long handle: 500 – 750 square feet per hour.
- i. Vacuum (wet pickup): 1,000 square feet per 45 minutes.
- j. Spot vacuum: 1,000 square feet per 22 minutes.
- k. Thorough vacuum: 1,000 square feet per 70 minutes.
- l. Wax: 1,000 square feet per 30 minutes.
- m. Machine polish – unobstructed (16” Floor Machine): 1,000 square feet per 15 minutes.
- n. Dry clean (buffing with steel wool pad) – unobstructed – (16” Floor Machine): 1,000 square feet per 20 minutes.

o. Dusting- -general dusting, offices: 1,000 square feet per 10 minutes.

p. Stripping and rewaxing floors:

(1) 1 custodian: 1,000 square feet per 2 ½ hours.

(2) 2 custodian team: 700 – 800 square feet per hour.

q. Large scrub machine with automatic pick-up, etc.: 4,500 square feet per hour with average of 36,000 square feet per 8 hour shift with 2 custodian team.

r. Washroom cleaning – cleaning bowls, floor, basins, etc.: 500 square feet per hour, general cleaning

s. Washing marble walls – sponge and squeegee: 650 square feet per hour

t. Washing painted walls:

(1) 250 square feet per hour.

(2) 450 square feet per hour with wall washing machine.

u. Window washing: 60 - 80 windows per 8 hour day – 1 person

v. General office cleaning:

(1) Custodian: 1,000 – 1,300 square feet per hour.

(2) Also estimated at one person for each 10,000 square feet.

w. Individual Operations.

(1) Dust ash tray 15 seconds.

(2) Dust chair:

(a) Large: 64 seconds.

(b) Medium: 35 seconds.

(c) Steno: 22 seconds.

(3) Dust desk:

(a) Large: 48 seconds.

(b) Medium: 43 seconds.

(c) Small: 38 seconds.

(4) Dust files:

(a) Four drawer: 22 seconds.

(b) Five drawer: 27 seconds.

(5) Empty wastebasket: 15 seconds.

(6) Wash glass partitions:

(a) Clear: 8 square feet per minute.

(b) Opaque: 8 square feet per minute.

x. Daily Operations. (Based on 26 workdays per month, four weeks per month, and eight hours per day.)

(1) Sweeping: 135,625 sq. ft. @ 1,000 sq. ft. per 15 minutes = 33.9 hours.

(2) Spot vacuuming – carpeting: 28,350 sq. ft. @ 1,000 sq. ft. per 22 minutes = 10 hrs.

(3) Damp mopping – terrazzo: 45,000 sq. ft. @ 1,000 sq. ft. per 10 minutes = 7.5 hours.

(4) Total daily working hours (not including washrooms) = approximately 52 hours.

y. Weekly Operations.

(1) Wet mop and rinse:

(a) Asphalt tile: 90,625 sq. ft. @ 1,000 sq. ft. per 30 mm. = 45 hrs.

(b) Terrazzo tile: 45,000 sq. ft. @ 1,000 sq. ft. per 30 mm. = 22.5 hrs.

(2) Thorough vacuuming - carpeting: 28,350 sq. ft. @ 1,000 sq. ft. per 70 mm. = 33.0 hrs.

(3) Total weekly working hours = 100.5 hours.

z. Monthly Operations.

(1) Machine scrub and vacuum pick-up – asphalt tile: 90,625 sq. ft. @ 1,000 sq. ft. per 1 hr. and 45 mm. = 159 hours.

(2) Wax, one coat, buff - asphalt tile: 90,625 sq. ft. @ 1,000 sq. ft. per 45 minutes = 68 hours.

aa. Semi-Annual Operations. Strip and rewax, two coats, buffed - asphalt tile: 90,625 sq. ft. @ 1,000 sq. ft. per 2 hours and 30 minutes = 227 hours.

Chapter 7

ORGANIZING THE MAINTENANCE STAFF

7-1. How To Get Started.

a. To get started:

(1) Determine the workload and manpower requirements.

- (2) Distribute the workload in terms of personnel number and skill.
- (3) Schedule the workload.
- (4) Supervise the work.
- (5) Train employees.

b. To determine the workload, first list exactly every operation to be performed for every area, noting opposite the unit of work measurement and the quantity by actual count and measure. Such a typical and all-inclusive list appears as appendix A to this operating procedure.

c. Having listed the needs, one determines the total objects, the total square footage, interior and exterior, the total work day in hours with a leave allowance of 15 percent and the total number of positions.

d. The next step is the determination of the performance per workday, the workdays required, the frequency in workdays, and the number of productive personnel needed to accomplish this.

e. Some areas like eating and toilet space require hourly attention; others like high-activity work floor space need twice daily, while others including offices once daily. Light cleaning and window washing are once monthly; lawns are once weekly and trash removal daily.

f. Roughly speaking, we put 10,000 square feet per person per forty hours week as the basis of our calculations. This includes all operations as policing, dusting, sweeping, washing, scrubbing, polishing, and maintaining for the entire area. One hundred fifty square feet per person per day is used for toilet areas, including all fixtures, all related areas for the full range of operations, policing through disinfecting.

7-2. Determine Work Zones.

a. Best planning comes from making definite and clear-cut assignments to each cleaning employee. To do this, obtain sufficient copies of the floor plans of the entire building so that two sets will be available for outlining assignments for each work shift or tour of the cleaning personnel. One set will be used to outline daily assignments on each cleaning tour. As each zone is determined, outline it on the floor plan, using crayons of contrasting color. Assign a number to it, said number to be on the written work schedule given to the employee assigned to the zone. Where possible, limit the assignment to one type of operation such as cleaning workrooms. When it is necessary to combine two or more operations to make a full eight hours work, make the area of work as close together as possible to keep travel to a minimum. Daily work assignments should include work done periodically, as, for instance, every second day, every third day.

b. Next, determine work zones for assignment of all operations done on other than a daily basis. These zones may vary from day to day with the same work, such as wood floor maintenance being performed in a different part of the building each day. The area to be covered by an employee or crew should be outlined as a separate work assignment on the floor plan. If a separate set of plans is not available, outline with different colored crayons those areas used to determine the daily work assignment.

7-3. How To Assign Work.

a. Definitely established and written work routines are necessary for good cleaning management, because they inform the employees exactly what they are to do, when and how the work is to be done, and what supplies and equipment are to be used.

b. Besides showing the regular employee what they have to do, the written work assignments can be given to substitutes to ensure that the regular cleaning work continues.

c. Copies of such schedules are given to each employee for their assigned zone. They shall be required to carry it with them on the job until they are thoroughly familiar with it, after which they should then place it on the inside of the door of their locker or janitor's closet. Both the supervisor and the building superintendent for reference keep duplicate copies. Note that assignments are given for certain areas only when they are most free of personnel or other people. They are also made to best fit the capabilities of the employee.

7-4. How To Supervise the Work Done.

a. It is the function of the housekeeping supervisor to plan, guide, direct, and supply the work needs of subordinates with the necessary written instructions, tools, and suggestions. The more efficient the supervisor, the better the cleaning organization.

b. It is the supervisor's first duty to explain fully the daily routine to the employee while at the same time personally taking him over the assigned area, describing and demonstrating what should be done at each point including not only the use of equipment, but the reason for employing it in a certain way both in relation to the work and existing work rules. This may be done by either individual, group or class demonstration.

c. It is the supervisor's second duty to see to it that an adequate inventory of supplies and equipment is always on hand and available for distribution to the employees.

d. It is the supervisor's third responsibility to provide guidance and counsel to each worker under their direction, evaluating performance, assuring safe work practices and explaining policies and rules relating to their employment.

e. All of this is for naught unless inspection or evaluation of work performance is made as to quantity and quality, noting in the process those omissions, substandard work and safe working practices which require immediate corrective action directly in person with the worker responsible to determine if carelessness or lack of knowledge caused the deficiency. Slovenliness cannot be tolerated in cleaning maintenance.

f. Moreover, if the trainee has been properly familiarized with the work rules, has developed good workmanship with minimum time and effort, has been taught to work so that surfaces cleaned will not also be damaged and with maximum safety to the custodian, there should be no difficulties on this score. Meetings held to review recurring complaints, to view films and to discuss new techniques, tools or rules would further clarify problems.

g. Open discussion of difficulties and suggestions for improvements will create better employee understanding by demonstrating management's interest, thereby improving the moral and effectiveness of the work force.

h. The clean environment, in turn, will reduce sick leave, reduce eye, ear, nose and throat complaints, and improve general efficiency and profit for all.

Operation/Unit of Work Measurement/Actual Count and Measure

Cleaning work toilet rooms.....	No. of fixtures	16
Cleaning office toilet rooms.....	No. of fixtures	8
Policing work toilet rooms	No. of fixtures	16
Policing office toilet rooms	No. of fixtures	8
Cleaning swing and locker rooms	Sq. ft.	850
Policing swing and locker rooms	Sq. ft.	850
Cleaning workrooms with benches and cases.....	Sq. ft.	1800
Cleaning workrooms without benches.....	Sq. ft.	2400
Policing workrooms with benches/cases	Sq. ft.	1800
Policing workrooms without benches	Sq. ft.	2400
Cleaning lobbies and corridors.....	Sq. ft.	860
Policing lobbies and corridors	Sq. ft.	1060
Cleaning office space.....	Sq. ft.	2340
Policing office space	Sq. ft.	2340
Cleaning stairways.....	No. of Flights	16
Policing stairways	No. of Flights	16
Cleaning storage/supply rooms.....	Sq. ft.	680
High cleaning of workroom areas.....	Sq. ft.	3450
High cleaning of office areas.....	Sq. ft.	870
Cleaning passenger elevators.....	Each	10
Cleaning freight elevators	Each	4
Sweeping outside areas.....	Sq. ft.	600
Sweeping open interior areas.....	Sq. ft.	850
Sweeping corridors	Sq. ft.	1250
Wet mopping.....	Sq. ft.	2400
Scrubbing with floor machine	Sq. ft.	1600
Scrubbing with scrubber-vacuum	Sq. ft.	1238
Apply finish to floors.....	Sq. ft.	2100
Wood floor maintenance	Sq. ft.	800
Window washing	Sq. ft.	2500
Lawn maintenance.....	Sq. ft.	890
Trash collection (daily)	Cu. ft.	18
Wall washing.....	Sq. ft.	3100
Power sweeping.....	Sq. ft.	2167