



# F I T

## FACILITY INSPECTION TOOL GUIDEBOOK



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CALIFORNIA'S COALITION FOR ADEQUATE SCHOOL HOUSING





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## PREFACE

In 2007, the Office of Public School Construction (OPSC), with the assistance of stakeholders, developed the Facility Inspection Tool (FIT) to replace the Interim Evaluation Instrument (IEI), which was adopted in response to the *Williams* Lawsuit settlement agreement reached in 2004. The FIT is a significant document for school facility professionals because it establishes a permanent and objective tool to evaluate the condition of school facilities, and all public school districts and county offices of education in California must use the FIT to determine if their school facilities are in “good repair” as defined in Education Code Section 17002(d) (1).

Although the FIT is a very useful document, practitioners in the field have expressed the need for a user guide that can assist them to “fill in the blanks” when conducting school facility inspections. To address this need, C.A.S.H. convened the C.A.S.H. Facility Inspection Tool Guidebook Committee under the leadership of C.A.S.H. vice-chair Bill Savidge to develop a FIT guidebook that provides practical information, specific examples and useful “tips” on how to best utilize the FIT.

This guidebook is intended as a supplement to the FIT and provides additional resources for identifying and addressing maintenance problems and establishing best practices in each FIT category. Mirroring the organization of the FIT, this guidebook provides the following information in each facility inspection category:

- I. Overview** - health and safety impacts of facility systems and/or structures
- II. Facility Inspection Tool** - practical tips on how to conduct a FIT-based inspection
- III. Beyond the FIT** - identify and address health and safety problems required by the FIT
- IV. Facilities Best Practices** - recommendations for M+O best practices
- V. Resources** - additional resources and information

Those who participated in the Committee included members of the original OPSC working group which developed the FIT, as well as additional school district and county office of education representatives with significant experience in the areas of school facilities and maintenance and operations, as well as representatives from the “green” schools community who provided valuable input and resources concerning high performance maintenance and operations practices.

C.A.S.H. would like to extend our appreciation to those who participated in this project – their commitment of significant time and effort is the reason that this project has been successful. Thank you also to Jenny Hill from C.A.S.H. whose hard work and positive attitude allowed this project to be completed on time and under budget. The individuals who served or participated in the Committee include:

- Bill Savidge, West Contra Costa Unified School District, Chair
- Brooks Allen, American Civil Liberties Union
- Duwayne Brooks, Coalition for Adequate School Housing
- Roger Chang, Los Angeles County Office of Education
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## **PREFACE Cont.**

- Toni Stein, California Department of Public Health
- Andrea Sullivan, Orange County Office of Education

We hope that this document will be a useful resource for school district maintenance and operations departments as well as county offices of education as we all strive to ensure that every single child in California attends a school that is clean, safe, and functional.

Ted E. Rozzi  
Chair, Coalition for Adequate School Housing  
February 2008

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## THE FACILITY INSPECTION TOOL (FIT)

Serving as the uniform definition of good repair, the FIT is intended to be used by school officials, county offices of education, students, teachers, and parents to aid in ensuring that all California school children have access to clean, safe, and functional school facilities. Intended as a visual inspection tool, fifteen components are evaluated as part of the FIT. Additionally, the FIT includes a rating system to evaluate each component, and ranks the overall condition of the school. The following chart provides guidance on the various uses of the FIT.

Entity	Use
School Districts	<ul style="list-style-type: none"> <li>• Completing the school facility section of the School Accountability Report Card (SARC) for all district schools -- Education Code (EC) 33126(b)</li> <li>• Establishing a Facilities Inspection System (FIS) after July 1, 2005 for all schools, if participating in the School Facility Program (SFP) or Deferred Maintenance Program (DMP) to ensure each school is maintained in "good repair" -- EC 17070.75(e)</li> </ul>
County Offices of Education	<ul style="list-style-type: none"> <li>• Completing the school facility section of the SARC for all schools -- EC 33126(b)</li> <li>• Establishing a FIS after July 1, 2005 for all county operated schools, if participating in the SFP or DMP -- EC Section 17070.75(e)</li> <li>• Oversight responsibilities at API deciles 1-3 schools -- EC 1240(c)</li> </ul>

Source: <http://www.opsc.dgs.ca.gov/Programs/SABPrograms/GRS.htm> (last visited, January 28, 2008)

Before beginning an inspection, read the official FIT user instructions on pages 1-2 of the FIT carefully and consult them as you proceed (see Appendix 1). It is important to note that the lists of examples in each section of the Good Repair Standard are not exhaustive. If an evaluator notes a condition that is not mentioned in the examples but constitutes a deficiency, the evaluator can note such deficiency in the applicable category as "other." Likewise, while some critical conditions are identified as "extreme deficiencies" with underlined text followed by an (X) on the Good Repair Standard, the list is not exhaustive. If a deficiency requires immediate attention and, if left unmitigated, could cause severe and immediate injury, illness, or death of the occupants, evaluators should record this deficiency as an "extreme deficiency" and generate a poor rating.



## POTENTIAL FUNDING SOURCES

### **The Emergency Repair Program (ERP)**

If an evaluator identifies an extreme deficiency at a school ranked in the bottom three deciles of the Academic Performance Index (API), the Emergency Repair Program (ERP) may be an excellent option for funding the necessary repairs. Created by the *Williams* Settlement Legislation in 2004, ERP funding is now available to schools identified by the California Department of Education (CDE) as ranked in deciles one, two, or three on the 2006 Base Academic Performance Index (API). The list of schools meeting the API criteria has been published by the CDE and is posted at [www.cde.ca.gov/eo/ce/wc/wmsschools.asp](http://www.cde.ca.gov/eo/ce/wc/wmsschools.asp).

The ERP provides grant funding as well as funding to reimburse Local Educational Agencies for the cost of repairing or replacing existing building systems or structural components that are broken or not functioning properly and that pose a health and safety threat to students and staff at eligible school sites. Funds will be made available annually through the Budget Act and the program will operate until \$800 million has been allocated. For more details, please visit the Office of Public School Construction's ERP website at [www.opsc.dgs.ca.gov/Programs/SABPrograms/ERP.htm](http://www.opsc.dgs.ca.gov/Programs/SABPrograms/ERP.htm).

### **Additional Potential Funding Sources to Achieve Best Management Practices (BMP)**

Funds to remedy deficiencies can come from a variety of sources. The traditional sources include Routine Repair Maintenance Account (RRMA), State Deferred Maintenance (DM), Facility Hardship Grant (FHG), and Modernization funds. Non-traditional sources could include the LEA's insurance company; local, state, and federal grants; redevelopment funds; community facilities districts; and site funds. It is recommended that a matrix is developed identifying the sources and uses of funds available for maintenance to achieve BMP.



## SECTION 1 – GAS LEAKS

### I. Overview

Safe school facilities require that gas distribution systems and gas appliances be free from leaks. The piping systems, connections, and appliances need full integrity without signs of corrosion, damage, or dislocation of system components. The health and safety risks of gas leaks are clear and include both the risk of explosion from accidental ignition and the risk of asphyxiation when leaks occur in occupied enclosed spaces.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"><li>All areas (classrooms, assembly areas and outside areas) should be free of the smell of natural gas</li><li>If a gas odor is detected, try to determine the source and if it presents an immediate danger</li></ul>	<ul style="list-style-type: none"><li><u>Gas odor present (X)</u></li></ul>
<ul style="list-style-type: none"><li>There should not be any hissing sounds from potential gas leaks</li></ul>	<ul style="list-style-type: none"><li><u>Broken gas pipes (X) – Stop inspection, inform appropriate school administrator</u></li></ul>
<ul style="list-style-type: none"><li>Ensure pilot lights are lit on kitchen / classroom stoves and water heaters where accessible</li></ul>	

#### **Tips for filling out the FIT under this category**

- This is a major building system that spans the entire school campus, therefore check for good repair under this section in all areas/classrooms you inspect.
- Do not mark ANY area/classroom as NA in this section.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

- The FIT relies upon an inspection team noticing gas odor and/or visual assessment of piping as the basis for a deficiency. Given the potential serious health and safety risks of a gas leak, it is anticipated that leaks that are noted by the inspection team will be repaired immediately by the school district or qualified professional.
- Plumbers have the lead in both installation and repair of gas distribution systems and gas appliances. They use a simple procedure for locating leaks when they are identified based on odor—the soapy water test. Use a spray bottle filled with soapy water to cover gas pipes and connections. If a leak is present, there will be bubbles coming from the area of the leak.

## SECTION 1 – GAS LEAKS

3. For leaks which may be more difficult to locate, different areas of the system can be isolated and pressure-tested by disconnecting a line or appliance and installing a simple pressure gauge. After reopening the lines with the gauge in place, loss of pressure over time can be identified in the area of the system being checked. Only qualified professionals should perform this procedure.

### IV. Facilities Best Practices

1. *General*
  - a. In general, gas distribution systems do not require extensive regular maintenance. Basic, ongoing visual inspections of piping, valves, and appliance connections should be sufficient. One of the difficulties in maintaining gas systems is that the piping is typically concealed, either underground or inside building walls, floors or ceilings. For piping runs within buildings, or attached to buildings, an important element is to assess the support systems and ensure that no piping is loose or unsupported which can lead to stress on fittings.
    - i. Gas piping on covered walkways/canopies is a concern for many Districts. This piping may be more subject to seismic shaking, with resulting damage to fittings. Routing gas lines on overhead canopies should be avoided.
    - ii. Seismic shut-off valves. Every campus gas system needs to be protected with a seismic shut-off valve.
2. *Underground Systems*
  - a. Older, underground gas distribution piping generally is metal and may be subject to corrosion over time. It is important for District staff to be aware of site soil conditions that may impact underground piping.
    - i. Best practice for upgrading underground systems (or new systems) is the use of high strength plastic pipe and “welded” fittings. This piping is extremely strong and corrosion-resistant.
3. *Science Labs*
  - a. Gas systems in middle and high school science labs are particularly vulnerable to damage due to malicious mischief by students. The presence of gas jets on secondary school lab tables has historically proven to be hard for the unfocused to resist. District staff should ensure that lab areas are safe and intact. Best lab practice (and current code) requires a gas distribution solenoid valve for each room to be placed within a locked enclosure. This will allow the teacher to control the gas system within the lab, so that during a lab period requiring use of gas jets the valve can be opened for use, then shut at the end of class to ensure there are no accidental discharges.

### V. Resources

California Building Standards Commission (<http://www.bsc.ca.gov/default.htm>)

International Code Council (<http://www.iccsafe.org/>)

International Association of Plumbing and Mechanical Officers (<http://www.iapmostandards.org>)

## **SECTION 1 – *GAS LEAKS***

Local Utility Companies. This is the best resource for assistance with basic gas service interruptions and restarting of equipment.

Uniform Plumbing Code. This is the best reference for renovation and new construction standards relating to gas distribution systems, and for piping, fittings, system elements, including standards for spacing and anchorage of supports.



## SECTION 2 – HVAC MECHANICAL SYSTEMS

### I. Overview

Good repair of the Heating Ventilation and Air Conditioning (HVAC) system is very important to ensure a healthy and safe indoor environment. HVAC systems in good repair are needed to deliver clean air, provide thermal comfort (cooling or heating), and to control and eliminate dampness and air contaminants to building occupants.

Rooms that are too hot or too cold, have inadequate ventilation, or are overly damp may impede learning and productivity. They also may cause sickness, such as respiratory infections and asthma, and absenteeism. Supplying adequate, clean air to occupants reduces or eliminates the airborne spread of germs, bacteria, and viruses and can dilute high concentrations of chemical pollutants emitted from activities and building materials in the room, thereby reducing risks of exposure.

HVAC systems in good repair should provide continual airflow to occupants whenever the rooms are occupied. A proper assessment of HVAC functioning is made when an inspection is conducted while the rooms are fully occupied. An assessment of the HVAC system is intended to help identify potential ventilation problems through visual and sensory assessments, including whether the air in a room feels “stale” or “stuffy”, whether there are any strong odors, such as chemical smells, body odors, trash, or mildew; whether any ventilation grills or vents are dusty or dirty; or whether the system is excessively noisy. Any of these items would be an indication of a potential problem that may require additional evaluation.

### II. Facility Inspection Tool

<b>What to look for during inspections under this category</b>	<b>Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)</b>
<ul style="list-style-type: none"><li>All areas should be a comfortable temperature and not overly hot or cold</li></ul>	<ul style="list-style-type: none"><li><u>Air Conditioning System is not working (X)</u></li><li><u>Heating system is not working (X)</u></li><li>Problems with the HVAC system exist</li></ul>
<ul style="list-style-type: none"><li>All areas should have good air circulation and should not be stuffy or stale</li></ul>	<ul style="list-style-type: none"><li>Ventilation units are obstructed</li><li>Vents are damaged or missing</li><li>Vents or surrounding areas are dirty</li><li>Pests making home inside vents</li></ul>
<ul style="list-style-type: none"><li>Exterior units should be in good repair</li></ul>	<ul style="list-style-type: none"><li>Sharp unprotected corners on exterior units</li><li>HVAC units vibrating or excessively noisy</li></ul>
<ul style="list-style-type: none"><li>Special fans/hoods (ex: science lab, pottery rooms, etc.) should be functional if they are being utilized.</li></ul>	
<ul style="list-style-type: none"><li>If a room is not comfortable or is stuffy or stale, as unobtrusively as possible, check with the teacher to determine if this condition is caused by a teacher preference or an inoperable system</li></ul>	

## SECTION 2 – HVAC MECHANICAL SYSTEMS

### Tips for filling out the FIT under this category

- NA should be filled out for this section for outdoor areas such as bleachers, fields, blacktops, playgrounds, and outdoor dining.
- Air Conditioning only applies if there is an existing unit/system.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

#### 1. *HVAC Inspection Tools and Tests*

- a. Air Flow Tissue Test - Assessing air flow delivery to a room is one way to assess if HVAC systems are operating. A simple tissue test is one method to check if air is flowing into and out of a room through its supply or return grill. The tissue test consists of attaching a piece of toilet tissue to a stick and holding it in front of a ventilation grill to check if air flow blows or sucks the tissue on the stick into or out of the room. The tissue test is only a qualitative test and should only be used to identify broken HVAC systems that completely fail to supply or return air to the room since it does not quantify that the air flow is adequate for the room size and occupant density.
- b. Electronic Flow Meters - Flow meters may be used to measure actual flow of air to a room. There are a number of types of flow meters that can mount on the supply and return grill to measure the inlet and outlet room air flow. Flow monitors may be used to check if the air flow meets the minimum air flow guidelines or requirements from government code Title 24. Title 24 2005 requires for most classroom types an air flow of 15 cfm per person in a classroom.
- c. Carbon Dioxide (CO<sub>2</sub>) Meters - A plug-in or hand-held CO<sub>2</sub> meter may be used as a quantitative indicator of adequate ventilation in a room. Various codes and standards define ventilation rates for schools and office spaces. The most widely accepted standard is the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62.1-2007: Ventilation for Acceptable Indoor Air Quality. ASHRAE provides guidance on indoor CO<sub>2</sub> concentrations in Appendix C of its standard. Outdoor CO<sub>2</sub> concentration directly impacts the indoor concentration; therefore, it is critical to measure both indoor and outdoor CO<sub>2</sub> levels when assessing indoor concentrations. Measured readings should be compared to ASHRAE and ASTM guidelines for interpretation (see the Resources Section below). Elevated CO<sub>2</sub> readings may indicate HVAC problems such as: inadequate delivery or return of outside air, broken air distribution ducts, broken air mixing dampers and controllers; combustion by-products from a nearby roadway or parking garage are being drawn into the building; or broken gas-fired heating appliances including cracked heat exchangers. CO<sub>2</sub> readings should not be the only assessment check used for HVAC system diagnostics. Problems can still occur with building HVAC systems in which measured CO<sub>2</sub> concentrations are below guidelines.
- d. Humidity Meter - Humidity meters may be used to check that the room is not excessively damp and that the HVAC system is properly exhausting any moisture generated in the school building. Relative humidity can be measured and checked against ASHRAE guidelines (generally that humidity should be less than 65%), Standard 62.1-2007: Ventilation for Acceptable Indoor Air Quality.

## SECTION 2 – HVAC MECHANICAL SYSTEMS

- e. Temperature meters - Temperature meters may be used to check that the classroom is not excessively hot or cold and checked against guidelines like the ASHRAE Standard 62.1-2007: Ventilation for Acceptable Indoor Air Quality.
2. *HVAC Functioning and Operation*
- a. There is no unusual or loud noise, excess vibration, no squealing belts when the ventilation is running. Excessive noise may cause room occupants to turn the system off, thereby reducing airflow.
  - b. The controller appears to be operating properly to turn the HVAC on and off, and to control temperature accurately.
  - c. The ventilation grills delivering air to the room are in their open position and are not obstructed.
3. *Odors, Mold, Dust, and Mildew*
- a. FIT inspections may not involve observing or looking at any specific HVAC equipment, such as supply or exhaust fans, filters, coils, combustion boxes or boilers; but if any of these components are accessible they should be inspected. Fans and pumps should be checked to make sure they are not excessively loud. Filters should be checked to make sure they are not missing or dirty with dust. The condensate pan below coils should be checked to ensure they are not excessively dirty and they appear to be draining water properly. Combustion devices should be checked to ensure they are vented directly to the outdoors and not to the room.
  - b. Inspections should aim to assess that the air brought into school rooms is clean, fresh, and non-contaminated. HVAC deficiencies should be noted when the air supplied to a room appears to be contaminated from pollutants such as mold/mildew, strong automotive (diesel or gasoline) odorous exhaust, or any other chemical or smoke brought or drawn into the rooms via the ductwork and air intake equipment. Inspections may include the following assessments:
    - i. There is not a build-up of dust, dirt, mold, or mildew on the air ventilation grills or the air return grills. Such build-up could indicate a problem with the filter.
    - ii. There is no mold or mildew on duct liners or any of the HVAC surfaces visible inside of the ventilator when the changeable filters are lifted up and out for changing.
    - iii. If the ventilator has heat exchanger coils, they are clean, and have no indications of mold, slime or algae, fungi, or microbial growth.
    - iv. The filters on the air intake fit tightly, in the housing, with no air by-pass. There are no gaps, holes, or cracks on the air intake filters that allow air to enter the ventilator unfiltered.
    - v. Filters on air intake are not overloaded with dirt, are dry, not torn or sagging.
    - vi. If the school is within 500 feet of a busy roadway, the ventilator filters are marked as MERV 11 or larger.
    - vii. The ventilation air intake is not obstructed; provisions such as screens are used to insure that birds, animals, or droppings are not contaminating the inlet.
    - viii. There is no unusual odor when the ventilator is operating.
4. *Air Supply and Return*
- a. There is a return diffuser.
  - b. The supply and return diffusers are at least 3 feet apart so that they are not short circuiting.

## SECTION 2 – HVAC MECHANICAL SYSTEMS

- c. The ventilation air intake is not within 10 feet of idling engines or vehicles such as buses, trucks, cars, emergency generators, furnace combustion exhaust, laboratory hood exhaust.
  - d. The ventilation air intake is not drawing air from any areas where there is standing water, waste, or other biological pollutants.
  - e. Ventilation intake louver or damper is open for outside air intake and does not appear to be broken.
5. *Air Conditioning and Furnaces*
- a. For units with air conditioning, there is no standing water or condensate in the condensate pan; they are free of debris, scale, or corrosion.
  - b. For units with air conditioning, surfaces that get cold, including the drip pan, are insulated on their exterior side and show no signs of condensation on them.
  - c. For units with air conditioning, there are no signs of refrigerant leaking.
  - d. For furnace, all products of combustion exhaust are vented to the outdoors without any holes or gaps.
  - e. Furnace has current inspection documentation. Valid and up to date operating permits are posted near air compressors, air pressure tanks, and boilers requiring permits.
  - f. There are annual inspection systems followed for inspecting and assessing ventilation, heating, and cooling systems, and an inspection has been done in the past year.

Note: if furnace ductwork repairs or flooring area repairs are anticipated, there must be an asbestos plan to determine if repairs may disturb any friable, asbestos-containing materials. Any removal, enclosure, encapsulation, or disturbance of asbestos or asbestos-containing material can be performed only by duly certified personnel.

### IV. Facilities Best Practices

1. HVAC is a major mechanical system of the school and is critical for providing a healthy indoor environment. For portable classrooms, continuous ventilation and adequate airflow is especially important because of the small, enclosed space and due to other considerations such as off-gassing of formaldehyde and other chemicals. The State of California conducted a study of indoor air quality in portable classrooms and had several recommendations described in its report. (See Resource section below)
2. HVAC systems can also represent a large proportion of a school's energy use. Therefore, it is important that these systems function as efficiently as possible and be well-maintained. If an HVAC system needs replacing, it is very important to replace it with an energy efficient model, since HVAC systems last decades and will lock-in a school's energy use pattern for years to come. Many state and electric utility programs exist to provide financial incentives, technical assistance, and other support to schools to improve their energy efficiency, including HVAC systems. (See Resource section below)
3. A well-maintained HVAC system that can eliminate many contaminants from the air should use a filter with at least a MERV-8 rating. Filters should be changed 3-4 times per year. ANSI Standard S12.60-2002 recommends 35 decibels for classrooms. However, to date, no California regulatory entity has adopted that standard; therefore it is not required. HVAC systems should be acoustically isolated.

## SECTION 2 – HVAC MECHANICAL SYSTEMS

### V. Resources

Advanced Energy Design Guide for K-12 School Buildings, ASHRAE, AIA, USGBC, and DOE. Guidance for achieving 30% energy savings ([www.ashrae.org/publications/page/1604](http://www.ashrae.org/publications/page/1604))

The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), ANSI/ASHRAE Standard 62.1 - 2007: Ventilation for Acceptable Indoor Air Quality ([www.ashrae.org/technology/page/548](http://www.ashrae.org/technology/page/548).)

The ANSI/ASA standard is available for download free from The Acoustical Society of America (ASA) ([www.asa.aip.org/classroom.html](http://www.asa.aip.org/classroom.html))

ARB and DHS Portables IAQ study ([www.arb.ca.gov/research/indoor/pcs/pcs.htm](http://www.arb.ca.gov/research/indoor/pcs/pcs.htm))

ASTM D6245-07 Standard Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and Ventilation ([www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE\\_PAGES/D6245.htm?E+mysore](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6245.htm?E+mysore))

Building Air Quality: A Guide for Building Owners and Facility Managers, Appendix B: HVAC Systems and Indoor Air Quality ([www.epa.gov/iaq/largebldgs/pdf\\_files/appenb.pdf](http://www.epa.gov/iaq/largebldgs/pdf_files/appenb.pdf))

California Air Resources Board, School Health Program ([www.arb.ca.gov/research/health/school/school.htm](http://www.arb.ca.gov/research/health/school/school.htm))

California Air Resources Board and California Department of Public Health, Report to the California Legislature: Environmental Health Conditions in California's Portable Classrooms, ([www.arb.ca.gov/research/indoor/pcs/pcs.htm](http://www.arb.ca.gov/research/indoor/pcs/pcs.htm))

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations. Available for free download at [www.chps.net](http://www.chps.net). See Guidelines HV1-HV10 on HVAC and Mechanical Equipment.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net)). See Guideline TC1-TC25 on HVAC.

Functional Testing and Design Guides; Functional Testing Guide: from the Fundamentals to the Field, Appendix B: Functional Testing Guide Resources, Portland Energy Conservation Inc. (PECI) ([www.peci.org/ftguide/index.htm](http://www.peci.org/ftguide/index.htm))

HVAC Guidelines, Savings by Design ([www.savingsbydesign.com/pdfs/SBD06\\_HVACHWOSInsert\\_v5.pdf](http://www.savingsbydesign.com/pdfs/SBD06_HVACHWOSInsert_v5.pdf))

HVAC Systems and Equipment, American Society of Heating, Refrigerating, and Air-Conditioning Engineers: Atlanta, GA.

IAQ Design Tools for Schools, Heating, Ventilation, and Air-Conditioning (HVAC) system ([www.epa.gov/iaq/schooldesign/hvac.html#Designing%20for%20Efficient%20Operations%20and%20Maintenance](http://www.epa.gov/iaq/schooldesign/hvac.html#Designing%20for%20Efficient%20Operations%20and%20Maintenance))

Improving Ventilation and Saving Energy ([eetd.lbl.gov/ied/ivse/](http://eetd.lbl.gov/ied/ivse/))

## SECTION 2 – HVAC MECHANICAL SYSTEMS

The Indoor Air Quality Building Education and Assessment Model (I-BEAM),  
([www.epa.gov/iaq/largebdgs/i-beam/index.html](http://www.epa.gov/iaq/largebdgs/i-beam/index.html))

'Listening for Learning' ([www.quietclassrooms.org/ada/ada.htm](http://www.quietclassrooms.org/ada/ada.htm).)

National Institute for Occupational Safety and Health, Indoor Air Quality: Self-Inspection  
Checklist ([www.cdc.gov/niosh/docs/2004-101/chklists/6indoo~1.htm](http://www.cdc.gov/niosh/docs/2004-101/chklists/6indoo~1.htm))

Quiet Classrooms provides information on acoustical standards, testing protocols, guidance for  
architects, ADA requirements, and more ([www.quietclassrooms.org](http://www.quietclassrooms.org).)

## SECTION 3 – *WINDOWS/DOORS/GATES/FENCES*

### I. Overview

Windows, doors, gates, and fences are important for maintaining security, for adequate ventilation, and for energy efficiency. Broken glass can be dangerous, and doors, windows, gates, and fences that have holes or do not lock properly can pose security risks. Windows and doors must be able to open and close properly for adequate ventilation (if there is no closed, central mechanical ventilation system) and thermal comfort, as well as conserving energy from heating and air conditioning.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>Windows and doors should be intact, functional and free of excessive scratches or wear marks</li> </ul>	<ul style="list-style-type: none"> <li><u>Exposed broken glass accessible to pupils and staff (X)</u></li> <li><u>Exterior doors and gates are not functioning and pose a security risk (X)</u></li> <li>Doors are broken, damaged, or missing</li> <li>Door jambs have excessive scratches and wear marks</li> <li>Loose or damaged thresholds that pose a trip hazard</li> <li>Scratches on floor or gouges on asphalt in arch of door swing</li> <li>Locks and other security hardware are not functioning properly</li> <li>Loose or sticky door locks and latches</li> <li>Windows are broken, damaged, or missing</li> <li>Windows are boarded-up</li> <li>Screens are damaged or missing</li> </ul>
<ul style="list-style-type: none"> <li>Fencing should be free of holes and sharp protrusions</li> </ul>	<ul style="list-style-type: none"> <li>Fencing has holes</li> </ul>
<ul style="list-style-type: none"> <li>Gates should free of holes, intact and functional</li> </ul>	<ul style="list-style-type: none"> <li>Gates are broken, damaged, or missing</li> <li>Scratches on floor or gouges on asphalt in arch of door or gate swing</li> <li>Locks and other security hardware are not functioning properly</li> </ul>

#### Tips for filling out the FIT under this category

- NA should be filled out for this section for areas that do not have windows/doors/gates/fences in the vicinity.
- Though outdoor areas may appear not to have any windows, doors, gates or fences, any fence or gate surrounding the area may be attached to that area for evaluation purposes For example, if a kindergarten play area has fencing, evaluate the fencing when evaluating the play area).
- Sites are not required to have fencing; however, if fences exist they must be in good repair.

## **SECTION 3 – WINDOWS/DOORS/GATES/FENCES**

### **III. Beyond the FIT**

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. Windows, windowsills, window frames, exterior door frames, and skylights are free of dampness (wet to the touch), water condensate (water droplets), or signs of water incursion (stains, discoloration), mold or mildew. Caulking around windows and door frames is intact and continuous; there are no visible spaces.
2. Exterior doors are equipped with weather stripping and door sweeps to prevent drafts, pests, and animals from entering.
3. Windows for natural ventilation open and close freely.
4. Windows with air conditioners mounted in them do not have signs of water incursion or intrusion or spaces where pests or animals can enter around the air conditioner housing.
5. For schools built before 1980, windows, windowsills, window frames and exterior door frames have no indications of chipping, peeling, or chalking paint from deterioration or from friction of moving surfaces or from impacts from carts, vacuums, shoes, balls, or people (which would bring in potential hazards from deteriorated lead paint).
6. Access is prevented to crawlspace, roof, and other passageways not intended for use by students or unauthorized staff.

### **IV. Facilities Best Practices**

1. Ensure that routine maintenance program includes the maintenance and cleaning of windowsills, window frames, etc. to avoid buildup of mold, mildew, and dust.
2. Maintain paint in good repair to avoid chipping of old, lead-based paint.
3. Maintenance of gates, fences, locks, etc. is important for security.
4. There may be opportunities to save significant amounts of energy and reduce schools' energy costs through the choice of high-efficiency windows, doors, and skylights; the use of weather stripping; and the greater use of natural daylight.

### **V. Resources**

BOMA Guide to Window Cleaning Safety Standards Property Professionals Guide Series. The ANSI / IWCA I-14.1 Window Cleaning Safety Standard ([shop.boma.org/showItem.aspx?product=199WINDOW&session=0C987B0DC9744695BE6EFD8FB8476F26](http://shop.boma.org/showItem.aspx?product=199WINDOW&session=0C987B0DC9744695BE6EFD8FB8476F26))

California Energy Commission Reports on Daylighting and Schools. Windows and Classrooms. A Study of Student Performance and the Indoor Environment ([www.energy.ca.gov/reports/2003-11-17\\_500-03-082\\_A-07.PDF](http://www.energy.ca.gov/reports/2003-11-17_500-03-082_A-07.PDF))

## **SECTION 3 – *WINDOWS/DOORS/GATES/FENCES***

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations. Available for free download at [www.chps.net](http://www.chps.net). See Guidelines BE4 Windows and Doors, CP8 Window Coverings.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net).)  
See Guideline IS11 Interior Doors and Guidelines LG1-LG19 on Lighting & Daylighting

U.S. EPA Energy Star resources and products for schools  
([www.energystar.gov/ia/business/challenge/learn\\_more/Schools.pdf](http://www.energystar.gov/ia/business/challenge/learn_more/Schools.pdf))



## SECTION 4 – INTERIOR SURFACES

### I. Overview

The standard for good repair of interior surfaces is clean, safe, and functional. Good repair of interior surfaces is important for maintaining an environment free of physical hazards (like floor holes and damaged carpet that could pose a trip hazard), biological hazards (like mold, mildew, water damage or dampness that can contribute to respiratory problems), and chemical hazards (like exposure to chemicals from paints, flooring, carpets, ceiling tiles, and other interior finishes). Good Indoor Air Quality (IAQ) requires attention to maintaining interior surfaces in good repair and selection of interior finishes and building materials that emit fewer chemicals. Water damage and dampness can lead to mold and mildew, which can cause and exacerbate respiratory problems like asthma. Signs of water damage and dampness on walls, floors and ceilings can include: condensation, water droplets, damp to the touch, wetness, staining of paint or other surfaces, warping or bowing of walls, ceilings or floors, peeling or cracking paint, or whitish chalky or dusty or salty mineral deposits. Maintaining interior surfaces in good repair and ensuring good Indoor Air Quality intersect with efforts to maintain Overall Cleanliness (See Section 15), since excessive dirt and dust can contribute to and exacerbate asthma.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>• Start with an overall general review of the room looking first at the ceiling, following down the walls and then looking at the floor.</li> <li>• After an overall general review of the room, slowly circle the perimeter of the room so that you can check on items at the walls and around cabinets</li> </ul>	
<ul style="list-style-type: none"> <li>• All ceiling tiles should be in place and should be clean, free of holes and free of stains</li> </ul>	<ul style="list-style-type: none"> <li>• Ceilings have damage from cracks, tears, holes, or water damage</li> <li>• Ceiling tiles missing, damaged, or loose</li> <li>• Ceiling tiles are stained</li> <li>• Interior surfaces have mildew or visible mold</li> </ul>
<ul style="list-style-type: none"> <li>• Wall surfaces should be clean and intact</li> </ul>	<ul style="list-style-type: none"> <li>• Walls have damage from cracks, tears, holes or water damage</li> <li>• Wall tiles are missing, damaged, or loose</li> <li>• Plaster or paint is damaged</li> <li>• Interior surfaces have mildew or visible mold</li> </ul>
<ul style="list-style-type: none"> <li>• Carpeting should be clean, free of excess rippling and large tears</li> <li>• Floor tiles should be clean, unbroken and free of stains</li> </ul>	<ul style="list-style-type: none"> <li>• Flooring has damage from cracks, tears, holes, or water damage</li> <li>• Floor tiles are missing, damaged, or loose</li> <li>• Carpeting damaged or stained</li> <li>• Interior surfaces have mildew or visible mold</li> </ul>

## SECTION 4 – *INTERIOR SURFACES*

### **Tips for filling out the FIT under this category**

- NA should be filled out for this section for outdoor areas. All indoor areas should have this item evaluated.

### **III. Beyond the FIT**

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. If dampness appears to be a problem, a relative humidity check may be required. The relative humidity using a hand-held portable meter should not exceed 60% in any room including restrooms, locker rooms, or pool areas.
2. If carpeting exists, it appears to be vacuumed and clean. To reduce the recirculation of dust and particulates, vacuums with HEPA filters are recommended.
3. Interior surfaces are free of mildew, mold odor, visible mold, water damage or condensate, and excessive dust and dirt, especially in areas where moisture is commonly generated (pipes under sinks, kitchens, bathrooms, locker rooms).
4. Interior surfaces are free of any staining, peeling, bulging, or mineral deposits (“efflorescence”) on surfaces.
5. The classroom is free of sources of dust and other sources of particulates, including old foam, old and torn upholstery, old carpets, and dusty clutter.
6. Furniture (desks, chairs, tables, cabinets) is clean and free of mold, mildew, signs of water damage, dampness, dust, dirt, or food.
7. No peeling or cracking paint (sign of moisture problem).

### **IV. Facilities Best Practices**

1. Routine maintenance should include checks for water damage, dampness, mold, paint chipping or peeling, and damage to floors and ceilings so as to prevent small problems from worsening.
2. If problems related to high humidity, moisture or dampness are evident, the ventilation system should be evaluated in greater depth.
3. To maintain and improve good Indoor Air Quality and protect the health and safety of students and staff, building materials and products should be chosen that emit fewer chemicals, contain recycled content, and/or are produced sustainably. Opportunities may arise to choose environmentally preferable products during maintenance, repair, modernization, or new construction projects.

## SECTION 4 – INTERIOR SURFACES

### V. Resources

CA Department of Public Health Standard for Testing of Volatile Organic Compound (Section 01350)  
([www.dhs.ca.gov/iaq/vocs/lors/Section01350\\_7\\_15\\_2004\\_FINAL\\_PLUS\\_ADDENDUM-2004-01.pdf](http://www.dhs.ca.gov/iaq/vocs/lors/Section01350_7_15_2004_FINAL_PLUS_ADDENDUM-2004-01.pdf))

California Integrated Waste Management Board Environmentally Preferable Purchasing (EPP)  
([www.ciwmb.ca.gov/EPP/](http://www.ciwmb.ca.gov/EPP/))

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations. Available for free download at [www.chps.net](http://www.chps.net). See Guidelines CP1-CP10 on Cleaning Practices and Products.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net))  
See Guidelines IS1 – IS13 on Interior Surfaces and Furnishings.

CHPS Low-Emitting Materials Approved List ([www.chps.net/manual/lem\\_table.htm](http://www.chps.net/manual/lem_table.htm))

Green Seal products ([www.greenseal.org/findaproduct/index.cfm](http://www.greenseal.org/findaproduct/index.cfm))

Healthy Schools Council Checklist Concerning Environmental Health & Safety in Schools, September 2003 ([mass.gov/Eeohhs2/docs/dph/environmental/iaq/schools\\_checklist.pdf](http://mass.gov/Eeohhs2/docs/dph/environmental/iaq/schools_checklist.pdf))  
([www.health.state.mn.us/divs/eh/indoorair/schools/plan/modelschoolasthmaplan.pdf](http://www.health.state.mn.us/divs/eh/indoorair/schools/plan/modelschoolasthmaplan.pdf))

Model School Environmental Asthma Management Plan, Minnesota Department of Health, Indoor Air Unit, September 2005, page 7-12 and 16-23  
([www.health.state.mn.us/divs/eh/indoorair/schools/plan/modelschoolasthmaplan.pdf](http://www.health.state.mn.us/divs/eh/indoorair/schools/plan/modelschoolasthmaplan.pdf))

Quick & Easy Guide to Green Cleaning in Schools. Healthy Schools Campaign  
([healthyschoolscampaign.org/campaign/green\\_clean\\_schools/guide.php](http://healthyschoolscampaign.org/campaign/green_clean_schools/guide.php))

U.S. EPA Mold Resources ([www.epa.gov/mold/moldresources.html](http://www.epa.gov/mold/moldresources.html))



## SECTION 5 – HAZARDOUS MATERIALS

### I. Overview

Schools produce, use, store, and manage many hazardous and flammable materials, including combustion byproducts from kitchens, maintenance and janitorial products, chemicals for science laboratories and wood/metal shops, gas tanks, mercury-containing light bulbs, asbestos, and mold, among other items. These materials, if not vented, stored, managed or handled properly can cause serious harm from fire danger or exposure to toxins or biological contaminants. The FIT is used to assess whether there appears to be evidence of hazardous materials that may pose a threat to students or staff while at school. The standard is for hazardous and flammable materials to be stored properly, and to have no evidence of peeling, chipping, or cracking paint, or of mold, mildew, or asbestos exposure. Beyond the FIT, there are many code requirements for fire safety and proper handling of hazardous materials, and many best practices to further reduce potential accidents and exposures to dangerous chemicals.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>• There should be no hazardous chemicals or substances in open areas accessible by students</li> <li>• There should be no hazardous chemicals or substances under sinks</li> <li>• Campuses should be free of excessive peeling paint, especially on elementary sites</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Hazardous chemicals and flammable materials are not stored properly (X)</u></li> <li>• Materials labeled “keep out of reach of children” are within reach of children</li> <li>• Pesticides found (if found, they should be immediately removed)</li> <li>• Aerosols found (no aerosols are allowed)</li> <li>• Mercury switches on thermostat are exposed</li> <li>• Paint is peeling, chipping or cracking</li> <li>• Surfaces appear to have mildew, mold odor and visible mold</li> </ul>
<ul style="list-style-type: none"> <li>• Custodial spaces should be properly storing cleaning chemicals</li> <li>• Special storage rooms (like science lab storage) should be inspected in middle and high schools</li> <li>• All flammable materials should be stored in a clearly marked flammable storage locker unless the item is in use</li> </ul>	<ul style="list-style-type: none"> <li>• 55-gallon drums are not labeled as to their contents</li> </ul>
<ul style="list-style-type: none"> <li>• All compressed gas cylinders should be secured to a wall or a cart</li> </ul>	<ul style="list-style-type: none"> <li>• Compressed gas cylinders are free-standing or otherwise unsecured</li> </ul>

#### Tips for filling out the FIT under this category

- This category should be checked in ALL areas including outdoor areas. Do not mark any area NA for this category.

## SECTION 5 – HAZARDOUS MATERIALS

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. *General*
  - a. Classrooms have low-VOC markers for white boards.
  - b. There is no mercury or mercury equipment in any classrooms, labs or other parts of the school (i.e. thermometers or barometers)
  - c. Asbestos management plan (AHERA plan) has been prepared and is kept on-site, up to date, and available without restriction.
  
2. *Chemical Storage*
  - a. Science labs where chemicals are used are equipped with containment hoods that appear to provide negative pressure and suck air to the outdoors and not into the room. Chemical fume hoods appear to be operable and draw air.
  - b. Chemical exhaust stacks are located at least 50 feet from outside air intake, or 2 feet above intakes that are within 10 feet and use vertical discharge heads not raincaps.
  - c. Chemicals are stored in a locked, well secured area that is ventilated with negative pressure to exhaust storage area fumes directly to the outdoors. An up-to-date Lab Chemical Inventory is posted in chemical storage area. Chemical storage areas are not overcrowded.
  - d. Chemicals are stored to prevent spill, knock-over accidents (i.e. on lipped shelves), and are stored by hazard class, and Acids and Bases are stored in separate dedicated cabinets and properly labeled.
  - e. All chemical storage containers are intact and there is no evidence of chemical leakage from containers (i.e. no crystals formed around lids or on shelves, no staining of the shelf or labels, no corrosion of shelving). Special storage requirements are met (elemental sodium/potassium are not stored under kerosene, light-sensitive chemicals are protected from light, etc.)
  - f. Flammable storage lockers should be secured to the wall or floor so as not to tip over when doors are opened or during an earthquake.
  - g. All chemicals are labeled with the name of the chemical, NOT solely by chemical symbol. All chemical solutions are labeled and dated.
  - h. All recyclable material (oil, solvents, etc.) drums should be kept in a secondary containment unit.
  - i. Material Safety Data Sheets (MSDSs) are available in each department for all hazardous chemicals used. Copies of hazardous waste manifests are retained on-site as required.
  - j. All chemical storage areas are provided with a spill-kit containing absorbent, neutralizing chemicals and other spill-control materials. Eyewash stations and safety showers are available and operable in areas where corrosives are used (hard-plumbed is preferable). Approved safety goggles are available in the areas where chemicals are used to every student using them. Appropriate personal protective equipment (e.g. chemically resistant glove, safety glasses) is used.

## SECTION 5 – HAZARDOUS MATERIALS

3. *Compressed Gas Cylinders*
  - a. Compressed gas cylinders are free of corrosion, dents, cuts, gouges, bulges and leaks.
  - b. All compressed gas cylinders are marked with up-to-date hydrostatic test certification.
  - c. Compressed flammable gases and oxidizing gases are stored separately by either a 1-hour fire wall or distance of 25 feet.
  - d. Compressed gas cylinders are stored upright in a well ventilated area, by hazard class, secured, capped and kept at least 20 feet from flammable liquids, oxidizers, and other sources of ignition.
  
4. *Flammable and Combustible Liquids*
  - a. Flammable and combustible liquids are stored in code-approved cabinets with self-closing doors, in buildings not occupied by students. Flammable materials are in approved safety containers.
  - b. Exhaust ventilation system in flammable material storage rooms provides six air changes per hour and a control switch outside the room.
  - c. The local Fire Department has been provided with the chemical inventory list, and has been invited to tour the areas where hazardous chemicals are stored/used in the school.
  - d. Adequate emergency equipment is available and easily accessible. (e.g. fire extinguishers, chemical spill clean-up materials, etc.)
  - e. A communication device (e.g. intercom, two-way radio, telephone) is available in areas where hazardous materials are used or stored so that the office can be notified of any emergency.
  - f. Emergency information (including emergency telephone numbers) is posted by the telephone(s) closest to the area(s) where hazardous materials/wastes are used/stored.
  - g. Containers of hazardous wastes are kept closed, and are labeled as required.
  - h. Hazardous wastes are stored in a secure, segregated, and labeled area.
  
5. *Maintenance Products and Janitorial Cleaning Chemical Products*
  - a. Maintenance and janitorial products are stored in a locked, well-secured area that is ventilated with negative pressure to exhaust storage area fumes directly to the outdoors.
  - b. A Material Safety Data Sheet (MSDS) is available on every maintenance product/cleaning chemical used in the facility.
  
6. *Art Supplies*
  - a. A Material Safety Data Sheet (MSDS) is available for all art supplies (ie. paints, adhesives, solvents used in the art rooms). Substances that the MSDS lists as having toxic contents are stored in a storage closet that is locked, and is ventilated with negative pressure to exhaust storage area fumes directly to the outdoors.
  - b. Dry pigments or paints or glazes containing heavy metals are not in use for art.
  - c. Kilns, ovens, and soldering areas are equipped with operable local exhaust hoods.
  
7. *Pesticides*
  - a. Avoid the use of pesticides as part of an Integrated Pest Management Program, as recommended by the Healthy Schools Act of 2000 and the California Department of Pesticide Regulation.
  - b. If pesticides are used, they are stored in a locked, well secured area that is ventilated with negative pressure to exhaust storage area fumes directly to the outdoors.

## SECTION 5 – HAZARDOUS MATERIALS

- c. Pesticide use records, copies of pesticide labels, and Material Safety Data Sheets (MSDSs) are maintained on site in a central location and are available upon request to the public. Plans are in place to disclose pesticide use and spraying to parents and school community (as required by Healthy Schools Act) 48 hours prior to use.
- 8. *Particulate Matter*
  - a. Wood shops are free of wood chips, grinding dust and are vacuumed using a CRI certified vacuum. Wood shops are ventilated directly to the outdoors and the air is not circulated into any other room in the school. The cold air return grill is equipped with a Merv 11 or better filter.
  - b. There are hoods over all degreasers in wood shop, auto shop, or mechanical shop. The hood fans appear to be sucking air from the hood outside.
- 9. *Underground Storage Tanks*
  - a. All Underground Storage Tanks containing hazardous materials or oil are documented to meet code requirements.
- 10. *Fluorescent Bulbs (Contain Mercury)*
  - a. All new and spent fluorescent bulbs are stored in a locked, well secured area that is ventilated with negative pressure to exhaust storage area fumes directly to the outdoors. Used bulbs are disposed of properly according to county waste management rules.
- 11. *Combustion Byproducts*
  - a. The stove is equipped with a hood that is operational, and has a sufficient draw to eject stove combustion byproducts and cooking odors from building to the outdoors through duct work.
- 12. *Radon*
  - a. The last radon test was within the last 5 years and was below the US EPA's action level.

### IV. Facilities Best Practices

- 1. Schools are encouraged to develop an overall Chemical Management System, whereby chemicals can be tracked, volumes reduced, safer alternatives substituted, and stored and handled safely. Many schools are clearing out old chemicals and investigating methods to reduce the overall volume of chemicals used, while also substituting safer alternatives and services. There are often opportunities to save school district money through the proper management and overall reduction of chemicals.
- 2. Schools are encouraged to adopt Integrated Pest Management (IPM) policies and practices. Integrated Pest Management offers methods to control pests without the use of dangerous toxic pesticides. Many safer alternative products and pest management practices are now commonplace. See Section 9: Pest and Vermin Infestation for additional information.
- 3. Schools are encouraged to adopt Environmentally Preferable Purchasing Policies that cover these areas as a means of preventing pollution and reducing exposures to hazardous materials. Environmentally Preferable Products are now available across a range of product categories, including green cleaners and other janitorial and floor care products, art supplies, and office and school supplies.

## SECTION 5 – HAZARDOUS MATERIALS

- Schools are required to have adequate safety and emergency procedures in place in case of accidental chemical exposures or fires. In addition, schools are required to have the Material Data Safety Sheets available on all chemicals, cleaning products, pesticides, and other hazardous materials used or stored at the school.

### V. Resources

California Department of Pesticide Regulation (DPR), School Integrated Pest Management Program ([www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm](http://www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm))

DPR has information on pesticide products; a comprehensive directory of resources describing and promoting least-hazardous pest management practices at schools; a model program guidebook; and ways to reduce the use of pesticides at school facilities ([www.schoolipm.info](http://www.schoolipm.info))

California School Integrated Pest Management Program, California Department of Pesticide Regulation ([www.schoolipm.info/](http://www.schoolipm.info/))

California Integrated Waste Management Board, Environmentally Preferable Purchasing ([www.ciwmb.ca.gov/EPP/](http://www.ciwmb.ca.gov/EPP/)) and School Waste Reduction: Purchasing ([www.ciwmb.ca.gov/schools/WasteReduce/Purchasing/](http://www.ciwmb.ca.gov/schools/WasteReduce/Purchasing/))

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net.](http://www.chps.net/))  
See Guidelines IN8 Moisture Control (relevant to controlling mold). Many of the other guidelines have recommendations related to pesticides, chemical storage or chemical presence by strategy or system.

Healthy School Act of 2000 ([www.assembly.ca.gov](http://www.assembly.ca.gov/))

Healthy Schools Campaign, The Quick and Easy Guide to Green Cleaning in Schools ([healthyschoolscampaign.org/campaign/green\\_clean\\_schools/guide.php](http://healthyschoolscampaign.org/campaign/green_clean_schools/guide.php))

Safe School Inspection Guidebook, Los Angeles Unified School District, Office of Environmental Health & Safety Facility Inspection Program, 2004 ([www.lausd-oehs.org/docs/SafetyInspections/InspectionGuidebook.pdf](http://www.lausd-oehs.org/docs/SafetyInspections/InspectionGuidebook.pdf))

School Safety Compliance Checklist, Los Angeles Unified School District, Office of Environmental Health & Safety Facility Inspection Program, 2004 ([www.lausd-oehs.org/docs/SafetyInspections/SchoolSafetyComplianceChecklist.pdf](http://www.lausd-oehs.org/docs/SafetyInspections/SchoolSafetyComplianceChecklist.pdf))

Summarize key safety code requirements re: hazardous and flammable materials, links for IPM, green cleaners, chemical source reduction links, emergency code requirements, links to model/sample policies on EPPs, links to Chemical Management Systems (EPA, Chemical Strategies Partnership)

USEPA Integrated Pest Management On Schools ([www.epa.gov/pesticides/ipm](http://www.epa.gov/pesticides/ipm))

U.S. Environmental Protection Agency, National Waste Minimization Program, Chemical Management Services ([www.epa.gov/epaoswer/hazwaste/minimize/cms.htm](http://www.epa.gov/epaoswer/hazwaste/minimize/cms.htm))



## SECTION 6 – STRUCTURAL DAMAGES

### I. Overview

Seismic safety of school buildings is a key component of structural safety for school buildings in California. The Field Act, originally passed in response to damage from the 1932 Long Beach earthquake, governs state school buildings to the highest standards of seismic safety. Any structural damage to an existing school site, which might impact the lateral force resisting system of the buildings, is of special concern.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>This should be a general visual inspection of the structural integrity of a building</li> </ul>	<ul style="list-style-type: none"> <li><u>Severe cracks (X)</u></li> <li><u>Missing or damaged posts, beams or supports (X)</u></li> <li><u>Posts, beams and supports for portable classrooms and ramps are damaged(X)</u></li> <li><u>Dry rot/mold appears to undermine the structural components (X)</u></li> <li>Holes in walls, floors, or ceilings</li> <li>Damage to exterior paint, plaster, or finish</li> <li>Damage to skirting or siding</li> <li>Damage to stairway or ramp</li> <li>Dry rot/mold in structural components</li> </ul>
<ul style="list-style-type: none"> <li>Floors, roofs and ceilings should not be sloping or sagging</li> </ul>	<ul style="list-style-type: none"> <li><u>Ceilings or floors are sloping or sagging (X)</u></li> </ul>
<ul style="list-style-type: none"> <li>Walls, posts and columns should not be leaning</li> </ul>	<ul style="list-style-type: none"> <li><u>Walls are leaning or bulging (X)</u></li> <li><u>Posts or columns out of alignment or leaning (X)</u></li> </ul>

#### Tips for filling out the FIT under this category

- NA should normally be filled out for this category in outdoor areas, since there are no structural components in these areas.
- If there is an outdoor shade structure, the structural support system may be checked under this category.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. The basic visual assessments contained in the FIT should provide clues to potentially serious structural damage at a school site. It is strongly recommended that any inspection teams which note potential structural damage, should request immediate repairs of the conditions from the school district.

## SECTION 6 – *STRUCTURAL DAMAGES*

2. Districts have a number of tools available for structural damage assessment after initial visual reviews using the FIT or when there are other concerns raised regarding potential structural damage in school buildings.
  - a. Severe Cracks - These indicators of potential structural damage can be found in a number of areas, each of which will have different causes and follow-up investigation procedures.
    - i. Foundation and Slab Cracks - These types of structural cracks often indicate differential settlement or movement of soils. It is recommended that severe foundation or slab cracks be investigated using destructive testing techniques - removal of finishes and coverings so that a complete assessment of the length, depth and severity of the cracks can be determined. Then follow up with preliminary reviews by:
      - Civil Engineer - drainage patterns which may contribute to erosion around structural elements or create wet soils conditions
      - Geotechnical Engineer - for soils, geohazards (landslides, liquefaction, faults)
      - Structural Engineer - for review of remedial design of systems, which may be required.
    - ii. Structural Wall Cracks - Wall cracking can take many forms, and is often associated with differential settlement or movement of soils. However, it is also important to review any noted severe cracking of structural walls using destructive testing techniques.
      - Shear Cracks - These types of cracks running in angular patterns out from openings and load points typically indicate lateral force stresses. Structural engineering review of building lateral force resistive systems may be indicated.
      - Water Damage, Dry Rot, Termites - These all contribute to potential cracking in structural walls - especially in older buildings.
    - iii. Column and Beam Cracks - Column and beam cracking may indicate overstressing of members beyond design capacity.

Look for any new loads or any changes in load patterns from the designed system. Example: Was remodel work done which cut a structural member or removed a wall? If so, a structural engineering review is recommended.

- b. Ceiling and Floor Sloping, Sagging
  - i. Destructive testing might be needed to remove finishes and coverings to assess the full extent of potential damage.
  - ii. In a wood frame system - water damage, dry rot or termite damage may be primary indicator.
  - iii. Differential settlement due to soils issues. A geotechnical engineering review might be needed.
- c. Posts, beams, supports for portable classrooms, ramps, and other structural building members intact.
  - i. Anchorage of Non-structural Elements - An overall review is recommended of the anchorage of equipment, casework, fixtures, and finish panels. Look at anchorage systems for bookcases in libraries and book rooms. Cases need to have floor anchorage and an internal bracing system with recommended overhead bracing to the building structure.

## **SECTION 6 – *STRUCTURAL DAMAGES***

### **IV. Facilities Best Practices**

1. Regular visual inspections of facilities will keep staff up to date regarding potential indicators of structural damage. Causes of structural damage are often due to soils conditions and often directly result from mismanagement of storm water on school sites.
  - a. Ensure that water is directed away from buildings through an underground stormwater system.
  - b. Ensure that roofs, walls, and all building envelope systems are waterproof.
  - c. Review roof warranty information, and develop an appropriate scheduled maintenance program.
  - d. Structural engineering assessments. Review the extent of knowledge in the District regarding structural assessments of sites. If possible supplement existing information with updated assessments.
2. Structural damage repairs can be expensive and disruptive to the school environment.
  - a. Temporary housing for students may be needed if the structural repairs are extensive.
  - b. Best practice is to develop structural upgrades—including “voluntary” seismic upgrades—as part of a state/local funded modernization program.
3. Best practice in earthquake country: Develop a post-disaster structural damage assessment team with procedures for reviewing conditions in district schools after an earthquake.

### **V. Resources for Good Repair and Best Practices**

CA Division of the State Architect Testing & Inspections Protocol for Structural Safety  
([www.dsa.dgs.ca.gov/Labs/default.htm](http://www.dsa.dgs.ca.gov/Labs/default.htm))



## SECTION 7 – FIRE SAFETY

### I. Overview

School fire safety systems are critical in alerting building occupants to fire danger, in preserving life by allowing safe exit from buildings, and in preserving property through fire extinguishing components. Districts have a fundamental obligation to maintain school fire safety systems in good repair at all times. These systems, coupled with well developed disaster procedures for evacuation and safe harbor, provide a fundamental level of building safety for students.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>• Be aware of smoke, flames or any surface which is extremely hot</li> </ul>	
<ul style="list-style-type: none"> <li>• Fire extinguishers should be available, charged, properly mounted and exhibit current inspection tags</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Majority of fire extinguishers are out of date or missing tags (X)</u></li> <li>• Fire extinguisher is blocked</li> <li>• Fire extinguisher is discharged</li> <li>• Fire extinguisher is missing</li> <li>• Fire extinguisher is not properly mounted</li> <li>• Fire extinguisher is out of date or missing tag</li> <li>• Fire extinguisher sign is missing</li> </ul>
<ul style="list-style-type: none"> <li>• Areas near sprinkler heads should be clear of any hanging or stacked materials</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Missing, damaged or painted sprinkler heads (X)</u></li> </ul>
<ul style="list-style-type: none"> <li>• Exit signs and lights should be clearly visible and should be free of damage</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Emergency exit is covered or blocked (X)</u></li> <li>• <u>Emergency exit sign is not functioning (X)</u></li> <li>• Emergency exit is not labeled</li> <li>• Exit door is blocked</li> </ul>
<ul style="list-style-type: none"> <li>• Fire alarm pull stations should be easily accessible and should not be covered</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Problems exist with the condition of the alarm system (X)</u></li> </ul>
<ul style="list-style-type: none"> <li>• Elevators are operational</li> </ul>	<ul style="list-style-type: none"> <li>• Elevator permits missing or not current</li> </ul>
<ul style="list-style-type: none"> <li>• The area around light fixtures should be kept clean and clear, free of excessive hangings or artworks</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive materials hanging on or around lights</li> </ul>
<ul style="list-style-type: none"> <li>• Be aware of perfumed scents in classrooms which could indicate the use of a plug-in air freshener</li> </ul>	<ul style="list-style-type: none"> <li>• Candles are lit in classrooms, or left on warming plates</li> <li>• Plug in air fresheners are found in classrooms</li> </ul>

#### Tips for filling out the FIT under this category

- NA can be filled out for this category in open areas such as fields, basketball courts, and playgrounds as these areas do not have components that pertain to fire safety.

## SECTION 7 – FIRE SAFETY

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

Each of the fire safety systems in schools has additional tests, which can pinpoint system deficiencies. Unfortunately, in older schools many systems do not meet current code or best practice requirements.

#### 1. *Fire Sprinklers*

- a. The FIT references visual assessment for any missing sprinkler heads. If there are concerns about fire sprinkler systems, beyond simply missing heads, it is important to have the overall system of piping and controls tested. Clearly, testing the system cannot be accomplished through full activation. However, it is recommended that system pressures be reviewed by maintenance staff on a regular basis.
- b. Outside fire sprinkler system firms can provide a testing program to the school district, which might include more, focused testing of branch lines or individual sprinkler heads.
- c. Sprinkler system components include risers, piping, valves and supports, which should be regularly reviewed by District maintenance staff.

#### 2. *Emergency Alarms*

- a. The “appearance” of functionality for emergency alarms is the standard in the FIT. It is recommended that districts perform simple fire alarm tests on a regular basis by activating the alarm system and reviewing the function of each device.
- b. Assessment of older alarm systems by an electrical engineer is recommended to confirm current code deficiencies on existing systems.
- c. Review recommended upgrades to devices and review an increasing number of devices if deficiencies are found.

#### 3. *Emergency Exit Signs and Exit Obstructions*

- a. The FIT asks for Exit signs confirmed to “function as designed.” Exit signs may be simple signage or various types of illuminated signage.
- b. Regular inspections by District staff, both from site and maintenance staff should focus on maintaining Exit signs and pathways fully visible and usable during an emergency.
- c. Local fire department reviews with site staff are an important part of an overall standard review for fire exiting and fire safety.
- d. Perform a building by building review of Emergency Exit signage by a licensed professional architect. This review can confirm deficiencies in relation to current requirements.

#### 4. *Fire Extinguishers*

- a. The FIT requirement is for “current and placed in all required areas.” Districts need to ensure that, based upon the original design and approval of the buildings, fire extinguishers are in all required locations.
- b. Basic maintenance for districts must include regularly scheduled check of fire extinguishers for pressure or charge. Coordinate with local fire departments.

## SECTION 7 – FIRE SAFETY

### 5. *Fire Alarm Pull Stations*

- a. The FIT focuses on the visibility of pull stations, which is an important issue in schools where coverings, fixtures, casework or equipment may block access to pull stations.
- b. Regular inspections by District staff should be done to ensure full visibility of pull stations.

## IV. **Facilities Best Practices**

### 1. *Fire Alarm Systems*

- a. Current code requirements may not be met by systems in older buildings.
  - i. For example, upgrade systems to meet current codes. Alarm devices meeting current code will include a “horn and strobe” combination to allow visual as well as audio alarm for the system.
  - ii. For example, alarm device locations required by current code are far in excess of the minimal requirements of earlier building requirements.
  - iii. For example, main fire alarm panels may not provide information regarding locations of alarms. New systems are typically fully addressable and programmable.
- b. Districts should consider fire alarm upgrades as a basic upgrade for any sites which have older systems.

### 2. *Emergency Exit Signs*

- a. Current code requirements may not be met by systems in older buildings.
  - i. A basic component of Exit signage, which will commonly be missing in older systems, is low-level illuminated signage. Exit signage of this type is designed for emergency use where smoke might obscure exit signage at higher levels.
- b. Consider upgrades to full systems after an assessment of installed signage.

### 3. *Fire Extinguishers*

- a. Current codes require placement of fire extinguishers in each classroom space.
- b. Consider voluntary upgrades for older buildings where this has not been completed.

## V. **Resources**

Fire Safety in Buildings produced by NCARB  
(<http://www.ncarb.org/publications/titles/FSB.html>)

Office of the State Fire Marshall (<http://www.osfm.fire.ca.gov/>)

National Fire Safety Protection Association (<http://www.nfpa.org/>)



## SECTION 8 - ELECTRICAL

### I. Overview

Electrical systems in California's schools provide and distribute safe energy to power classrooms and buildings. Mechanical systems, lighting, electric motors and electrical outlets are key to providing a functional school environment for students and staff. The integrity of school electrical systems is a key element to ensure student safety. Electrical power distribution system components that are damaged, interrupted, exposed or weakened create safety hazards due to the high potential for electric shock. The focus of the FIT is to confirm basic system operation, but also to ensure that no system components or equipment are exposed to students or staff, thereby reducing the chance for electric shock.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an "X")
<ul style="list-style-type: none"> <li>• Electrical service is available</li> <li>• Major electrical equipment is operating as designed</li> </ul>	<ul style="list-style-type: none"> <li>• <u>There is a power failure in all or a portion of the school (X)</u></li> <li>• <u>Electrical equipment appears to be improperly mounted, covered, or guarded (X)</u></li> </ul>
<ul style="list-style-type: none"> <li>• Electrical panels must remain closed, but must also be accessible and not blocked by bookshelves or other furniture</li> </ul>	<ul style="list-style-type: none"> <li>• Electrical panel blocked</li> </ul>
<ul style="list-style-type: none"> <li>• Check for exposed wiring or frayed cords</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Exposed electrical wires with voltage present (X)</u></li> <li>• Exposed wires (no voltage, or low voltage i.e. data or communication / phone lines)</li> </ul>
<ul style="list-style-type: none"> <li>• All electrical outlet covers and light switches should be functional and should not be broken or damaged</li> </ul>	<ul style="list-style-type: none"> <li>• Electrical components are damaged or not functioning properly</li> <li>• Electrical outlet covers or light switch covers are damaged or missing</li> </ul>
<ul style="list-style-type: none"> <li>• All lighting should be functional</li> </ul>	<ul style="list-style-type: none"> <li>• Lighting covers are missing, damaged, or loose</li> <li>• Lighting fixture or bulbs are not working or missing</li> </ul>
<ul style="list-style-type: none"> <li>• Surge protectors and extension cords must not be "daisy chained" together</li> <li>• Extension cords should be used for temporary use only</li> </ul>	<ul style="list-style-type: none"> <li>• Improper usage of extension cords or extension cord trip hazard</li> <li>• Improper usage of surge protectors or daisy chain of surge protectors</li> </ul>
<ul style="list-style-type: none"> <li>• Electrical appliances are secured and located appropriately</li> </ul>	<ul style="list-style-type: none"> <li>• Electrical appliances are too close to water source</li> <li>• TVs are improperly mounted or unsecured</li> </ul>

#### Tips for filling out the FIT under this category

- NA can be filled out for this category in outdoor areas if there are no lights or other electrical equipment present in the outdoor area.

## SECTION 8 - *ELECTRICAL*

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. *Circuit Testing*
  - a. District staff or contractors can easily investigate any power circuits that may be non-functional.
  - b. Basic review of circuit panel boards for breakers status is a first step that most on-site staff can be trained to complete when investigating power outages in school buildings.
  - c. Use of a hand-held meter can assess individual circuit components such as outlets, fixtures and equipment to determine whether there is power to the element being inspected.
  - d. Ground system continuity testing should also be considered for circuits and systems that have identified functional problems.
2. *Lighting System Follow-up Testing*
  - a. Electrical lighting systems and especially lighting system controls are becoming more complex each year. District staff can perform follow-up testing in a number of areas where problems may be identified.
  - b. Lamps and Ballasts. District staff should have basic maintenance replacement procedures in place for building lighting. However, follow-up on lighting issues should always start with a quick lamp check and ballast test by the staff electrician.
  - c. Controls. Newer lighting-control systems offer a number of challenges for district maintenance staff. Calibration or orientation of the following lighting controls may need to be considered. If district staff is not trained in these controls it is best to bring in a specialty electrical contractor for further work.
3. *Overall Campus System Diagnostics*
  - a. There may be campus-wide issues related to electrical systems that require further investigation.
  - b. Visual inspection of underground conduits, boxes, and vaults should be considered in any schools with drainage and ground water issues. Many underground systems are prone to collecting water, which may impact electrical system integrity. Corrosion of metal system elements exposed to groundwater are a concern.
  - c. Review switchgear yards for fencing and gates to ensure that there is no access to the electrical equipment.
  - d. Confirm all equipment is locked and not accessible to unauthorized personnel.
  - e. Review interior electrical rooms to ensure that storage of materials is not allowed—this could be a fire hazard.

### IV. Facilities Best Practices

1. *Electrical Systems Maintenance Best Practices*
  - a. For districts, the focus should be on continuing to train and educate in-house staff in the most recent advances in electrical power systems, controls, conservation, and lighting. This is a rapidly changing field with opportunity for district staff to get and stay ahead of the technology currently being installed.

## SECTION 8 - *ELECTRICAL*

2. *Metering Systems*
  - a. Consider electric power meters with web-based reading capabilities for school sites. Local utilities have a number of programs and options that help to monitor, and then reduce, power use at schools.
3. *Power Outlet Shutoffs*
  - a. Plug loads are a substantial portion of the power used in schools. There is no need, with current technology, to run equipment, computers, and other electronic devices overnight. Consider installation of plug cutoff switches that can be coordinated with setting of the alarm each evening. This can cut off all switches and reduce power use in the building.
4. *Daylight Controls*
  - a. As noted above there are increasingly sophisticated daylight controls being installed in schools. Districts should consider renovations and lighting retrofits with rooms that have adequate windows to install daylight controls on the lights. These systems will automatically reduce electrical lighting when the amount of natural daylight is adequate for students and staff. Major energy savings are possible.
5. *Consolidation of Campus Meters and Systems*
  - a. Many schools in California have multiple electrical services and meters which can be consolidated during renovations and energy retrofits to help reduce power use at sites.
6. *Overall Energy Conservation Programs*
  - a. Many public and municipal utilities have energy conservation programs to assist schools with a variety of efforts to save energy, including lighting, retrofits, HVAC, controls, and more. Local and state funds may be available to pay for such efforts.
7. *Safe, Efficient Lighting*
  - a. California law requires that fluorescent and compact fluorescent bulbs be disposed of properly as hazardous waste, due to mercury contained in the bulbs. Contact your local waste management authority for instructions on proper collection and disposal. When lighting needs to be replaced, consider new LED technologies that are very energy efficient.
8. *Renewable Energy Generation Systems on School Sites*
  - a. Consider installation of renewable energy generating systems at district sites. These electrical power generators include solar electric panels, wind turbines, fuel cells, and others. Districts have a number of options available and often existing roof areas that could easily be used to install photovoltaic panels to generate power. Creative financing options are arising that may minimize the capital that a District would need to invest, and may result in overall net savings over the long term.

### V. **Resources**

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net).) See Guidelines ES1-ES10 on Electrical Systems and Lighting.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net).) See Guidelines LG1 – LG19 on Lighting and Daylighting.

## **SECTION 8 - *ELECTRICAL***

National Fire Safety Protection Association (<http://www.nfpa.org/>)

International Code Council (<http://www.iccsafe.org/>)

## SECTION 9 – PEST/VERMIN INFESTATION

### I. Overview

Common pests and vermin include cockroaches, termites, rodents, ants, bees and wasps. Controlling pest and vermin infestation can provide healthier school environments, better indoor air quality, and can protect buildings and equipment from damage. Some pests such as cockroaches can trigger allergies and make children more vulnerable to asthma. Rodents, bees and wasps can cause structural damage. Rodents can spread disease.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an "X")
<ul style="list-style-type: none"><li>This should be a general visual inspection for the presence of pests or vermin, and judgment should be used to determine if it is a major infestation or a singular occurrence</li><li>All indoor areas should be free of pest infestations (ex: rodent droppings, insects)</li></ul>	<ul style="list-style-type: none"><li><u>Major evidence of pest infestation (X)</u></li><li>Evidence of pest infestation</li><li>Evidence of ants</li><li>Evidence of cockroaches</li><li>Evidence of termites</li><li>Evidence of rodents</li><li>Live or dead rodents – Stop inspection and inform the appropriate school administrator</li></ul>
<ul style="list-style-type: none"><li>Outdoor areas including eating areas, tables and seats should be free of excessive bird droppings</li></ul>	<ul style="list-style-type: none"><li>Bird droppings evident</li><li>Evidence of birds or nests</li></ul>
<ul style="list-style-type: none"><li>Outdoor areas including play fields should be free of gopher or animal holes that would pose a safety hazard</li></ul>	<ul style="list-style-type: none"><li>Gopher holes, trip hazards</li></ul>

#### Tips for filling out the FIT under this category

- This category should be checked in ALL areas.
- Insect and rodent traps are indications of an active pest control program. These should not be viewed as a deficiency unless a trap is overly filled with rodents/pests.
- Snap traps for insect and/or rodents are not allowed.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

- In addition to the inspection requirements of the FIT:
  - Inspect doors and windows to ensure they close completely and are tightly sealed.
  - Identify the type of pests and vermin so that control and elimination strategies can be more accurately identified before taking action.
  - Check HVAC air intakes and exhaust for signs of pests, vermin, birds' nests, and droppings.

## SECTION 9 – PEST/VERMIN INFESTATION

### IV. Facilities Best Practices

1. Ensure food and garbage is stored in a way that does not attract pests and vermin. This includes cleaning garbage cans and dumpsters regularly.
2. Seal openings in walls, floors and ceilings with materials that can not be penetrated by pests and vermin including concrete, sheet metal, steel wool and wire mesh.
3. Move vegetation away from school building structures.
4. Ensure HVAC air intakes and exhaust are not penetrable by pests and are cleared regularly.
5. When choosing control and elimination strategies for pests give preference to non-chemical means of managing pests. If chemicals are necessary, choose low risk chemicals and spot treatments that limit human exposure.
6. Adopt Integrated Pest Management (IPM) practices. The California Department of Pesticide Regulation defines IPM as an approach to pest management that results in effective suppression of pest populations while minimizing human health and environmental hazards. Integrated pest management is a widely accepted approach to pest control.

### V. Resources

California Department of Pesticide Regulation (DPR), School Integrated Pest Management Program ([www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm](http://www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm).) DPR has information on pesticide products; a comprehensive directory of resources describing and promoting least-hazardous pest management practices at schools; a model program guidebook; and ways to reduce the use of pesticides at school facilities ([www.schoolipm.info](http://www.schoolipm.info))

CHPS Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net).)  
See Guideline SP12: Integrated Weed, Disease and Pest Management.

Codes: The Healthy Schools Act of 2000 requires annual written notification, posting and record keeping of all pesticides expected to be used on a school site to control pests and vermin. CA Education Code – Section 17608-17613. For a copy of Assembly Bill 2260 ([www.assembly.ca.gov](http://www.assembly.ca.gov).)

Examples of safer pest management practices in 27 school districts in 19 states ([www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf](http://www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf))

Resources and Best Practices: CHPS Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net).) See Guidelines BE5 Pest Management – Termites, ED5 Indoor Pest Management – Rodents, ED6 Pest Management – Cockroaches, ED8 Pest Management - Bees and Wasps, LP8 Outdoor Pest Management.

San Francisco Department of Environment, “2006 San Francisco Reduced-Risk Pesticide List for City Operations,” January 2005 ([www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf](http://www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf).)  
(IPM information on less toxic products and practices)

## **SECTION 9 – PEST/VERMIN INFESTATION**

School Pesticide Reform Coalition and Beyond Pesticides, “Safer Schools: Achieving a healthy learning environment through Integrated Pest Management,” April 2003  
([www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf](http://www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf))  
(Examples of safer pest management practices in 27 school districts in 19 states)

U.S. Environmental Protection Agency, Integrated Pest Management in Schools  
([www.epa.gov/pesticides/ipm](http://www.epa.gov/pesticides/ipm))



## SECTION 10 – DRINKING FOUNTAINS

### I. Overview

Ensuring proper functioning and maintenance of drinking fountains can lower water consumption and reduce health impacts from mold and contaminated water. Proper maintenance can avoid standing water that can attract pests and vermin.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>Sinks, drinking fountains and faucets should operate properly and have adequate water pressure</li> </ul>	<ul style="list-style-type: none"> <li>Sink/fountain fixture is loose</li> <li>Sink/fountain is clogged</li> <li>Sink/fountain is damaged</li> <li>Sink/fountain missing knob or button</li> <li>Sink/fountain is not working</li> <li>Sink/fountain is turned off</li> <li>Water is not clear</li> <li>Water leak - Inform site guide during the inspection</li> <li>Water pressure too high or low</li> </ul>
<ul style="list-style-type: none"> <li>Sinks, drinking fountains and faucets should be accessible</li> </ul>	<ul style="list-style-type: none"> <li>Sink/fountain inaccessible</li> </ul>
<ul style="list-style-type: none"> <li>Sinks and drinking fountains should be clean</li> </ul>	<ul style="list-style-type: none"> <li>Sink/fountain has moss or mold</li> <li>Sink/fountain is dirty</li> <li>Sink/fountain filled with refuse</li> </ul>

#### Tips for filling out the FIT under this category

- Sinks and drinking fountains can exist within individual classrooms or right outside of classrooms or restrooms or other areas. Use this section to evaluate them in relation to the adjacent area/classroom.
- If there is no sink or drinking fountain in proximity of the area/classroom, then this section will be marked NA.
- Sinks in restrooms should be evaluated under Section 11 Restrooms.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

- In addition to the inspection requirements of the FIT:
  - Maintenance staff should also check associated pipes for leaks, or deterioration
  - Check for lead in drinking water

## **SECTION 10 – DRINKING FOUNTAINS**

### **IV. Facilities Best Practices**

1. To promote water conservation choose drinking fountains that have automatic facet controls and inspect regularly to ensure there are no leaks.
2. Place drinking fountains in locations that prevent moisture from reaching building structures or areas where mold can grow.
3. Prevent standing water through drainage or vegetation that can absorb excess water into the ground.
4. Clean drinking fountains regularly to prevent the spread of germs and disease. Utilize safer and environmentally preferable chemicals for cleaning. See resources under Section 11 Restrooms.
5. Drinking fountains should dispense water at an angle, and the orifice should be protected by a mouth guard.
6. Drinking fountains should not be placed in toilet rooms and should not be attached to a lavatory.
7. Avoid selecting new drinking water fountains that have lead in the fixtures or pipes.
8. Drinking fountains should not be attached to the irrigation system.

### **V. Resources**

CHPS Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net))  
See Guidelines PM2 Fixtures.

U.S. EPA: Testing Schools and Child Care Centers for Lead in the Drinking Water  
([www.epa.gov/safewater/lead/testing.htm](http://www.epa.gov/safewater/lead/testing.htm))

## SECTION 11 - RESTROOMS

### I. Overview

According to the Federal Center for Disease Control, a thorough cleaning of sinks, toilets, doorknobs and other hard surfaces that people frequently touch is important to reducing the spread of disease. Leaky restroom fixtures can use a significant amount of excess water and present enormous opportunities for water and energy conservation. Restrooms need to be maintained and cleaned regularly, fully operational, and stocked at all times with toilet paper, soap, paper towels, or functional hand dryers. Schools must keep restrooms open during school hours when pupils are not in classes, and must keep a sufficient number of restrooms open during school hours when pupils are in classes (except as required for pupil safety or as necessary to repair the facility).

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an "X")
<ul style="list-style-type: none"> <li>Restrooms should be clean and stocked with soap and all appropriate paper products</li> </ul>	<ul style="list-style-type: none"> <li>Restrooms are dirty and not maintained regularly</li> <li>Restrooms are not stocked with supplies such as toilet paper, soap, or paper towels</li> <li>Electric hand dryers are damaged or broken</li> </ul>
<ul style="list-style-type: none"> <li>Fixtures (toilets/urinals/sinks) should be operating as designed</li> </ul>	<ul style="list-style-type: none"> <li>Toilet/urinal/sink is damaged, broken, or clogged</li> <li>Toilet/urinal/sink is not working</li> </ul>
<ul style="list-style-type: none"> <li>Stalls should be in good repair</li> <li>If stalls have been designed with doors, then doors should be functional</li> </ul>	<ul style="list-style-type: none"> <li>Stalls are not properly attached to walls or floors</li> <li>Partitions/stall doors (if partitions have been designed for doors) are missing, damaged, not securely attached or non-functional</li> </ul>
<ul style="list-style-type: none"> <li>Exhaust fans, if installed, should be operational</li> </ul>	<ul style="list-style-type: none"> <li>Exhaust fan is inoperable</li> </ul>

#### Tips for filling out the FIT under this category

- Consider the time of day you are inspecting - at the beginning of the day vs. the end of the school day.
- Stand-alone restrooms should be evaluated as a separate room with the proper annotations in the 15 categories.
- When there is a restroom within another space, then the restroom should be evaluated for operable fixtures and properly stocked paper products etc., within the space it is located.
- If an area/classroom does not have any restroom, this section will be marked as NA.

## SECTION 11 - *RESTROOMS*

- Although there is a separate category for Overall Cleanliness, any cleanliness issues associated with the upkeep of the restroom should be captured in this Restroom category. This relates to the 2003 Clean Restroom Act (Education Code Section 35292.5) which is now included as part of the *Williams* inspection requirements.

### **III. Beyond the FIT**

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. Ensure that restrooms are properly secured after school hours.
2. Ensure that the restroom water fixtures are operational, also make sure the lighting and partitions are functioning optimally.
3. Check for leaks in fixtures and plumbing, and signs of mold. Make sure that floor drainage is not blocked.
4. Check for dampness, moisture, condensation, water leaks, mold and mildew in restroom areas.

### **IV. Facilities Best Practices**

1. Avoid the use of chlorine and bleach solutions in schools. Choose environmentally preferable, green cleaning products to promote healthy indoor environments for students. Green cleaning products do not contain harmful chemicals, VOC's, dyes and fragrances, and have neutral pH levels. (see Overall Cleanliness section 15 for more info)
2. Choose low-flow fixtures and consider waterless urinals to conserve water.
3. Choose flooring materials, paint, toilet partitions, ceiling and counter materials that are durable and environmentally responsive. Choose products that are low-emitting, and/or have high recycled content.

### **V. Resources**

CHPS Best Practices Manual Volume III on Design ([www.chps.net](http://www.chps.net))  
See Guidelines for Interior Surfaces and Furnishings and OS5 Waterless Urinals.

CHPS Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net))  
See Guidelines PM2 Fixtures, CP6 Restrooms, CP2 Cleaning Products and Equipment.

CIWMB Environmentally Preferable Purchasing ([www.ciwmb.ca.gov/WPIE/Purchasing](http://www.ciwmb.ca.gov/WPIE/Purchasing))

Codes: Restrooms must be in compliance with CA Education Code – Section 35292.5.  
([www.sen.ca.gov/](http://www.sen.ca.gov/))

Green Seal ([www.greanseal.org](http://www.greanseal.org))

## **SECTION 11 - *RESTROOMS***

Healthy Schools Campaign, Green Cleaning Guide  
([healthyschoolscampaign.org/campaign/green\\_clean\\_schools/](http://healthyschoolscampaign.org/campaign/green_clean_schools/))

Healthy Schools Network Inc., Sanitizers and Disinfectants Guide  
([www.healthyschools.org/guides\\_materials.html](http://www.healthyschools.org/guides_materials.html))

State law requires Environmentally Preferable Purchasing Public Contract Code, sections 12400-12404

U.S. EPA Environmental Preferable Purchasing ([www.epa.gov/epp/pubs/products/cleaner.htm](http://www.epa.gov/epp/pubs/products/cleaner.htm))



## SECTION 12 – SEWER SYSTEM

### I. Overview

The school’s sewage system functions to transport sewage out of the restrooms, out through the sewage pipes and distribution system to carry it to a sewage treatment plant. Poorly functioning sewage systems pose potential threats to human health if there are breaks in the system and students, teachers, or administrators are exposed to the contents or sewer gases. Sewage may contain dangerous levels of viral, bacterial, or fungal contaminants that can cause human illness, the spread of disease and serious sanitation problems. Additionally, breaks in sewage systems pose water damage threat and mold to any materials that may be affected, including foundations, under floors or slabs, or emanating up through cracks or holes. In addition to waterborne contamination and disease, raw sewage is odorous and can result in serious health hazards, including poisoning and death from hydrogen sulfide gas, and fires and explosions from various flammable gases accumulating in an enclosed space. Sewer gas has a strong and offensive odor resembling “rotten eggs.”

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"><li>• Campus should be free of overflows of sewage around building and sewer clean outs</li><li>• Campus should be free of remnants of paper or fecal matter debris</li></ul>	<ul style="list-style-type: none"><li>• <u>Signs of flooding caused by sewer line back-up (X)</u></li><li>• Broken sewer pipes</li><li>• Sewer stoppage exists</li></ul>
<ul style="list-style-type: none"><li>• There should be no sewage odor on the campus</li></ul>	<ul style="list-style-type: none"><li>• Sewer odor present</li></ul>

#### Tips for filling out the FIT under this category

- This is a major building system that spans the entire school campus, therefore check for good repair under this section in all areas/classrooms you inspect. Do not mark any area/classroom as NA in this section.

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. If odors are noted, it is recommended that efforts be made to pinpoint their source. Some drains can become dry from lack of use of distribution lines and can cause sewer gases to escape and be released into bathrooms or rooms containing floor drains. In some cases drains may need to be “charged” by pouring water down them so that the gases will not emanate into indoor spaces.
2. Blocked plumbing vents, typically at the roof, can also cause water seals to fail via siphoning of the water.

## SECTION 12 – SEWER SYSTEM

### IV. Facilities Best Practices

1. When sewer problems are found check first with the applicable City or County Municipal Utility District to determine that the breakage or back-up is not due to problems in their lines.

### V. Resources

International Association of Plumbing and Mechanical Officers (<http://www.iapmostandards.org>)

International Code Council (<http://www.iccsafe.org/>)

McGavran P. 2001. Literature review of the health effects associated with the inhalation of hydrogen sulfide. Boise: Idaho Department of Environmental Quality ([www.deq.state.id.us/air/prog\\_issues/pollutants/H2S\\_lit\\_review.pdf](http://www.deq.state.id.us/air/prog_issues/pollutants/H2S_lit_review.pdf))

## SECTION 13 - ROOFS

### I. Overview

There is a health and safety risk where there is a hole, or an open and exposed area that permits water leakage leading to peeling paint and surface mold development, and at the worst a cave-in of the structure. In order to protect the inhabitants of the building from the outdoor elements and prevent class disruption or forced evacuation from the disabled space, it is necessary to avoid exterior/interior damage and structural issues that compromise the integrity of the roof. The definition of “visible damage” includes a structure or material that is not intact, cracked, broken, missing cover/shingles, drainpipes and gutters that are loose from the building and sealant that is not intact as viewed from the ground.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>This should be a visual inspection only, looking at what is evident from the ground or from a window/door looking down on a roof. Inspectors are not expected to use a ladder to view a roof or to climb out on any roof.</li> </ul>	
<ul style="list-style-type: none"> <li>Roofing materials should not be damaged, deteriorated or missing</li> </ul>	<ul style="list-style-type: none"> <li>Roof and/or roofing materials are not intact</li> </ul>
<ul style="list-style-type: none"> <li>Flat roofs should be free of standing water or debris accumulation</li> </ul>	<ul style="list-style-type: none"> <li>Roof covered with leaves, debris</li> </ul>
<ul style="list-style-type: none"> <li>Gutter systems, including downspouts, should be intact, anchored to the building, and free of damage that would impact drainage</li> <li>Gutter systems should be free of debris</li> </ul>	<ul style="list-style-type: none"> <li>Gutters, roof drains, or downspouts are not intact</li> <li>Missing or damaged downspout or roof drain</li> <li>Vegetation growing in gutters</li> <li>Roof drains filled with leaves, debris</li> </ul>
<ul style="list-style-type: none"> <li>Classroom ceilings and walls should be free of active roof leaks (ex: dripping and leaks evident on the day of or a day immediately after a rain)</li> </ul>	<ul style="list-style-type: none"> <li>Wet ceiling tiles or walls inside the classroom indicating an active roof leak</li> </ul>

#### Tips for filling out the FIT under this category

- Roofs can be easily evaluated for stand alone areas, such as portable classrooms.
- For permanent buildings containing several areas/classrooms to be evaluated, roofs should be considered as parts of individual areas. So if there is a deficiency noted that covers half of the classrooms in a permanent building, then mark a deficiency in roofs for half of the classrooms and check good repair for roofs in the other half of the classrooms.
- An interior space with no exterior access may have this category marked as NA, unless there is an obviously apparent roof leak.
- There is not a requirement that school sites have gutters on their buildings. However, if a site’s buildings does have gutters, it is a requirement that they be in good repair.

## **SECTION 13 - ROOFS**

### **III. Beyond the FIT**

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

1. Although not required, if it can be done safely get on top of roof for inspection.
2. Inspect annually to ensure that sealants and pipe covers are intact and functional.
3. Check for nests and droppings/foreign substances that would corrode roofing material, sealants, and/or obstruct gutters and drainpipes or air intakes or exhausts.
4. During rainy season check regularly for water pooling.
5. Check that downspouts operate correctly and do not drain close to the foundation.

### **IV. Facilities Best Practices**

1. Maintain good records of maintenance and inspections.
2. Keep hot pots of tar and other repair materials away from the outdoor air intake to ensure no odors and/or contaminants are allowed into building.
3. Carry out pollution producing activities during unoccupied hours.
4. Quickly repair small leaks to prevent water damage worsening.
5. Sustainability considerations – use alternative roofing materials, “cool roofs” to save energy, and insulation.

### **V. Resources for Good Repair and Best Practices**

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net).) See Guidelines BE1- BE3 on Building Envelope and Roofs.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net).) See Guidelines IN1-IN9 on Building Enclosure and Insulation.

Roof Inspections: A Closer Look

([www.facilitiesnet.com/ms/article.asp?id=5441&keywords=roof,%20roofing,%20roofs,%20roof%20inspection](http://www.facilitiesnet.com/ms/article.asp?id=5441&keywords=roof,%20roofing,%20roofs,%20roof%20inspection))

## SECTION 14 – PLAYGROUND / SCHOOL GROUNDS

### I. Overview

On the playground, students can play safely without distraction by hazards. The facility is safe, and any physical harm incurred is from playing and not caused by the facility itself. A definition of “safe” includes no holes or cracks or trip hazards on any surface and there are no sharp objects, hooks or projecting materials that could cause bodily harm. The maintenance of school grounds including watering and landscaping should not interfere with student performance.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>Play surfaces and grounds should be free of holes and trip hazards</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate surface material in playground area (ex: fall zones have earth exposed or weed control netting exposed)</li> <li>Significant cracks, trip hazards, holes or deterioration</li> </ul>
<ul style="list-style-type: none"> <li>Asphalt and other paved areas, including parking lots, should be free of holes and trip hazards</li> </ul>	<ul style="list-style-type: none"> <li>Significant cracks, trip hazards, holes or deterioration</li> </ul>
<ul style="list-style-type: none"> <li>Campus should be free of standing water on hardscape and play fields</li> </ul>	<ul style="list-style-type: none"> <li>Signs of water drainage problems including standing water on hardscape areas</li> </ul>
<ul style="list-style-type: none"> <li>Equipment, including play equipment, sports equipment and outdoor tables and seats, should not be broken, cracked or displaying damaged corners or surfaces</li> </ul>	<ul style="list-style-type: none"> <li>Open “S” hooks, protruding bolt ends, sharp points and edges in playground equipment</li> <li>Seating, tables, and equipment are not functional and show significant cracks</li> </ul>

#### Tips for filling out the FIT under this category

- This section should be checked for ALL areas. Do not mark any area as NA for this category, as all areas are part of “school grounds”.
- Several sections of good repair criteria would not apply to the evaluation of playgrounds as they do not exist outside of physical building areas (ex: mechanical systems, interior surfaces, fire safety, electrical unless there are light fixtures outside, or structural damage and roofs unless there is a lunch shelter structure).
- Playgrounds/school grounds should be evaluated as separate areas by either dividing the campus based on specific borders or by general areas (ex: separately evaluate football stadiums, track fields, tennis courts, swimming pools, etc.).
- At elementary sites, each playground should be evaluated separately.
- Excessive standing water on hardscape areas should be identified as a deficiency in this category.

## SECTION 14 – *PLAYGROUND / SCHOOL GROUNDS*

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

#### 1. *Playground*

- a. Check that shock absorbing materials are in fall zones around stationary equipment, slides, and swings in both the front and back directions, and they comply with the American Society for Testing and Materials (ASTM) standard F1292 and F 1951 for fall protection.
- b. Test for the presence of arsenic to ensure playground equipment is not made of arsenic-treated wood, or the wood is properly sealed on a regular basis.
- c. Check that there are adequate guard rails around elevated surfaces to prevent falls.
- d. Check that there are no openings between 3.5 and 9 inches to prohibit head entrapment.
- e. Check that exposed areas of dirt have groundcover, which helps keep dust down.
- f. Check that playground equipment appears to comply with Consumer Products Safety Commission (CPSC) guidelines.

#### 2. *Grounds*

- a. Sprinklers do not spray on any exterior walls.
- b. All gutters and downspouts are installed to carry water away from the foundation (they do not end several feet above the ground, they have no missing pieces).
- c. There is no standing water on any playfield or within 10 feet of building foundation.
- d. There are no grass clippings stored adjacent to building except in authorized compost area away from building.
- e. Integrated Pest Management practices are followed for maintenance of playing fields, school gardens, and grounds.

### IV. Facilities Best Practices

#### 1. *Playground*

- a. Use recycled materials for matting and playground equipment, including recycled wood product that is sealed properly.
- b. Involve students in playground maintenance monitoring.

#### 2. *Grounds*

- a. Use low allergen and low watering plants in landscaping, since some plants can exacerbate asthma and allergies.
- b. Perform ground maintenance during non-occupancy time.
- c. Ensure compliance with the Healthy Schools Act (i.e., pesticide application).

### V. Resources

Allergy-Free Gardening The Revolutionary Guide to Healthy Landscaping by Thomas Leo Ogren (<http://www.allergyfree-gardening.com/>) and “Low-Allergy Plants and Trees,” Landscaping Guide by American Lung Association of San Diego and Imperial Counties ([www.calasthma.org/uploads/resources/asthmafriendly\\_landscaping.pdf](http://www.calasthma.org/uploads/resources/asthmafriendly_landscaping.pdf))

American Society for Testing and Materials (ASTM) standard F1292 and F 1951 for fall protection.

## SECTION 14 – *PLAYGROUND / SCHOOL GROUNDS*

California Department of Pesticide Regulation (DPR), School Integrated Pest Management Program ([www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm](http://www.cdpr.ca.gov/cfdocs/apps/schoolipm/main.cfm).) DPR has information on pesticide products; a comprehensive directory of resources describing and promoting least-hazardous pest management practices at schools; a model program guidebook; and ways to reduce the use of pesticides at school facilities ([www.schoolipm.info](http://www.schoolipm.info))

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net).) See Guideline LP6 Playgrounds.

Consumer Products Safety Commission (CPSC) Handbook for Public Playground Safety ([www.cpsc.gov/cpscpub/pubs/325.pdf](http://www.cpsc.gov/cpscpub/pubs/325.pdf))

Examples of safer pest management practices in 27 school districts in 19 states ([www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf](http://www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf))

San Francisco Dept of Environment IPM information on less toxic products and practices ([www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf](http://www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf))

San Francisco Department of Environment, “2006 San Francisco Reduced-Risk Pesticide List for City Operations,” January 2005 ([www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf](http://www.sfprospector.com/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2006/2006ReducedRiskPesticideList.pdf)) (IPM information on less toxic products and practices)

School Pesticide Reform Coalition and Beyond Pesticides, “Safer Schools: Achieving a healthy learning environment through Integrated Pest Management,” April 2003 ([www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf](http://www.beyondpesticides.org/schools/publications/IPMSuccessStories.pdf)) (Examples of safer pest management practices in 27 school districts in 19 states)



## SECTION 15 – OVERALL CLEANLINESS

### I. Overview

There should be no exposure to bacteria, filth, odor, and other potential allergens or health hazards. General overall cleanliness creates a safe and healthy learning environment for all. Accumulated refuse can attract pests, and accumulated dust can exacerbate respiratory problems like asthma.

### II. Facility Inspection Tool

What to look for during inspections under this category	Examples of deficiencies found in this category (Extreme deficiencies as defined in the FIT are underlined and indicated with an “X”)
<ul style="list-style-type: none"> <li>Classrooms/areas should be clean and free of accumulated refuse and clutter</li> <li>Horizontal surfaces (ex: window blinds, bookcases, desks) should not be excessively dusty/dirty</li> <li>Flooring should be clean and free of excessive stains</li> </ul>	<ul style="list-style-type: none"> <li>Flooring is excessively dirty/stained</li> <li>Horizontal surfaces are excessively dusty/dirty</li> </ul>
<ul style="list-style-type: none"> <li>Classrooms/areas should be free of accumulated papers, projects or materials that make maneuvering around the room difficult, posing as a possible fire hazard or making the room feel cramped</li> </ul>	<ul style="list-style-type: none"> <li>Areas evaluated have accumulated refuse, dirt, and grime</li> <li>Cluttered classroom or storerooms</li> <li>Unsecured items are stored too high</li> </ul>
<ul style="list-style-type: none"> <li>The entire campus, including buildings, walls, windows and bathrooms should be free of graffiti</li> </ul>	<ul style="list-style-type: none"> <li>Areas have unabated graffiti</li> </ul>
<ul style="list-style-type: none"> <li>Campus should be free of trash</li> </ul>	<ul style="list-style-type: none"> <li>Areas evaluated have accumulated refuse</li> </ul>

#### Tips for filling out the FIT under this category

- Consider the time of day you are inspecting, including condition of lunch areas immediately after lunch period or of restrooms at the beginning of the day vs. the end of the school day.
- Evaluate the cleanliness of every area/classroom within this category. For example, if there is a deficiency noted due to dirty floors, mark it here in Section 15 rather than Section 4 Interior Surfaces. **Do not mark it in both sections.**

### III. Beyond the FIT

Although not required by the FIT, there may be situations where additional assessments or tests may be used to evaluate a specific issue at the facility. The following are resources and recommendations that can be useful:

- Provide examples (i.e. carpets appearing vacuumed and clean; upholstery is not torn, etc.)
- FIT users should consider whether or not custodians can easily move around any given room to sweep, mop, vacuum or dust. If not, school cleanliness may be compromised and/or difficult to maintain.

## SECTION 15 – OVERALL CLEANLINESS

3. Accumulated materials and clutter in classrooms have been reduced/removed to allow for thorough cleaning on a regular basis and avoid accumulation of dust.
4. All plants have drip pans and drip pans are cleaned as needed. Plants are kept away from ventilation sources and are not over-watered.
5. A Material Safety Data Sheet (MSDS) is available on every maintenance product/cleaning chemical used in the facility.
6. Non-porous surfaces (e.g., chalk trays, desks, file cabinet tops, bookcases, and HVAC grills) are wet wiped periodically.
7. A written Standard Operating Procedures for Housekeeping document is available for reference/training.

### IV. Facilities Best Practices

1. Create a policy that mandates that school staff do not bring in home-use cleaning products/air fresheners.
2. Use low-VOC whiteboard markers.
3. Whenever possible, surfaces are wet cleaned or HEPA-vacuumed rather than dry cleaned in order to minimize airborne dust, particularly surfaces that were painted (or with paint layers) before 1980.
4. Plastic/rubber matting has been placed under water fountains/water coolers.
5. Walk-off dust mats are used by all exterior doors to prevent tracking of dirt and dust inside.
6. Create a policy that determines that animals, particularly those with fur, are prohibited and/or discouraged from being housed in classrooms. Those that are present are in cages located away from ventilation units and from student work areas.
7. Aquariums/live animals (rabbits, mice, guinea pigs etc.) are cleaned and maintained properly and kept away from ventilation sources.
8. Environmentally Preferable Products (EPP) and practices for cleaning are prioritized. Such products or services may include, but are not limited to, those that contain recycled content, minimize waste, conserve energy or water, and reduce the amount of toxics disposed of, exposed to, or consumed. Products that are propellants or aerosols should not be used.

### V. Resources

CHPS 2004 Edition Best Practices Manual Volume IV on Maintenance & Operations ([www.chps.net](http://www.chps.net)) See Guidelines CP1-CP10 on Cleaning Practices and Products.

CHPS 2006 Edition Best Practices Manual Volume II on Design ([www.chps.net](http://www.chps.net)) See Guidelines IS1 – IS13 on Interior Surfaces and Furnishings.

## **SECTION 15 – *OVERALL CLEANLINESS***

Green Seal and Environmental Choice certified cleaning products (See links under Interior Surfaces Section)

See EPA Healthy Seat program for school environmental assessments ([www.epa.gov/schools/](http://www.epa.gov/schools/))

See EPA Tools For Schools checklists: Building and Grounds Maintenance, Teacher's Classroom, Food Service, and Waste Management ([epa.gov/iaq/schools/actionkit.html](http://epa.gov/iaq/schools/actionkit.html))

See Healthy Schools Campaign guide on Green Cleaning ([healthyschoolscampaign.org/campaign/green\\_clean\\_schools/](http://healthyschoolscampaign.org/campaign/green_clean_schools/))



# APPENDIX 1 – SAMPLE OPSC FIT FORMS

## GENERAL INFORMATION

The Facility Inspection Tool (FIT) has been developed by the Office of Public School Construction to determine if a school facility is in "good repair" as defined by Education Code (EC) Section 17002(d)(1) and to rate the facility pursuant to EC Section 17002(d)(2). The tool is designed to identify areas of a school site that are in need of repair based upon a visual inspection of the site. In addition, the EC specifies the tool should not be used to require capital enhancements beyond the standards to which the facility was designed and constructed.

Good repair is defined to mean that the facility is maintained in a manner that ensures that it is clean, safe, and functional. As part of the school accountability report card, school districts and county offices of education are required to make specified assessments of school conditions including the safety, cleanliness, and adequacy of school facilities and needed maintenance to ensure good repair. In addition, beginning with the 2005/2006 fiscal year, school districts and county offices of education must certify that a facility inspection system has been established to ensure that each of its facilities is maintained in good repair in order to participate in the School Facility Program and the Deferred Maintenance Program. This tool is intended to assist school districts and county offices of education in that determination.

County superintendents are required to annually visit the schools in the county of his or her office as determined by EC Section 1240. Further, EC Section 1240(c)(2)(I), states the priority objective of the visits made shall be to determine the status of the condition of a facility that poses an emergency or urgent threat to the health or safety of pupils or staff as defined in district policy, or as defined by EC Section 17592.72(c) and the accuracy of data reported on the school accountability report card with the respect to the safety, cleanliness, and adequacy of school facilities, including good repair as required by EC Sections 17014, 17032.5, 17070.75, and 17089. This tool is also intended to assist county offices of education in performing these functions.

The EC also allows individual entities to adopt a local evaluation instrument to be used in lieu of the FIT provided the local instrument meets the criteria specified in EC Section 17002(d) and as implemented in the FIT. Any evaluation instrument adopted by the local educational agency for purpose of determining whether a school facility is maintained in good repair may include any number of additional items but must minimally include the criteria and rating scheme contained in the FIT.

## USER INSTRUCTIONS

The FIT is comprised of three parts as follows:

**Part I, Good Repair Standard** outlines the school facility systems and components, as specified in EC Section 17002(d)(1), that should be considered in the inspection of a school facility to ensure it is maintained in a manner that assures it is clean, safe and functional. Each of the 15 sections in the Good Repair Standard provides a description of a minimum standard of good repair for various school facility categories. Each section also provides examples of clean, safe and functional conditions. The list of examples is not exhaustive. If an evaluator notes a condition that is not mentioned in the examples but constitutes a deficiency, the evaluator can note such deficiency in the applicable category as "other."

Some of the conditions cited in the Good Repair Standard represent items that are critical to the health and safety of pupils and staff. Any deficiencies in these items require immediate attention and, if left unmitigated, could cause severe and immediate injury, illness or death of the occupants. They constitute extreme deficiencies and indicate that the particular building system evaluated failed to meet the standard of good repair at that school site. These critical conditions are identified with underlined text followed by an (X) on the Good Repair Standard. If the underlined statement is not true, then there is an extreme deficiency (to be marked as an "X" on the Evaluation Detail) resulting in a "poor" rating for the applicable category. It is important to note that the list of extreme deficiencies noted in the Good Repair Standard is not exhaustive. Any other deficiency not included in the criteria but meeting the definition above can be noted by the evaluator and generate a poor rating.

**Part II, Evaluation Detail** is a site inspection template to be used to evaluate the areas of a school on a category by category basis. The design of the inspection template allows for the determination of the scope of conditions across campus. In evaluating each area or space, the user should review each of the 15 categories identified in the Good Repair Standard and make a determination of whether a particular area is in good repair. Once the determination is made, it should be recorded on the Evaluation Detail, as follows:

✓	<b>No Deficiency - Good Repair:</b> Insert a check mark if all statements in the Good Repair Standard are true, and there is no indication of a deficiency in the specific category.
D	<b>Deficiency:</b> Mark "D" if one or more statement(s) in the Good Repair Standard for the specific category is not true, or if there is other clear evidence of the need for repair.
X	<b>Extreme Deficiency:</b> Indicate "X" if the area has a deficiency that is considered an "Extreme Deficiency" in the Good Repair Standard or there is a condition that qualifies as an extreme deficiency but is not noted in the Good Repair Standard.
NA	<b>Not Applicable:</b> If the Good Repair Standard category (building system or component) does not exist in the area evaluated, mark "NA".

Below are suggested methods for evaluating various systems and areas:

- **Gas** (Section 1) and **Sewer** (Section 12) are major building systems that may span the entire school campus but may not be evident as applicable building systems in each classroom or common areas. However, because a deficiency in either of these systems could become evident and present a health and safety threat anywhere on campus, the user should not mark "NA" and should instead include an evaluation of these systems in each building space.
- **Roofs** (Section 13) can be easily evaluated for stand alone areas, such as portable classrooms. For permanent buildings containing several areas to be evaluated, roofs should be considered as parts of individual areas in order to accurately account for a scope of any roofing deficiency. For example, a 10 classroom building contains damaged gutters on one side of the building, spanning across five classrooms. Therefore, an evaluator should mark five classrooms as deficient in the roof category (Section 13) and the other five classrooms as in good repair, assuming there are no other visible deficiencies related to roofing.
- **Overall Cleanliness** (Section 15), is intended to be used to evaluate the cleanliness of each space. For example, a user should note a deficiency due to dirty surfaces in Section 15, rather than **Interior Surfaces** (Section 4). At the same time, the user should note such deficiency *only* in Section 15 in order to avoid accounting for such deficiency twice, i.e. in two sections.
- The tool is designed to evaluate stand-alone restrooms as separate areas. However, restrooms contained within other spaces, such as a kindergarten classroom or a library, can be evaluated as part of that area under Section 11. If the area evaluated does not contain a restroom, Section 11 should be marked "NA."
- **Drinking fountains** can exist within individual classrooms or areas, right outside of classrooms or restrooms or other areas, or as stand alone fixtures on playgrounds and sports fields. If a drinking fountain or a set of fountains is located inside a building or immediately outside the area being evaluated, it should be included in the evaluation of that area under Section 10. If a fountain is located on the school grounds, it should be evaluated as part of that outside space. If there is no drinking fountain in the area evaluated, Section 10 should be marked "NA."
- **Playgrounds/School Grounds** (Section 14), should be evaluated as separate areas by dividing a campus into sections with defined borders. In this case, several sections of the good repair criteria would not apply to the evaluation, as they do not exist outside of physical building areas, such as **Structural Damage** (Section 6) and **Fire Safety** (Section 7), for example.

Part III includes the **Category Totals and Ranking**, the **Overall Rating**, and a section for **Comments and Rating Explanation**.

Once the inspector completes the site inspection, he or she must total the number of areas evaluated. The inspector must also count all of the spaces deemed in good repair, deficient, extremely deficient, or not applicable under each of the 15 sections. Next, the evaluator must determine the condition of each category by taking the ratio of the number of areas deemed in good repair to the number of areas being evaluated (after subtracting non-applicable spaces from the total number of areas evaluated). If any of the 15 categories received a rating of extreme deficiency, the ratio (i.e., the percentage of good repair) for that section should default to zero.

Next, the overall school site score is determined by computing the average percentage rating of the 15 categories (i.e., the total of all percentages divided by 15). Finally, the rater should determine the overall School Rating by applying the Percentage Range in the table provided in Part III to the average percentage calculated and taking into consideration the Rating Description provided in the same table.

\*Although the FIT is designed to evaluate each school site within a reasonable range of facility conditions, it is possible that an evaluator may identify critical facility conditions that result in an Overall School Rating that does not reflect the urgency and severity of those deficiencies and/or does not match the rating's Description in Part III. In such instances, the evaluator may reduce the resulting school score by one or more grade categories and describe the reasons for the reduction in the space provided for Comments and Rating Explanation.

When completing Part III of the FIT, the instructor should note the date and time of the inspection as well as weather conditions and any other pertinent inspection information in the specific areas provided and utilize the Comments and Rating Explanation Section if needed.

## **PART I: GOOD REPAIR STANDARD**

(X): If underlined statement is not true, then this is an extreme deficiency (marked as an "X") on the Evaluation Detail resulting in a "poor" rating for the applicable category.

### **1. Gas Leaks**

*Gas systems and pipes appear safe, functional, and free of leaks. Examples include but are not limited to the following:*

- There is no odor that would indicate a gas leak. (X)
- Gas pipes are not broken and appear to be in good working order. (X)
- Other:

### **2. Mechanical Systems**

*Heating, ventilation, and air conditioning systems (HVAC) as applicable are functional and unobstructed. Examples include but are not limited to the following:*

- The HVAC system is operable. (X)
- The facilities are ventilated (via mechanical or natural ventilation).
- The ventilation units are unobstructed and vents and grills are without evidence of excessive dirt or dust.
- There appears to be an adequate air supply to all classrooms, work spaces, and facilities (i.e. no strong odor is present, air is not stuffy).
- Interior temperatures appear to be maintained within normally accepted ranges.
- The ventilation units are not generating any excessive noise or vibrations.
- Other:

### **3. Windows/Doors/Gates/Fences (Interior and exterior)**

*Conditions that pose a safety and/or security risk are not evident. Examples include but are not limited to the following:*

- There is no exposed broken glass accessible to pupils and staff. (X)
- Exterior doors and gates are functioning and do not pose a security risk. (X)
- Windows are intact and free of cracks.
- Windows are functional and open, close, and lock as designed, unless there is a valid reason they should not function as designed.
- Doors are intact.
- Doors are functional and open, close, and lock as designed, unless there is a valid reason they should not function as designed.
- Gates and fences appear to be functional.
- Gates and fences are intact and free of holes and other conditions that could present a safety hazard to pupils, staff, or others.
- Other:

### **4. Interior Surfaces (Floors, Ceilings, Walls, and Window Casings)**

*Interior surfaces appear to be clean, safe, and functional. Examples include but are not limited to the following:*

- Walls are free of hazards from tears and holes.
- Flooring is free of hazards from torn carpeting, missing floor tiles, holes.
- Ceiling is free of hazards from missing ceiling tiles and holes.
- There is no evidence of water damage (e.g. no condensation, dampness, staining, warping, peeling, mineral deposits, etc.)
- Other:

### **5. Hazardous Materials (Interior and Exterior)**

*There does not appear to be evidence of hazardous materials that may pose a threat to pupils or staff. Examples include but are not limited to the following:*

- Hazardous chemicals, chemical waste, and flammable materials are stored properly (e.g. locked and labeled properly). (X)
- Paint is not peeling, chipping, or cracking.
- There does not appear to be damaged tiles or other circumstances that may indicate asbestos exposure.
- Surfaces (including floors, ceilings, walls, window casings, HVAC grills) appear to be free of mildew, mold odor and visible mold.
- Other:

### **6. Structural Damage**

*There does not appear to be structural damage that has created or could create hazardous or uninhabitable conditions. Examples include but are not limited to the following:*

- Severe cracks are not evident. (X)
- Ceilings & floors are not sloping or sagging beyond their intended design. (X)
- Posts, beams, supports for portable classrooms, ramps, and other structural building members appear to be intact, secure and functional as designed. (X)
- There is no visible evidence of severe cracks, dry rot, mold, or damage that undermines the structural components. (X)
- Other:

### **7. Fire Safety**

*The fire equipment and emergency systems appear to be functioning properly. Examples include but are not limited to the following:*

- The fire sprinklers appear to be in working order (e.g., there are no missing or damaged sprinkler heads). (X)
- Emergency alarms appear to be functional. (X)
- Emergency exit signs function as designed, exits are unobstructed. (X)
- Fire extinguishers are current and placed in all required areas.
- Fire alarms pull stations are clearly visible.
- Other:

### 8. Electrical (Interior and Exterior)

1. There is no evidence that any portion of the school has a power failure. (X)
2. Electrical systems, components, and equipment appear to be working properly. Examples include but are not limited to the following:
  - a. There are no exposed electrical wires. Electrical equipment is properly covered and secured from pupil access. (X)
  - b. Outlets, access panels, switch plates, junction boxes and fixtures are properly covered and secured from pupil access.
  - c. Other
3. Lighting appears to be adequate and working properly, including exterior lights. Examples include but are not limited to the following:
  - a. Lighting appears to be adequate.
  - b. Lighting is not flickering.
  - c. There is no unusual hum or noise from the light fixtures.
  - d. Other

### 9. Pest/Vermin Infestation

Pest or vermin infestation are not evident. Examples include but are not limited to the following:

- a. There is no evidence of a major pest or vermin infestation. (X)
- b. There are no holes in the walls, floors, or ceilings.
- c. Rodent droppings or insect skins are not evident.
- d. Odor caused by a pest or vermin infestation is not evident.
- e. There are no live rodents observed.
- f. Other

### 10. Drinking Fountains (Inside and Outside)

Drinking fountains appear to be accessible and functioning as intended. Examples include but are not limited to the following:

- a. Drinking fountains are accessible.
- b. Water pressure is adequate.
- c. A leak is not evident.
- d. There is no moss, mold, or excessive staining on the fixtures.
- e. The water is clear and without unusual taste or odor.
- f. Other

### 11. Restrooms

Restrooms in the vicinity of the area being evaluated appear to be accessible during school hours, clean, functional and in compliance with SB 892 (EC Section 35292.5). The following are examples of compliance with SB 892:

- a. Restrooms are maintained and cleaned regularly.
- b. Restrooms are fully operational.
- c. Restrooms are stocked with toilet paper, soap, and paper towels.
- d. Restrooms are open during school hours.
- e. Other

### 12. Sewer

Sewer line stoppage is not evident. Examples include but are not limited to the following:

- a. There are no obvious signs of flooding caused by sewer line back-up in the facilities or on the school grounds. (X)
- b. The sanitary system controls odors as designed.
- c. Other

### 13. Roofs (observed from the ground, inside/outside the building)

Roof systems appear to be functioning properly. Examples include but are not limited to the following:

- a. Roofs, gutters, roof drains, and down spouts are free of visible damage.
- b. Roofs, gutters, roof drains, and down spouts are intact.
- c. Other:

### 14. Playground/School Grounds

The playground equipment and school grounds in the vicinity of the area being evaluated appear to be clean, safe, and functional. Examples include but are not limited to the following:

- a. Significant cracks, trip hazards, holes and deterioration are not found.
- b. Open "S" hooks, protruding bolt ends, and sharp points/edges are not found in the playground equipment.
- c. Seating, tables, and equipment are functional and free of significant cracks.
- d. There are no signs of drainage problems, such as flooded areas, eroded soil, water damage to asphalt, or clogged storm drain inlets.
- e. Other

### 15. Overall Cleanliness

School grounds, buildings, common areas, and individual rooms appear to have been cleaned regularly. Examples include but are not limited to the following:

- a. Area(s) evaluated is free of accumulated refuse, dirt, and grime.
- b. Area(s) evaluated is free of unabated graffiti.
- c. Restrooms, drinking fountains, and food preparation or serving areas appear to have been cleaned each day that school is in session.
- d. Other:

# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE ALLOCATION BOARD  
OFFICE OF PUBLIC SCHOOL CONSTRUCTION

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
SCHOOL FACILITY CONDITIONS EVALUATION  
(NEW 06/07)

Page 5 of 6

**PART II: EVALUATION DETAIL**      Date of Inspection: \_\_\_\_\_      School Name: \_\_\_\_\_      Page \_\_\_\_\_ of \_\_\_\_\_

AREA	SECTION 1 GAS LEAKS	SECTION 2 MECH/HVAC	SECTION 3 WINDOWS/ DOORS/ GATES/FENCES	SECTION 4 INTERIOR SURFACES	SECTION 5 HAZARDOUS MATERIALS	SECTION 6 STRUCTURAL DAMAGE	SECTION 7 FIRE SAFETY	SECTION 8 ELECTRICAL	SECTION 9 PEST/VERMIN INFESTATION	SECTION 10 DRINKING FOUNTAINS	SECTION 11 RESTROOMS	SECTION 12 SEWER	SECTION 13 ROOFS	SECTION 14 PLAYGROUND/ SCHOOL GROUNDS	SECTION 15 OVERALL CLEANLINESS
	COMMENTS:														
	COMMENTS:														
	COMMENTS:														
	COMMENTS:														
	COMMENTS:														
	COMMENTS:														
	COMMENTS:														

Marks: ✓ = Good Repair; **D** = Deficiency; **X** = Extreme Deficiency; **NA** = Not Applicable  
Use additional sheets as necessary

# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE ALLOCATION BOARD  
OFFICE OF PUBLIC SCHOOL CONSTRUCTION

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
SCHOOL FACILITY CONDITIONS EVALUATION  
(NEW 06/07)

Page 6 of 6

SCHOOL DISTRICT/COUNTY OFFICE OF EDUCATION	COUNTY
SCHOOL SITE	SCHOOL TYPE (GRADE LEVELS)      NUMBER OF CLASSROOMS ON SITE
INSPECTOR'S NAME	INSPECTOR'S TITLE
TIME OF INSPECTION	WEATHER CONDITION AT TIME OF INSPECTION
NAME OF DISTRICT REPRESENTATIVE ACCOMPANYING THE INSPECTOR(S) (IF APPLICABLE)	

**PART III: CATEGORY TOTALS AND RANKING**

TOTAL NUMBER OF AREAS EVALUATED	CATEGORY TOTALS	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8	SECTION 9	SECTION 10	SECTION 11	SECTION 12	SECTION 13	SECTION 14	SECTION 15
		GAS LEAKS	MECH/HVAC	WINDOWS/DOORS/GATES/FENCES	INTERIOR SURFACES	HAZARDOUS MATERIALS	STRUCTURAL DAMAGE	FIRE SAFETY	ELECTRICAL	PEST/VERMIN INFESTATION	DRINKING FOUNTAINS	RESTROOMS	SEWER	ROOFS	PLAYGROUND/SCHOOL GROUNDS	OVERALL SCHOOL CLEANLINESS
↓	Number of "A"s:															
	Number of "D"s:															
	Number of "X"s:															
	Number of "NA"s:															
	Percent of System in Good Repair (Total Areas - "NA"s)															
	Rank (Circle One) Good = 85%-100% Fair = 67%-84.99% Poor = 0%-66.99%	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR	GOOD FAIR POOR

Note: An extreme deficiency in any section automatically results in a "poor" ranking for that category and a zero for "Percent of System in Good Repair."

**OVERALL RATING:**      **DETERMINE AVERAGE PERCENTAGE OF 15 CATEGORIES ABOVE →**      **SCHOOL RATING\* →**

\*For School Rating, apply the Percentage Range below to the average percentage determined above, taking into account the rating Description below.

PERCENTAGE	DESCRIPTION	RATING
98%–100%	The school meets most or all standards of good repair. Deficiencies noted, if any, are not significant and/or impact a very small area of the school.	Exemplary
85%–97.99%	The school is maintained in good repair with a number of non-critical deficiencies noted. These deficiencies are isolated, and/or resulting from minor wear and tear, and/or in the process of being mitigated.	Good
67%–84.99%	The school is not in good repair. Some deficiencies noted are critical and/or widespread. Repairs and/or additional maintenance are necessary in several areas of the school site.	Fair
0%–66.99%	The school facilities are in poor condition. Deficiencies of various degrees have been noted throughout the site. Major repairs and maintenance are necessary throughout campus.	Poor

**COMMENTS AND RATING EXPLANATION:**

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# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE ALLOCATION BOARD  
OFFICE OF PUBLIC SCHOOL CONSTRUCTION

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
SCHOOL FACILITY CONDITIONS EVALUATION  
(NEW 06/07)

PART II: FACILITY DETAIL		Date of Inspection	School Name	Page	1	of	3								
AREA	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8	SECTION 9	SECTION 10	SECTION 11	SECTION 12	SECTION 13	SECTION 14	SECTION 15
	GAS LEAKS	MECHANICAL	WINDOWS/DOORS/GATES/FENCES	INTERIOR SURFACES	HAZARDOUS MATERIALS	STRUCTURAL DAMAGE	FIRE SAFETY	ELECTRICAL	PEST/TERMITES INFESTATION	DRINKING FOUNTAINS	RESTROOMS	SEWER	ROOFS	PLAYGROUND/ SCHOOL GROUNDS	OVERALL CLEANLINESS
CR 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	✓	✓	NA	D
15: very dirty floor															
CR 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	NA	✓	✓	NA	✓
CR 8	✓	✓	✓	D	✓	✓	✓	D	✓	NA	NA	✓	✓	NA	✓
4: portable wall rippeded, base cap missing (several sections) 8: unsafe wiring NE corner															
CR 9	✓	✓	✓	✓	✓	✓	D	✓	✓	NA	NA	✓	✓	NA	✓
7: no fire extinguisher															
CR 13	✓	✓	✓	✓	✓	✓	D	✓	✓	NA	NA	✓	✓	NA	D
7: no fire extinguisher 15: dirty walls															
Multi-Purpose Rm	✓	✓	D	D	✓	✓	✓	✓	✓	✓	✓	✓	D	NA	✓
4: non-functioning doors (stage area), loose wall board 14: roof leaks around stage area															
Kitchen	✓	✓	✓	D	✓	✓	✓	✓	X	✓	NA	✓	✓	NA	✓
4: hairline cracks in the floor, 9: evidence of roach infestation															

Marked ✓ = Good/Required D = Deficiency X = Extreme Deficiency/NA = Not Applicable  
 Use additional sheets as necessary

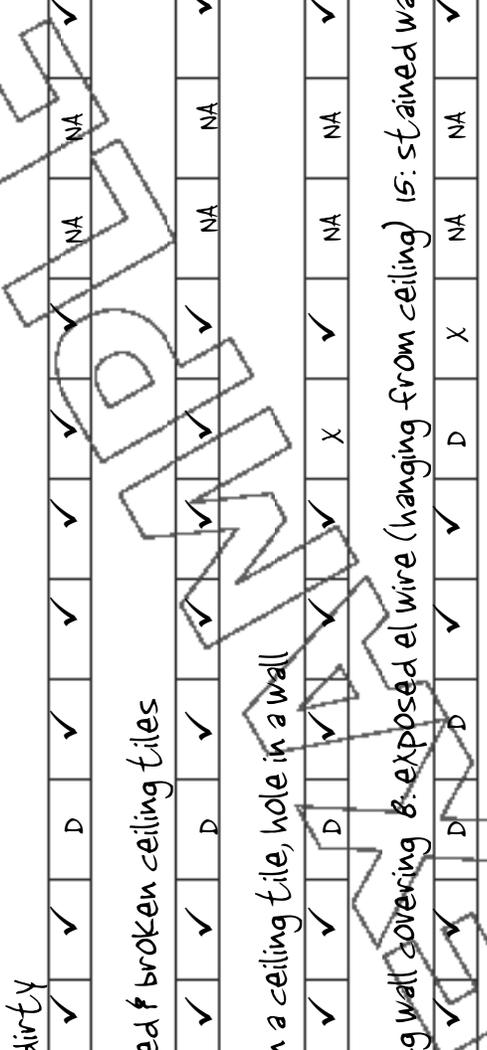
# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE ALLOCATION BOARD  
OFFICE OF PUBLIC SCHOOL CONSTRUCTION

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
SCHOOL FACILITY CONDITIONS EVALUATION  
(NEW 06/07)

Page 5 of 6

PART II: FACILITY DETAIL		Date of Inspections	School Name	Page	Z	3									
AREA	SECTION 1 GASELINES	SECTION 2 MECHANICAL	SECTION 3 WINDOWS/ DOORS/ GATES/FENCES	SECTION 4 INTERIOR SURFACES	SECTION 5 HAZARDOUS MATERIALS	SECTION 6 STRUCTURAL DAMAGE	SECTION 7 FIRE SAFETY	SECTION 8 ELECTRICAL	SECTION 9 PEST/VERMIN INFESTATION	SECTION 10 DRINKING FOUNTAINS	SECTION 11 RESTROOMS	SECTION 12 SEWER	SECTION 13 ROOFS	SECTION 14 PLAYGROUND/ SCHOOL GROUNDS	SECTION 15 OVERALL CLEANLINESS
Staff Lounge	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NA	D
CR 23	✓	✓	✓	D	✓	✓	✓	✓	✓	NA	NA	✓	✓	NA	✓
CR 15	✓	✓	✓	D	✓	✓	✓	✓	✓	NA	NA	✓	✓	NA	✓
CR 27	✓	✓	✓	D	✓	✓	✓	X	✓	NA	NA	✓	✓	NA	D
CR 30	✓	✓	✓	D	D	✓	✓	D	X	NA	NA	✓	✓	NA	✓
Library	✓	✓	✓	✓	✓	✓	✓	✓	✓	D	NA	✓	✓	NA	✓
Office	✓	✓	✓	D	✓	✓	✓	✓	✓	NA	✓	✓	✓	NA	✓



Marked ✓ - Good; D - Deficiency; X - Extreme Deficiency; NA - Not Applicable  
Use additional sheets as necessary

# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE ALLOCATION BOARD  
OFFICE OF PUBLIC SCHOOL CONSTRUCTION

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
SCHOOL FACILITY CONDITIONS EVALUATION  
(NEW 06/07)

Page 5 of 6

**PART II: FACILITY DETAIL**      Date of Inspection 5-16-07      School Name XYZ Middle School      Page 3 of 3

SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8	SECTION 9	SECTION 10	SECTION 11	SECTION 12	SECTION 13	SECTION 14	SECTION 15
GASES	MECHANICAL	WINDOWS/DOORS/GATES/FENCES	INTERIOR SURFACES	HAZARDOUS MATERIALS	STRUCTURAL DAMAGE	FIRE SAFETY	ELECTRICAL	PEST/TERMIN INFESTATION	DRINKING FOUNTAINS	RESTROOMS	SEWER	ROOFS	PLAYGROUND/SCHOOL GROUNDS	OVERALL CLEANLINESS
✓	NA	NA	NA	NA	NA	NA	X	✓	✓	NA	✓	NA	✓	✓
Grounds (front campus) 8: exposed electrical wires outside portable CR 33														
✓	NA	NA	NA	NA	NA	NA	NA	✓	✓	NA	✓	NA	✓	✓
Grounds (back campus)														

Marked ✓ - Good; NA - Not Applicable; X - Extreme Deficiency; NA - Not Applicable  
(Use additional sheets as necessary)

# APPENDIX 1 – SAMPLE OPSC FIT FORMS

STATE OF CALIFORNIA  
**FACILITY INSPECTION TOOL**  
 SCHOOL FACILITY CONDITIONS EVALUATION  
 (NEW 06/07)

STATE ALLOCATION BOARD  
 OFFICE OF PUBLIC SCHOOL CONSTRUCTION  
 Page 6 of 6

SCHOOL DISTRICT/COUNTY OFFICE OF EDUCATION XYZ Unified School District	COUNTY XYZ County
SCHOOL SITE XYZ Middle School	SCHOOL TYPE (GRADE LEVELS) Middle (7-8)
INSPECTOR'S NAME Mr. Smith	NUMBER OF CLASSROOMS ON SITE 33
INSPECTOR'S TITLE Director of Maintenance	NAME OF DISTRICT REPRESENTATIVE ACCOMPANYING THE INSPECTOR(S) (IF APPLICABLE) Mr. Johnson, Principal
TIME OF INSPECTION 9:00 am - 12:00 noon	WEATHER CONDITION AT TIME OF INSPECTION Sunny and Warm

### PART III: CATEGORY TOTALS AND RANKING

TOTAL NUMBER OF AREAS EVALUATED	CATEGORY TOTALS	SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8	SECTION 9	SECTION 10	SECTION 11	SECTION 12	SECTION 13	SECTION 14	SECTION 15
		GAS LEAKS	MECH/HVAC	WINDOWS/DOORS/GATES/FENCES	INTERIOR SURFACES	HAZARDOUS MATERIALS	STRUCTURAL DAMAGE	FIRE SAFETY	ELECTRICAL	PEST/VERMIN INFESTATION	DRINKING FOUNTAINS	RESTROOMS	SEWER	ROOFS	PLAYGROUND/SCHOOL GROUNDS	OVERALL SCHOOL CLEANLINESS
↓	Number of "Y"s: Number of "D"s: Number of "X"s: Number of "NA"s:	16	14	13	6	13	14	12	11	15	5	3	16	13	2	12
16	Percent of System in Good Repair Number of "Y"s divided by (Total Areas - "NA"s)		2	2	2	2	2	2	2	1	10	13	2	14		
	Rank (Circle One) Good = 85%–100% Fair = 67%–84.99% Poor = 0%–66.99%	100	100	95	43	93	100	86	0	0	83	100	100	93	100	75

Note: An extreme deficiency in any section automatically results in a "poor" ranking for that category and a zero for "Percent of System in Good Repair."

### OVERALL RATING:

DETERMINE AVERAGE PERCENTAGE OF 15 CATEGORIES ABOVE → **77.73%** SCHOOL RATING\* → **Fair**

\*For School Rating, apply the Percentage Range below to the average percentage determined above, taking into account the rating Description below.

PERCENTAGE	DESCRIPTION	RATING
98%–100%	The school meets most or all standards of good repair. Deficiencies noted, if any, are not significant and/or impact a very small area of the school.	Exemplary
85%–97.99%	The school is maintained in good repair with a number of non-critical deficiencies noted. These deficiencies are isolated, and/or resulting from minor wear and tear, and/or in the process of being mitigated.	Good
67%–84.99%	The school is not in good repair. Some deficiencies noted are critical and/or widespread. Repairs and/or additional maintenance are necessary in several areas of the school site.	Fair
0%–66.99%	The school facilities are in poor condition. Deficiencies of various degrees have been noted throughout the site. Major repairs and maintenance are necessary throughout campus.	Poor

### COMMENTS AND RATING EXPLANATION:

## APPENDIX 2 – DEFINITION OF AREAS

When describing an area in the FIT, use common terminology for all school sites and always specify the location or context within campus, for example, Room 25, Boys Restroom by Room 10, Staff Restroom in 2-Floor of Main Building, etc.

List of typical areas of inspection:

AREA	LIST IN FIT	MAY INCLUDE
Instruction Rooms: Classrooms Labs Shops Specialty Instruction	Individually	Evaluate regular classrooms as well as computer, chemistry, physics, biology, and photo labs; wood, metal, auto, photo, shops, music, choir, theater, drama rooms, ROTC, and ROTC firing range, etc. Some areas may include a restroom or storage room
Main Office Health Office	Individually	Evaluate areas and include restrooms inside the office or nearby, such as the Health Office
Administrative Offices	As one area if in close proximity, or separate areas if not in close proximity	Evaluate Counseling Office, Attendance Office, Staff Lounge, Workroom, Conference Room, etc. Some areas may include a restroom or storage room inside the office or nearby
Library	Individually	These areas may include a storage room and/or an office
Auditorium/ Multipurpose Room	Individually	Typically includes one set of restrooms, possibly more, as well as a stage and a storage room
Kitchen Cafeteria	As one area if in close proximity, or separate areas if not in close proximity	Typically includes restrooms, storage rooms, freezers, serving areas, etc.
Lunch Area	As one area unless there is separation of Indoor/Outdoor Dining	Any of these areas may include restrooms, storage rooms, serving areas, student store, or snack shack, etc.
Restrooms: Students Staff	Individually, unless they are located within a classroom	Specify location - for example, Girls Restroom in main building, Boys Restroom on 2 <sup>nd</sup> floor, Staff Restroom by Room 32, etc.
Gymnasium	As one area unless there are multiple gyms; if so, list them separately	Evaluate Boys Gym and Girls Gym, if existing at site Typically includes one set of restrooms and possibly a weight room
Swimming pool	As one area	Evaluate the swimming pool and other support space for this function
Locker Rooms: Girls Boys	Individually	Evaluate the Girls Locker and Boys Locker Room Typically includes restrooms and showers
Grounds/ Playgrounds/ Fields/ Yard	As one area	Typically includes basketball/volleyball/tennis courts, baseball fields, grass areas, blacktops, etc.

*This matrix was developed by the Los Angeles County Office of Education.*

## APPENDIX 2 – DEFINITION OF AREAS

Guidelines on unique areas of inspection (to be listed in FIT together with another area):

AREA	LIST IN FIT	WHERE TO INCLUDE
Hallways Stairwells Elevators Courtyards Parking Lots Perimeter fencing Asphalt damage Storage containers	Together with another area	Evaluate as part of an adjacent classroom, office, library, etc. which is in close proximity
Bleachers Student store or snack shack	Together with another area	Evaluate as part of the area where physically located: <ul style="list-style-type: none"> <li>• If bleachers are located inside the gym, evaluate as part of the gym, if located on outside space, evaluate as part of the field</li> <li>• If student store is located next to Cafeteria, evaluate as part of Cafeteria, if located on outside space, evaluate as part of Lunch Area</li> </ul>
Storage Custodial Hopper Electrical HVAC Boiler Rooms	Together with another area	Evaluate if access door is unsecured and there is a fire extinguisher sign; if the area is being inspected, evaluate it as part of another area, especially if it is located inside a classroom or as part of an area being inspected which is in close proximity
Exterior fenced-off equipment	Together with another area	Evaluate as part of an adjacent area where it is located or as part of the outside space in which is located

*This matrix was developed by the Los Angeles County Office of Education.*

## APPENDIX 3 – *BACKGROUND ON THE WILLIAMS LAWSUIT*

The *Williams v. State of California* case began on May 17, 2000 when the American Civil Liberties Union (ACLU), Public Advocates, the Mexican American Legal Defense and Education Fund (MALDEF) and other civil rights organizations, along with Morrison & Foerster LLP, filed a class-action lawsuit on behalf of public school children against the State of California, claiming the State and its agencies have denied thousands of California children their fundamental right to an education under the California Constitution by failing to give them the basic tools necessary for that education. A Settlement Agreement was reached on August 13, 2004, and on September 29, 2004, five bills implementing the details of the Settlement Agreement were signed into law by Governor Schwarzenegger.

The *Williams* settlement requires that all students have instructional materials and that their school be clean and safe. It also takes steps toward assuring that they have qualified teachers. The settlement holds schools accountable for delivering these fundamental elements, and provides nearly \$1 billion over the course of several years to accomplish these goals.

Concerning public school facilities specifically, the *Williams* settlement established a new statutory definition of “good repair” by requiring that “...the facility is maintained in a manner that assures that it is clean, safe, and functional as determined pursuant to an interim evaluation instrument developed by the Office of Public School Construction [OPSC].” In addition, the settlement established the Emergency Repair Program (ERP) which makes \$800 million available for districts to repair facility conditions that threaten the health and safety of students and staff that attend the school, and \$25 million for a one-time comprehensive facilities needs assessment of schools ranked in the bottom 3 deciles of the statewide Academic Performance Index (API).

Just over two years after the original settlement legislation was signed, Assembly Bill 607 (Goldberg) made significant improvements to the school facilities components of the Settlement Legislation. Using the Office of Public School Construction’s recommendations to the Governor and the Legislature regarding options for permanent state standards to replace the interim evaluation instrument as a foundation, Assembly Bill 607 took the next step in the evolution of the “good repair” standard and established a detailed statewide minimum standard in the California Education Code.

The bill also required the Office of Public School Construction to develop a permanent evaluation instrument to evaluate all public school facilities on an objective “good/fair/poor” scale. In addition, the bill fundamentally restructured the Emergency Repair Program (ERP) to allow districts to receive grants before they perform repairs, in addition to reimbursements for completed eligible repairs. Assembly Bill 607 also clarified how a County Superintendent may follow up when he or she determines on a site visit that the condition of a facility poses an emergency or urgent threat to the health and safety of pupils or staff or is otherwise not in “good repair.”

In 2007, the Office of Public School Construction developed the Facilities Inspection Tool (FIT) to replace the Interim Evaluation Instrument (IEI).



## **APPENDIX 4 – *ACRONYMS***

ANSI - American National Standards Institute

ARB - Air Resources Board

ASTM - American Society for Testing and Materials

ASHRAE - American Society for Heating, Refrigeration and Air Conditioning

CARB - California Air Resources Board

CBC - California Building Code

CBSC - California Building Standards Commission

CSSC - California Seismic Safety Commission

CDHA - California Department of Health Services

CEC - California Energy Commission

CHPS - Collaborative for High Performance Schools

CIWMB - California Integrated Waste Management Board

CPUC - California Public Utilities Commission

CSSA - California Seismic Safety Commission

DPR - Department of Pesticide Regulation

DSA - Division of the State Architect

EPP - Environmentally Preferable Products

Healthy SEAT - Healthy School Environments Assessment Tool

IPM - Integrated Pest Management

IAPMO - International Association of Plumbing and Mechanical Officers

ICC - International Code Council

IPEMA - International Play Equipment Manufacturers Association

HEPA - High Efficiency Particulate Air Filters

HVAC - Heating, Ventilation, and Air Conditioning

IPM - Integrated Pest Management

MERV - Minimum Efficiency Reporting Values

## **APPENDIX 4 – *ACRONYMS***

MSDS - Material Data Safety Sheets

NPFA - National Fire Safety Protection Association

NPSS - National Program for Playground Safety

OPSC - Office of Public School Construction

OSFM - Office of the State Fire Marshall

SARC - School Accountability Report Card

VOC - Volatile Organic Compound









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