

## SAM – ENERGY AND SUSTAINABILITY

### MAINTENANCE OF BUILDING EXTERIORS, ROOFS, HARDSCAPE AND EXTERIOR PAINTING

1821.6

(New 10/2015)

To reduce the harmful effects of chemicals and air pollution on the local environment and to promote water and energy conservation during exterior maintenance activities, departments are required to develop a maintenance program consistent with the guidelines outlined in Sustainable Site Credit 2: Building Exterior and Hardscape Management Plan of LEED 2009 for Existing Buildings Operations and Maintenance.

Use this link for more comprehensive details:

<http://www.usgbc.org/Docs/Archive/General/Docs5545.pdf>

- A. Chemicals: The use of harsh chemicals is not usually necessary for most building exterior maintenance activities. The strength of the cleaning solutions should approximate the level sufficient to obtain satisfactory results. Do not use cleaning solutions stronger than necessary for the particular task. Cleaning solutions for exterior maintenance should be Green Seal certified or equivalent and should conform to Environmentally Preferable Purchasing (EPP) guidelines as stated in [SAM 1850](#).
- B. Exterior Maintenance: Sweeping is the preferred method of exterior cleaning; blowing is allowed when sweeping or raking is not practical. Departments are to adopt building exterior maintenance programs that conserve water. These programs include using manual cleaning methods over those that require high volume water spraying equipment. Water use, while sometimes necessary to carry out certain cleaning activities, should be carefully monitored to avoid excessive waste and runoff. If pressurized washing equipment is necessary, use equipment at the lowest output settings necessary to achieve satisfactory results. When power washing equipment is needed, use electric powered or battery-powered equipment to reduce air and noise pollution. Gasoline powered equipment should only be used in unusual or compelling circumstances and only with the authorization of the building maintenance supervisor.
- C. Hardscape: Water should never be used for general sweeping of hardscape although pressurized water use for purposes of specific removal of stains or grime from pavement, or for hygienic reasons, is considered reasonable use. State facility childcare centers with playgrounds and patios where food can be consumed should also be hygienically and routinely maintained. The monitored use of pressurized water would be appropriate for these areas as well.

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(Continued)

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**1821.6 (Cont. 1)**

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- D. Roofing Cleaning: Roofs should be maintained on a periodic basis consistent with the roof type (built-up, single-ply, metal, cool roof, etc.); manufacturers' warranty requirements; location environment (coastal, urban, desert, mountain, etc.); and other external factors that affect roof performance, reflectivity and longevity. Department maintenance programs should establish roof cleaning methods and frequencies specific to the needs of each building roof to avoid unnecessary cleaning and overuse of water and cleaning solvents. Simple hand removal of debris from roofs, drains, gutters, downspouts, and overflows is often sufficient. Unwarranted frequent cleaning with powered equipment can reduce the lifespan of the roof by wearing down protective coatings and roofing materials. When powered roof cleaning equipment is necessary, equipment with a water recovery/recycle system should be considered in the maintenance program for the appropriate roof type. Refer to local municipalities for additional requirements.
- E. Exterior Painting: Building maintenance often requires the repainting of exterior walls. Paints should either be no or low volatile organic compound (VOC) or contain recycled content when obtainable, meeting industry performance standards (see [Green Seal GS-43 Standard](#)). Use water-based paints over those containing oils. When spray equipment is used, ensure that care is exercised to prevent overspray and runoff, particularly near people, vegetation, waterways, and storm drains.
- F. Training: Departments are responsible for providing training and instruction to maintenance personnel and contractors on the proper use, handling, and disposal of all solvents and paint products. Personnel should be directed to use manual methods of cleaning and painting whenever possible and to avoid the risk of excessive discharge with powered equipment.