

UC BERKELEY

EH&S REGULATORY GUIDE FOR  
CONSTRUCTION MANAGERS



# Berkeley EH&S



### This guide is targeted for:

- UC Berkeley Real Estate;
- Physical and Environmental Planning;
- Capital Projects;
- Facilities Services;
- Residential and Student Services Programs;
- Building or department managers and coordinators.

The guide is designed to be used as a screening tool for building changes and construction that may have environmental, health and safety exposure impacts or agency requirements beyond fire marshal requirements.

The topics in this guide are agency reporting and record-keeping requirements related to facilities and equipment undergoing construction, demolition, modification or renovation.

This guide should be used as a reference tool and checklist for Environment, Health & Safety (EH&S) review and general guidance and should not be used without EH&S involvement.

Although this guide is based on regulatory legal references, it may not encompass all regulatory topics.

UC Berkeley EH&S is not responsible for misprinted, outdated or expired information that may conflict with current regulatory and agency requirements.

This document is not to be used as a substitute for the Campus Design Standards and construction contracts.

All construction and planning requires campus fire marshal review by law.

The fire marshal can be contacted by emailing:

[fireprevention@berkeley.edu](mailto:fireprevention@berkeley.edu) or visiting the 'Fire Prevention' section of the EH&S website.

For additional information or resources visit our website at:

<http://ehs.berkeley.edu/>

Or call 642-3073 and ask for the  
EH&S construction coordinator



## EMERGENCY CONTACTS

<b><u>Emergency Response:</u></b>	
EH&S Emergency Response/Designated Urgent Response Team (DURT) during business hours:	
Monday—Friday: 8am—5pm	<b>(510) 642 - 3073</b>
<b>UCPD</b>	
24-hours:	<b>(510) 642 - 6760</b>
<b><u>Life Threatening Emergency Numbers:</u></b>	
From campus telephone, dial 9 then <b>911</b> and direct ambulance to incident location.	
From a cell phone:	<b>(510) 642 - 3333</b>
<b><u>Non-life Threatening Emergency Numbers:</u></b>	
EH&S	(510) 642 - 3073
Facilities Services	(510) 642 - 1032
Campus Emergency Info Line	(800) 705 - 9998

## PROGRAM CONTACTS LIST

Program	Contact
Air Quality Specialist	Bernadette Santos bsantos@berkeley.edu (510) 642 - 6568
Biosafety Officer	BSO Office bso@berkeley.edu (510) 642 - 3073
Construction Coordinator	David Scrimger dscrimger@berkeley.edu (510) 642 - 0359
Dedicated Urgent Response Team	EH&S Main Office ehs@berkeley.edu (510) 643 - 8542
Environmental Protection Specialist	Tim Pine tpine@berkeley.edu (510) 643 - 8542
Facilities Hazardous Materials Manager	Sugi Harto sharto@berkeley.edu (510) 643 - 0534
Hazardous Waste Operations Manager	Andrew Fletcher Andrew.fletcher@berkeley.edu (510) 643 - 9254
Radiation Safety Officer	RSO Office radsafety@berkeley.edu (510) 642 - 3073
UCPD	Wade MacAdam wmacadam@berkeley.edu (510) 642 - 3722



## TABLE OF CONTENTS

<b>Project Notification Form</b> Basic scope of work description for review with EH&S.....	1
<b>Environmental Pre-Screening List</b> LRDP, CEQA and general EH&S requirements.....	3
<b>Safety in Design List</b> Meeting CAL-OSHA and safety requirements with the built environment.....	5
<b>Demolition and Renovation</b> Hazardous materials screening for structural changes, renovations and remodeling.....	7
<b>Earthwork, Grading, Utilities</b> Digging, trenching, soil import or export, roofing or paving changes.....	8
<b>Wells, Drilling, and Groundwater Sampling</b> City of Berkeley jurisdiction outlined.....	9
<b>Building Equipment</b> EH&S requirements for laboratories, shops, engineering and fabrication.....	10
<b>Labs and Shops</b> EH&S requirements for laboratories, shops, engineering and fabrication.....	13
<b>Waste List</b> Disposal requirements and waste signatures.....	15
<b>Biosafety List</b> Common construction elements that require biosafety officer approval.....	16
<b>Radiation Safety List</b> Common construction elements that require radiation safety officer approval.....	18
<b>Water Regulations List</b> Summary of construction requirements based on Water Code.....	19
<b>Air Regulations List</b> Summary of construction requirements based on air quality and health codes.....	21
<b>Kitchen, Food Prep, Sanitation List</b> Quick reference for health and food prep standards in design.....	24
<b>Residential and Student Support Program List</b> Design recommendations from custodial staff.....	25

## ATTACHMENTS

<b>I. Construction and Spill Response Protocol</b> Review prior to beginning work to prepare for emergency or spill response.
<b>II. Stormwater Data and Post-Construction Water Balance Calculator</b> General requirements for construction sites modifying outdoor areas.
<b>III. Stormwater Inspection Checklist /BMPs</b> General requirements for all construction, trenching, and digging work.
<b>IV. Construction General Permit and MS4 Construction Sites</b> Stormwater permitted sites on campus registered with the State Water Board for landscaping and stormwater treatment.
<b>V. Project Request Form</b> Every project installing, repairing or upgrading sewer laterals must complete this document for state reporting.
<b>VI. Equipment Decontamination Form</b> All equipment for public give away, resale or auction must be certified by EH&S. Outline of procedures and requirements.



## ACRONYM LIST

American's with Disabilities Act	ADA
Bay Area Air Quality Management District	BAAQMD
Biosafety Level	BSL
Biosafety Officer	BSO
Biological Use Authorization	BUA
California Air Resources Board	CARB
California Occupational Safety & Health Administration	Cal-OSHA
California Environmental Quality Act	CEQA
California Fish & Wildlife	CAFW
Chemical Hygiene Officer	CHO
City of Berkeley	CoB
Department of Transportation	DOT
Environment, Health and Safety	EH&S
Environmental Protection Agency	EPA
Safety Data Sheets	SDS

## ACRONYM LIST

Long Range Development Plan	LRDP
Municipal Separate Storm Sewer System	MS4
National Pollution Discharge Elimination System	NPDES
Office of Laboratory Animal Care	OLAC
Operating Procedure Outline Sheet	OPOS
Personal Protective Equipment	PPE
Poly-Chlorinated Biphenyls	PCBs
Public Private Partnership	P3
Qualified SWPPP Developer/Practitioner	QSD/QSP
Radiation Safety Officer	RSO
Regional Water Quality Control Board	RWQCB
Stormwater Multiple Application, Reporting and Tracking System	SMARTS
Stormwater Pollution Prevention Program	SWPPP
University Health Services	UHS
US Army Corps Engineers	USACE



## HOW TO USE THIS GUIDE...

This guide is a summary of environmental regulations most relevant to construction activities, commonly performed on campus, their potential hazards, concerns and quick recommendations or personnel to contact for approval or support.

The document is organized in a table format to be utilized as a set of checklists. Each checklist within the guide is sorted by regulatory topic, type of space, or activity.

**Broader scopes of work should be evaluated by using the Project Notification Form and Environmental Pre-Screening List.**

The remaining checklists are supplementary and provide additional information when working on specific projects or spaces.

## GETTING STARTED

- 1.) Start by using the **Project Notification Form** for reviewing broader EH&S topics that may be relevant to your construction, demolition or remodeling activities.
- 2.) Contact the **EH&S Construction Coordinator** to review what environmental requirements and/or permits may be needed from the scope of work involved.
- 3.) The **EH&S Construction Coordinator** will provide additional details required for your project and create an environmental compliance summary.
- 4.) After completing the **Project Notification** form, review the next checklist, **Environmental Pre-Screening List** to make sure you're covered under Campus Planning documents and following Campus Policy regarding CEQA and Long-Range Development Plans.
- 5.) **Review the supplemental checklists.** Meeting project compliance can be simplified when working on specific projects and space types. See the example below:

- **Environmental permits and agency applications will be completed by EH&S, except as where noted.** These topics are highlighted in yellow with red text.

- **EH&S Approval** or • **EH&S Review** requirements will have a red dot next to them. These topics must be approved, permitted or kept on record within EH&S.
- **Required by PM** are reminders to project managers of what obligations they are responsible for that EH&S does not have authority over.
- **BMPs: Best Management Practices** listed as suggestions rather than being a legal requirement. These are mentioned based on experience and industry expert advice.
- **Timeline:** All times are in weeks, unless otherwise specified in the column.
- **Agency Reporting To:** lists which agency or authority the requirement is governed by.

DEMOLITION AND RENOVATION P. 1/1	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL PERMIT, or REQUIRED step
Will the project involve demolition, abatement, remodeling? All Structures for demo, Renovations with >100 linear ft or >35 cu. ft. of Asbestos removal, & air dry wall removal, require BAAQMD Demolition registration and 'I' Number with Facilities Hazmat Manager.			4	BAAQMD, CAL-OSHA	PERMIT REQUIRED
<ul style="list-style-type: none"> <li>• Does the project involve a lab or shop? Labs and shops must go through EH&amp;S review prior to disturbing surfaces and equipment for proper safety controls. Allow for long lead times on spaces associated with current or former radiation use.</li> <li>• Equipment disposal or salvage items. Screen, sample &amp; decontaminate old items through EH&amp;S. All equipment for surplus or resale, must be EH&amp;S certified for decontamination. See Attachment VI.</li> </ul>			4-52	RSO, CHO, ISO, CAL-OSHA, EPA	EH&S REVIEW
Has a hazardous materials survey been conducted by the Facilities Hazmat Manager? Contact the Facilities Hazmat Manager to survey building materials for hazardous materials content prior to engaging workers or disturbing site conditions.			4	CAL-OSHA, EPA	REQUIRED by PM

Lecture/Instructional labs Review space with lecturer. Benches, shelving, & fixtures must not obscure overhead visual areas or chalkboard/lecture area from student seating or work areas.	Pre-Design	Professors			BEST MANAGEMENT PRACTICE
Flow of space. EH&S recommends consideration of safe flow and space for travel, waste pickup, supply, delivery, storage, and access to spill kit materials. Review with space occupants & building managers for best feedback.	Pre-Design	CAL-OSHA/BMPs List			BEST MANAGEMENT PRACTICE

# PROJECT NOTIFICATION AND SCOPE OF WORK P. 1/2

NAME/LOCATION OF PROJECT:

NAME OF PROJECT MANAGER:

PROJECT MANAGER CONTACT INFORMATION:

PROJECT START DATE:

PROJECT END DATE:

DESCRIBE FINAL BUILDING USE:

## SECTION 1.) CONSTRUCTION TYPE and ACTIVITIES

DOES SCOPE OF WORK INVOLVE ANY OF THIS?

Yes

No

1 Demolition/Remodeling

2 New facility

3 Renovation

4 Landscaping, paving or roofing changes

5 Utilities

5.1 Sanitary sewer modifications or improvements

5.2 Stormwater drains and/or work adjacent to a creek or waterbody

6 Earthwork, excavation, soil removal

7 Groundwater sampling or monitoring

8 Energy, utility, building upgrades

9 Interior building work

10 Exterior building work

11 Domestic water, kitchen or food prep

12 Fire suppression systems/dewatering/water Discharges

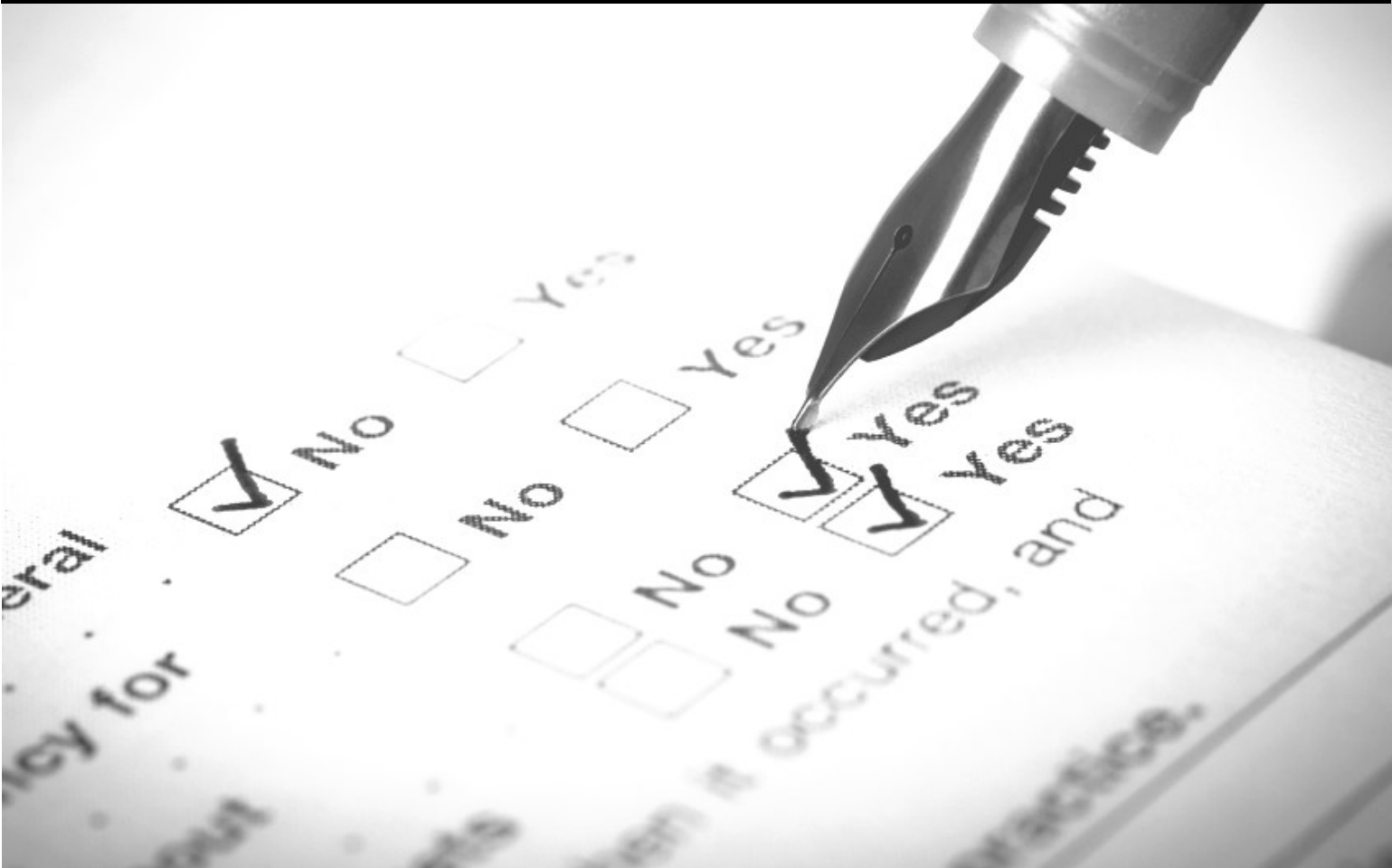
13 Air emission sources, boilers, lab exhaust or paint booths

14 Emergency generators and/or fuel storage areas

15 Radiography, x-ray equipment, or structural imaging

**SECTION 2.) FORMER or CURRENT SITE HISTORY**

IS THE SPACE or AREA CURRENTLY OR FORMERLY ASSOCIATED WITH THE FOLLOWING?	Yes	No
16 Radiation use		
17 Biological use or animal research		
18 Chemistry or laboratory		
19 Shop spaces		
20 Agricultural/gardening/landscaping		
21 Engineering/fabrication/nano particles/3D printing		
22 Hydraulic/electrical/fueling equipment		
23 Photography/press/printing/painting		
24 Sports/recreation sites		
25 Other:		





ENVIRONMENTAL PRE-SCREENING LIST P. 1/2	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S REVIEW, PERMIT, or REQUIRED step
<b>HISTORICAL EVALUATION AND LAND USE APPROVALS</b>					
<ul style="list-style-type: none"> <li>• <b>Modifying landscape or paved surface area?</b> All projects must document surface changes. Projects modifying &gt;2,500 sq ft of impermeable surfaces from pre-construction size require treating hardscape with Low Impact Development techniques to capture runoff. Sites &gt; 1 acre: must file a Construction General Permit application in SMARTS. 3rd party inspection, reporting and training requirements apply.</li> </ul>			Pre-Design	EPA, RWQCB	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li>• <b>Soil removal or importation needed?</b> Requires EH&amp;S review and approval. Sampling protocols and approval for proper site evaluation are required for all soil removal. CP standards for soil importation also apply. Contact EH&amp;S for soil sampling approval. Do not let general contractors take environmental samples!</li> </ul>			4	EPA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li>• <b>Site change use or operations type?</b> EH&amp;S must confirm environmental site conditions meet basic environmental and health code requirements for intended end use/building occupant legal standards. Examples may include: converting labs into offices; building a preschool, medical center, or community garden on a former parking lot, etc.</li> </ul>			52	EPA, CAL-OSHA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>P3 Sites: to be developed by a third party?</b> EH&amp;S must review and approve environmental standards and specs to include in contracts or bidding documents. 3rd party lease sites may still be obligated to Campus Policy and EH&amp;S regulatory requirements.</li> </ul>			24	EPA, CAL-OSHA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Is an Environmental Site Assessment or Historical Site Assessment complete for project?</b> EH&amp;S must conduct a full site historical assessment to determine if past operations are indicative of environmental concerns. Follow up sampling may be required based on site history.</li> </ul>			4	EPA, CAL-OSHA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Has the site ever been used for commercial or industrial activities?</b> Review with EH&amp;S. These historical operations must be identified in site assessments and could lead to sampling subsurface areas and soils for further evaluation.</li> </ul>			4	EPA, CAL-OSHA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Is the project located at a field station or other UC satellite property?</b> Review with EH&amp;S. Some off-site properties are governed differently from Central Campus due to local agency differences. EH&amp;S must communicate and report to all environmental agencies on behalf of the University.</li> </ul>			24	EPA, CAL-OSHA, LOCAL COUNTY	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Has the site ever been under an EPA jurisdiction, lawsuit or other toxic site determination?</b> EH&amp;S must manage agency communication and documentation. EPA or DTSC oversight requires agency to review all site operations and development changes.</li> </ul>			24	EPA, CAL-OSHA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Well drilling, geotechnical and monitoring wells.</b> See CoB summary table. Depending on the type of well, it may need review by City of Berkeley even if locations are within campus boundaries.</li> </ul>			4	EPA, CoB	<b>EH&amp;S REVIEW</b>



ENVIRONMENTAL PRE-SCREENING LIST P. 2/2	YES	NO	TIMEILINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>HISTORICAL EVALUATION AND LAND USE APPROVALS</b>					
<p><b>Is this project covered under current UC CEQA evaluations?</b> Confirm site is covered under CEQA with Physical and Environmental Planning. Some new projects may not be identified in current CEQA documents and may require additional review or public disclosure.</p>			52	PEP, CEQA, EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Residential, elderly or children facilities?</b> Development of such sites require increased environmental screening, health code diligence, and site investigation. Occupants of these sites are considered 'Sensitive Receptors' and require further environmental review.</p>			52	BAAQMD, EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Has a hazardous materials survey been conducted by the facilities hazmat manager?</b> Contact facilities hazmat manager to survey site building materials for hazardous materials content prior to engaging workers or disturbing site conditions.</p>			12	EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Have results of the hazardous materials survey been shared with contractors and put into bidding process?</b> Review Hazmat Survey with EH&amp;S. All site conditions and hazardous materials encountered with surveys must be shared and disclosed to contractors and workers. Include surveys in all bidding documents and contract process.</p>			2	CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Will the project include underground trenching or work around utilities?</b> Private utility locator will be needed to survey within private property (including UC property). Contact USA for Public Right of Way inspection. Trenching disturbing &gt;1— acre also requires Water Board registration in SMARTS.</p>			1	CAL-OSHA	<b>REQUIRED by PM</b>



# CAL-OSHA LIST — EH&S TOP BUILDING DESIGN CONCERNS

YES

NO

EH&S APPROVAL,  
PERMIT, or  
REQUIRED step

P. 1/2

• **Chemicals stored indoors or within mechanical rooms:** Refrigerants, chlorine, mechanical, treatment chemicals, chillers, cooling towers, hazardous materials storage. Interior spaces intended for refrigeration and chemical treatment or storage require monitoring, ventilation and alarm systems for worker and occupant protection. Projects must document refrigerant used in chillers for EH&S Approval. Consult with EH&S for proper controls and emergency spill plan/safety response. Non-comfort cooling refrigeration systems must also follow Air District regulations-contact EH&S air quality specialist.

**EH&S  
APPROVAL**

• **Lighting, Fixtures, Controls Access.** Height standards, controls and the use of personal fall arrest systems, personal fall restraint systems, positioning device systems, safety nets, etc. must meet Cal-OSHA requirements.

**EH&S  
REVIEW**

• **Window Washing & Roof Access.** Cal-OSHA requires an OPOS for window cleaning operations that are conducted from a suspended scaffold, boson's chair or similar means of suspension. The OPOS must be provided to contractors hired to clean windows and service buildings. Lifts or booms can be used on sites up to 60-feet in height.

**EH&S  
REVIEW**

• **Confined Spaces, Sumps, Pits, Vaults. Contact EH&S for best guidance and review.** Design of spaces can impose significant safety requirements adding to operational costs. See program info at: <http://ehs.berkeley.edu/confined-space-program>

**EH&S  
REVIEW**

• **Ladders, Grates, Intake Covers, Utilities. Requires EH&S review.** Hatch covers, points of entry and path of travel for maintenance requirements have many Cal-OSHA design requirements.

**EH&S  
REVIEW**

• **Fueling, Gases, Refilling Stations.** These operations along with storage of cylinders, Liquid Nitrogen/N2, Hydrogen require EH&S review. Cylinders of compressed gases have multiple Cal-OSHA design/use requirements.

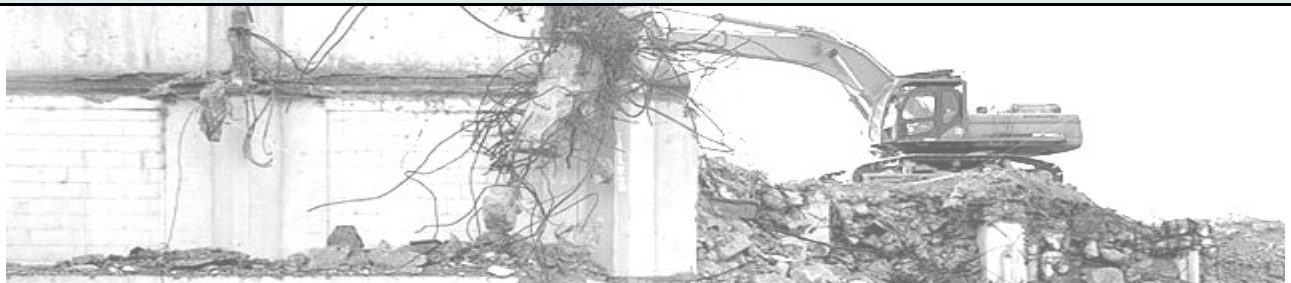
**EH&S  
REVIEW**



CAL-OSHA LIST — EH&S TOP BUILDING DESIGN CONCERNS P. 2/2	YES	NO	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Mechanical, Electrical or Plumbing.</b> Marking or highlights are required on path of egress. Work with EH&S safety engineer for designing best access routes for maintenance personnel.			<b>REQUIRED by PM</b>
<b>Roof Access, Maintenance, Fall Protection.</b> Build a solid parapet wall on roofs. Height should be 42-45" to serve as a guardrail to meet Cal-OSHA requirements. Maintenance that requires lifts or fall protection must be documented within an OPOS.			<b>REQUIRED by PM</b>
<b>HVAC, Chillers, Filter Banks.</b> Provide clear paths and access to filter banks. Locating filtration on roofs instead of lower to ground level will decrease maintenance requirements.			<b>REQUIRED by PM</b>
<b>Gas Fired Equipment, Laundry Rooms, Washers &amp; Dryers.</b> Have EH&S test air quality after equipment installation. Proper ventilation and/or sensors for carbon monoxide must also be installed.			<b>REQUIRED by PM</b>
<b>Emergency Exits &amp; Doors.</b> Install doors to swing out in the direction of exit travel, allowing easier access to building exterior or emergency shower, eyewash, and emergency response supplies.			<b>BEST MANAGEMENT PRACTICE</b>
<b>Vacuum Systems.</b> Many hazardous materials and chemicals are often found in vacuum systems creating exposure hazards. Designing site gauges for easy maintenance on aspirators and other vacuum systems will provide safer access for worker repair.			<b>BEST MANAGEMENT PRACTICE</b>
<b>Stairways, Handrails, Railings.</b> It is strongly recommended that all guardrails, handrails, and comfort rails either be solid material or have vertical balustrades a maximum of 4" on center that do not promote being climbed on by audience or crowd members.			<b>BEST MANAGEMENT PRACTICE</b>



DEMOLITION AND RENOVATION P. 1/1	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Will the project involve demolition, abatement, remodeling?</b> All structures for demo, renovations with >100 linear ft or >35 cu. ft of Asbestos removal and all dry wall removal require BAAQMD Demolition Registration and 'J' Number with facilities hazmat manager.			2	BAAQMD, CAL-OSHA	<b>PERMIT REQUIRED</b>
<ul style="list-style-type: none"> <li><b>Does the project involve a lab or shop?</b> Labs and shops must go through EH&amp;S review prior to disturbing surfaces and equipment for proper safety controls. Allow for long lead times on spaces associated with current or former radiation use.</li> </ul>			4—52	RSO, CHO, LSO, CAL-OSHA, EPA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li><b>Equipment Disposal or Salvage Items.</b> Screen, sample and decontaminate old items through EH&amp;S. All equipment for surplus or resale must be EH&amp;S certified for decontamination. See Attachment VI.</li> </ul>			2	CAL-OSHA, EPA	<b>EH&amp;S APPROVAL</b>
<b>Has a hazardous materials survey been conducted by the facilities hazmat manager?</b> Contact the facilities hazmat manager to survey building materials for hazardous materials content prior to engaging workers or disturbing site conditions.			4	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>Have results of a hazardous materials surveys been shared with contractors and put into the bidding process?</b> Review Hazmat Survey with EH&S. All site conditions and hazardous materials encountered with survey must be shared and disclosed to EH&S, contractors and workers. Include all information in bidding and contract process.			2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>Is hazardous material, waste or electrical equipment removal needed?</b> Check Waste List section for proper streaming and manifest signatures required.			2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>HVAC System and Ductwork Modifications:</b> Requires EH&S inspection and sampling for lead or chemical residues in older building ducts.			2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>Plumbing Modifications and Sanitary Sewers.</b> Requires EH&S screening for chemicals prior to and after removal of pipes or p-traps in labs or shops. Sanitarian needs to inspect all new drinking/washing systems.			2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>Flooring, Walls, Ceilings, Cabinetry, Benches.</b> Requires EH&S screening or sampling for chemical residues historically used on equipment & surfaces to be handled by contractor, workers or for disposal. Asbestos, Lead, Mercury, PCBs often found in older building materials.			2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<b>Refrigeration Equipment.</b> Contact Facilities Services HVAC shop for proper removal and containment of refrigerants. BAAQMD, CARB and EPA regulations apply to refrigerants.			2	BAAQMD, CAL-OSHA, EPA	<b>REQUIRED by PM</b>



EARTHWORK, GRADING, DIGGING, SOIL REMOVAL P. 1/1	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Sites &gt; 1 acre: must file Construction General Permit application in State SMARTS.</b> Third party inspections and training requirements apply to these sites operations.			4	RWQCB, EPA	<b>PERMIT REQUIRED</b>
<b>Site modifications greater than 2,500 sq ft of surface area.</b> Projects modifying >2,500 sq ft of impermeable surfaces from pre-construction size require treating hardscape with low impact development. Parking lots, roads, plazas, walkways, roof drainage, hardscape EH&S documentation is required.			4—52	RWQCB, EPA	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Soil Sampling or Contaminated Soil.</b> Contact EH&amp;S construction coordinator. Do not let construction contractors sample or handle materials without EH&amp;S oversight. A specialized hazardous material contractor may be required for some sites.</li> </ul>			4	EPA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li>• <b>Soil offhaul or importation must comply with construction and design standards for soil importation requirements.</b> Soil sources require analytical data and EH&amp;S record keeping. EH&amp;S review and approval for proper site evaluation are required for removal or reuse. See webpage: <a href="https://ehs.berkeley.edu/sites/default/files/lines-of-services/environmental-protection/SoilOffHaulProtocol.pdf">https://ehs.berkeley.edu/sites/default/files/lines-of-services/environmental-protection/SoilOffHaulProtocol.pdf</a></li> </ul>			4	EPA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li>• <b>Well Drilling, Geotechnical Drilling, Monitoring Wells, Soil Borings.</b> See CoB summary table. Depending on the type of well, may need review by City of Berkeley even if locations are within campus boundaries.</li> </ul>			4	EPA, CoB	<b>EH&amp;S REVIEW</b>
<b>Digging, Trenching, Utilities.</b> Erosion controls are required for all digging and trenching activities.			4	EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Have results of the hazardous materials survey been shared with contractors and put into bidding process?</b> Review Hazmat Survey with EH&S. All site conditions and hazardous materials encountered with surveys must be shared and disclosed to contractors and workers. Include surveys in all bidding documents and contract process.			2	CAL-OSHA	<b>REQUIRED by PM</b>
<b>Digging, Trenching, Utilities.</b> Private utility locator will be needed to survey within private property (including UC property). Contact USA for Public Right of Way inspection. Trenching disturbing >1— acre also requires Water Board registration in SMARTS. Erosion controls are required for all digging and trenching activities.			1	EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Have results of the hazardous materials survey been shared with contractors and put into bidding process?</b> Review Hazmat Survey with EH&S. All site conditions and hazardous materials encountered with surveys must be shared and disclosed to contractors and workers. Include surveys in all bidding documents and contract process.			2	CAL-OSHA	<b>REQUIRED by PM</b>
<b>Will the project include underground trenching or work around utilities?</b> Private utility locator will be needed to survey within private property (including UC property). Contact USA for Public Right of Way inspection. Trenching disturbing >1— acre also requires Water Board registration in SMARTS.			1	RWQCB CAL-OSHA	<b>REQUIRED by PM</b>

# WELLS, DRILLING, AND GROUNDWATER SAMPLING APPROVALS

- Certain types of wells and sample drilling require City of Berkeley approval even when on University property •

## City of Berkeley Permits Required

— EH&S is required to file environmental agency permits

- **Monitoring wells**

(to measure the concentration in groundwater of chemical contaminants or other parameters)

- **Piezometer installations**

- **Other permanent or temporary wells and borings** installed with the primary purpose of collecting groundwater on a contaminated site for analysis and for hydrologic information.

## University EH&S Permits or Approval Required

- **Construction site dewatering wells**

- **Archeological borings**

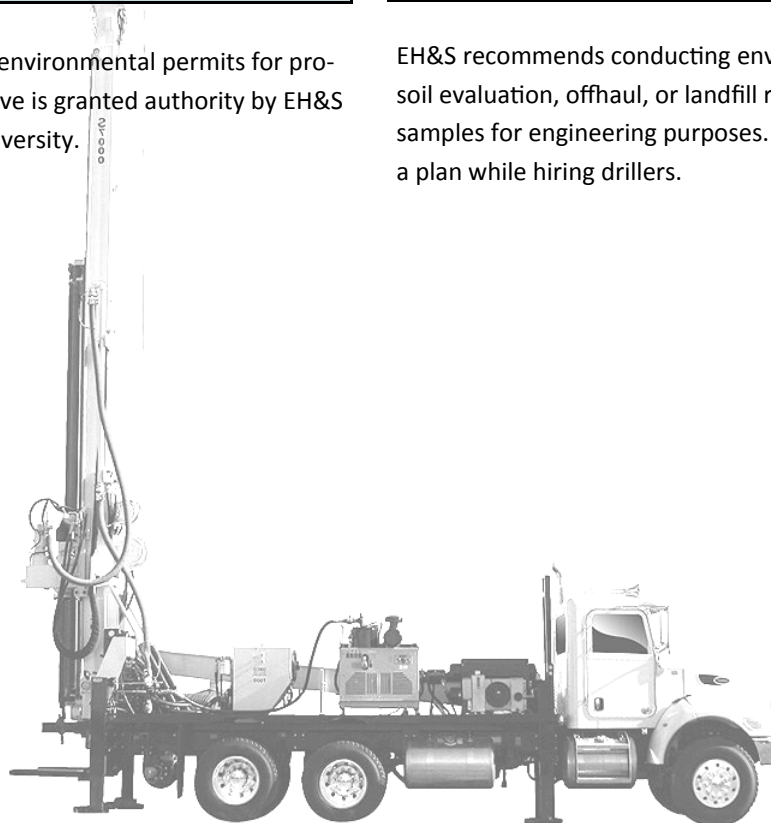
- **Geotechnical soil borings**

- **Environmental soil borings**

- **Other soil borings or excavation** with the primary purpose of collecting information on soils.

EH&S is required to file all agency environmental permits for projects unless a campus representative is granted authority by EH&S to file permits on behalf of the University.

EH&S recommends conducting environmental site assessments for soil evaluation, offhaul, or landfill requirements while collecting samples for engineering purposes. Contact EH&S to review making a plan while hiring drillers.



**Emergency Generators.** EH&S must permit with Air District and local agency. Check space with fire marshal for appropriate fuel storage regulations.

**36**

**FM, RWQCB, BAAQMD, COB**

**PERMIT REQUIRED**

**Fueling Systems or Containment Tanks.** Underground fuel and chemical storage tanks are prohibited. See campus policy. Spill prevention program requirements apply to storage tanks. Compliance is overseen by CoB. Periodic and regular testing/recordkeeping is required. Fueling stations requires Air District approval.

**24**

**RWQCB, BAAQMD, COB**

**PERMIT REQUIRED**

**Boilers.** EH&S must permit boilers with Air District. Site specific review with EH&S air quality specialist is required.

**36**

**BAAQMD**

**PERMIT REQUIRED**

• **Biological Use Spaces, Equipment or Animal Facilities.** Building equipment and space must be approved by biosafety officer, Biosafety Committee or OLAC. Check Laboratories List for more information. Contact BSO when working in spaces with active or former use involving

**Pre-Design**

**BSO, CDC, NIH, CAL-OSHA**

**OLAC APPROVAL**

• **Radiological Materials, Equipment or Medical Units.** Space design, equipment and shielding must be approved by radiation safety officer. ! Structural Imaging for construction should also be reviewed with Radiation Safety!

**Pre-Design**

**RSO, CAL-OSHA**

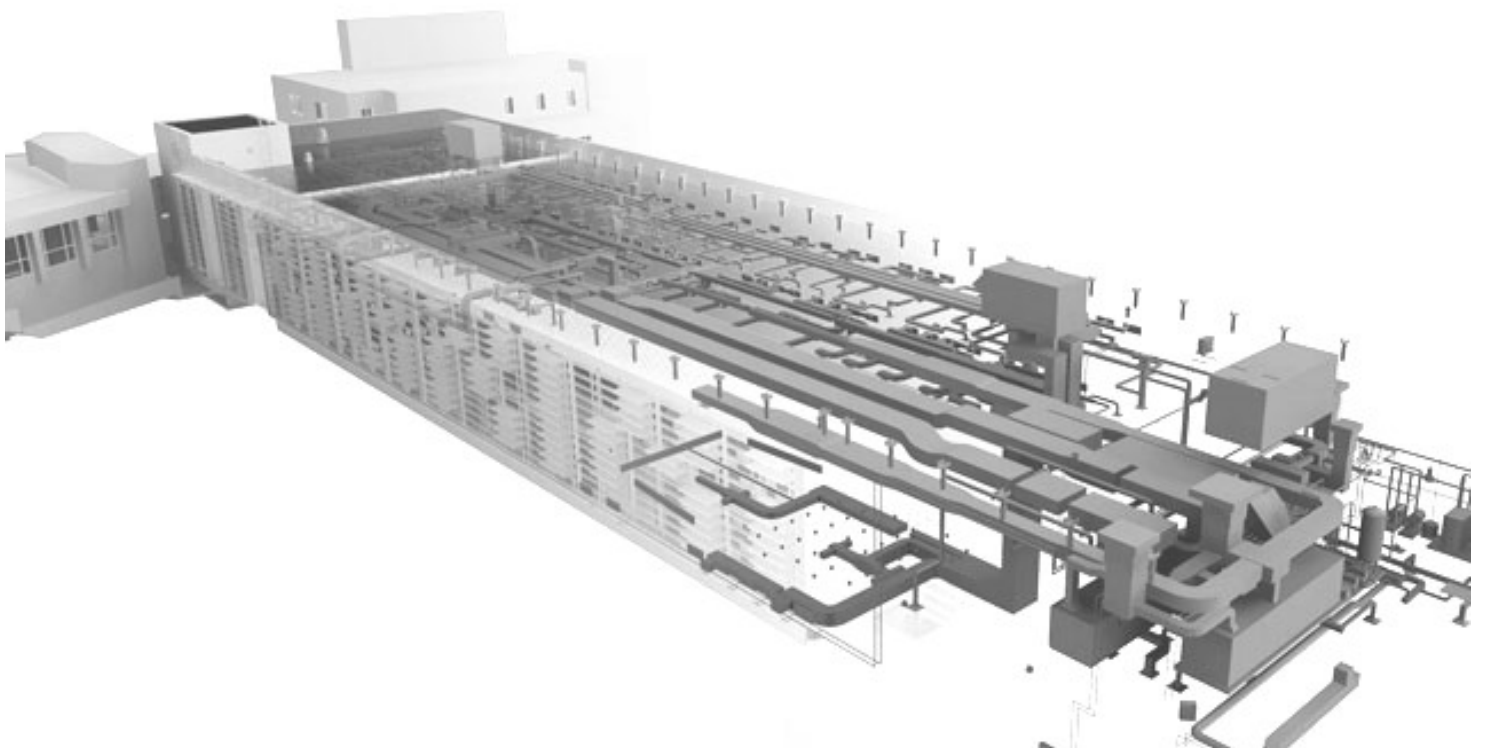
**EH&S APPROVAL**

• **Waste EH&S must verify contents or potential for contamination.** See Waste Table for handling and disposal instructions. Overstock items must be decontaminated and have EH&S clearance.

**2**

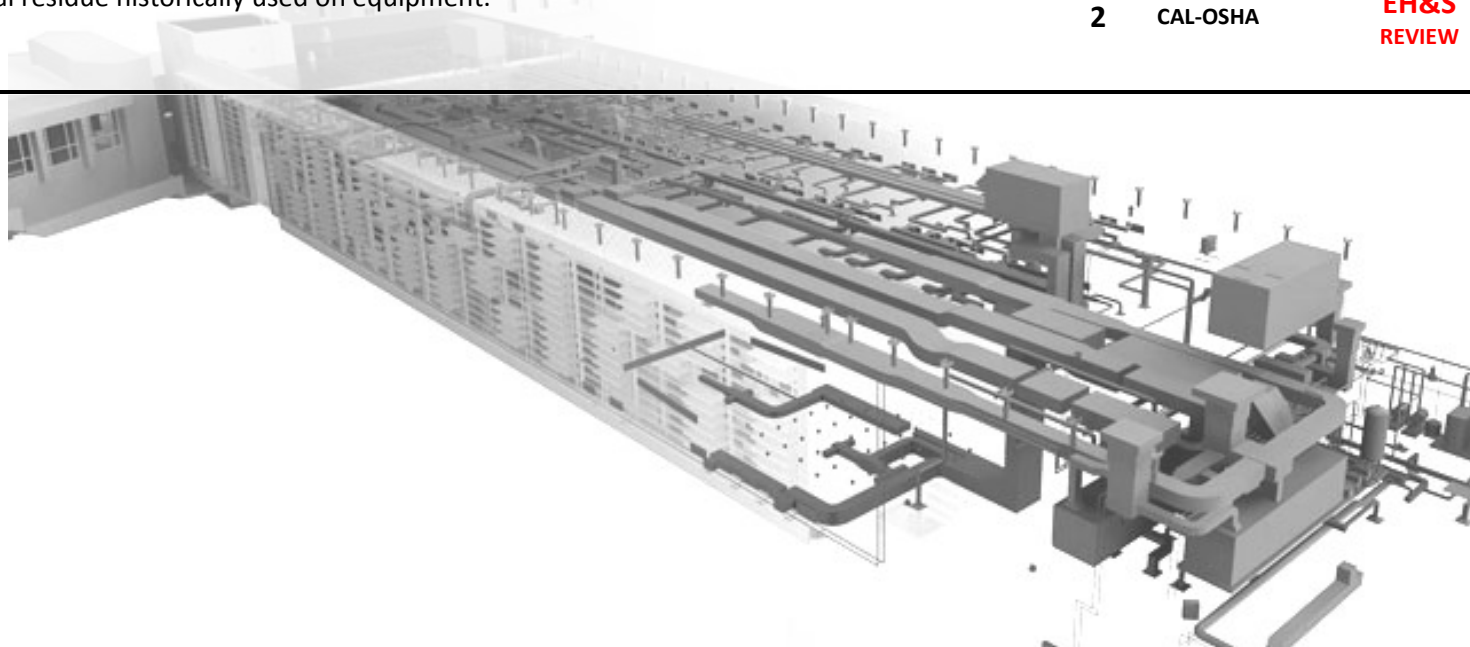
**EPA**

**EH&S APPROVAL**





<ul style="list-style-type: none"> <li>• <b>Chemical Storage/Filling Review Space with EH&amp;S for Proper Ventilation.</b> Alarms and monitors may be required for indoor storage/use. Some solvent-use operations require registration with Air District.</li> </ul>	4	EPA, CAL-OSHA	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Cell Towers, Antennae, Communications, Radio.</b> EH&amp;S must verify 3rd party radiation/EMF measurements are determined with each installation.</li> </ul>	4	RSO, CAL-OSHA, FCC, COB	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Confined Spaces/Mechanical Areas.</b> Plan with EH&amp;S to ensure ventilation, air monitoring, safety harness systems are appropriate for worker protection.</li> </ul>	2	CAL-OSHA	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>New or modified Ventilation, Fumehoods, Biosafety Cabinets, Lab Ventilation.</b> Site specific review with EH&amp;S air quality specialist is required. Campus must evaluate and report the types and quantities of certain substances routinely released into the air. Have EH&amp;S inspect for lead and chemicals in older building ducts for demolition.</li> </ul>	2	BAAQMD, CAL-OSHA	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Shop and Lab Equipment.</b> Verify new equipment permit requirements. For demo and remodels have EH&amp;S sample for chemical residue historically used on or in equipment and surfaces to be handled by contractor or workers. Equipment for overstock, resale or disposal must be cleared by EH&amp;S.</li> </ul>	Pre-Design	EPA, BAAQMD, CAL-OSHA	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Oil-filled Equipment, Transformers, Switchgear, Electrical insulation, Gaskets.</b> Have EH&amp;S sample for PCBs on materials to be removed or handled by contractor or prior to disposal and or reuse.</li> </ul>	2	RWQCB, EPA, COB	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Window Washing and Roof top Maintenance Contact EH&amp;S Safety Engineer.</b> Facility must develop an OPOS document when maintenance requires going over edge of building/working at heights. Verify that building needs match proper anchoring for fall protection. See CalOSHA list for additional building equipment requirements.</li> </ul>	2	CAL-OSHA	EH&S REVIEW
<ul style="list-style-type: none"> <li>• <b>Lab/Shop Vacuums, Gas Distribution.</b> Have EH&amp;S sample for chemical residue historically used on equipment.</li> </ul>	2	CAL-OSHA	EH&S REVIEW



**Refrigeration Systems and Gases.** Review with EH&S air quality specialist. Registration needed for some systems and removal of gas. Alarms and monitors may be required for indoor storage/use.

**4**

**EPA, BAAQMD**

**REQUIRED by PM**

**Electrical Systems.** All new projects need to provide EH&S with NFPA 70 E Arc Flash calculations for new facilities.

**2**

**CAL-OSHA**

**REQUIRED by PM**

**"House Systems", Vacuums, Aspirators.** Install sight-glass/windows on new equipment for maintenance and easy access points for cleaning and maintenance.

**Pre-Design**

**BMP**

**BEST MANAGEMENT PRACTICE**

**Ergonomics.** Refer to Campus Ergonomics Design Standards:

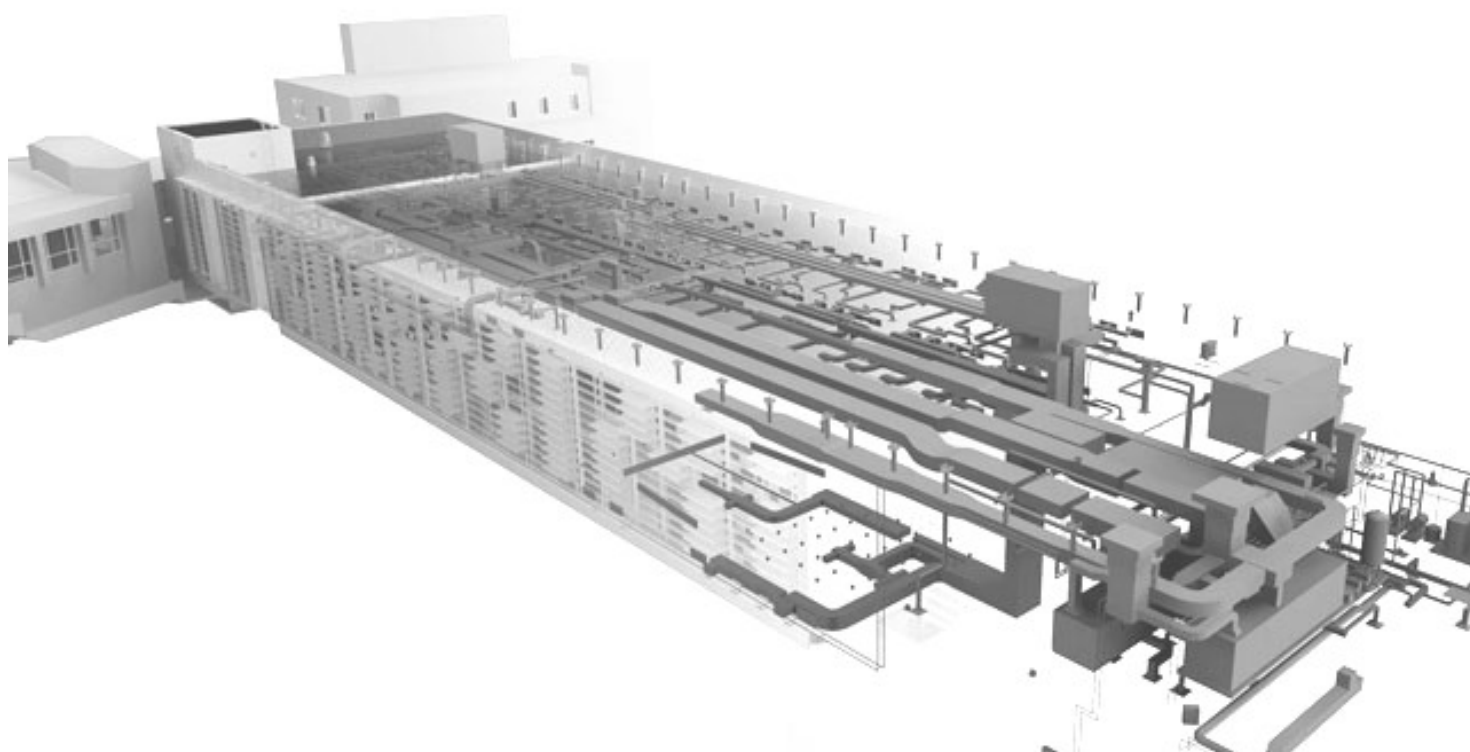
<https://uhs.berkeley.edu/facstaff/ergonomics/design-guidelines>

**Pre-Design**

**BMP**

**BEST MANAGEMENT PRACTICE**

Computer stations, reception counters; kitchen, custodial and waste



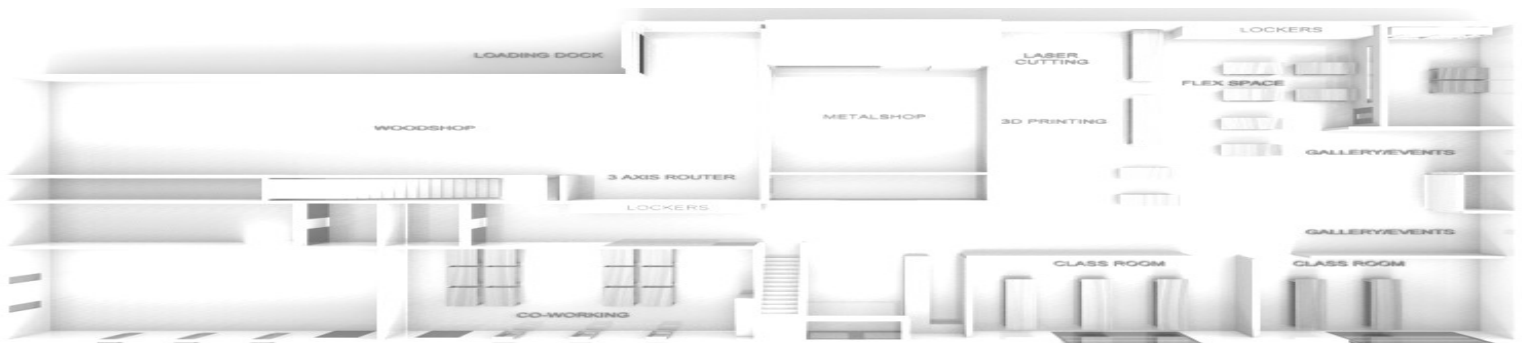
# LABS & SHOPS CHECKLIST P. 1/2

YES NO TIMELINE AGENCY REPORTING TO: EH&S APPROVAL, PERMIT, or REQUIRED step

<p><b>Radiological Use, Isotopes, RUA, Tracers, X-ray Machines, Medical Diagnostics.</b> Must register and review all building materials, installations, closures, renovations, equipment and operations with radiation safety officer. State approval required on some activities/installations.</p>	Highly Variable	RSO, CA-DPH	<b>EH&amp;S PERMIT REQUIRED</b>
<p><b>Biological Use Spaces and Equipment or Animal Facilities.</b> Check space use, history and protocols with biosafety officer Also verify space is clear with Radiation Safety. All new or modified lab surface materials, installations, closures, equipment, renovations and operations must be reviewed with the biosafety officer.</p>	Highly Variable	CDC, BSO, CAL-OSHA, DPH, EPA	<b>EH&amp;S PERMIT REQUIRED</b>
<ul style="list-style-type: none"> <li><b>Chemical use labs and shops should contact EH&amp;S to review all new designs and equipment.</b> EH&amp;S must sample or decontaminate for chemical residues in former spaces. Fire Code may limit storage volume of chemicals in space.</li> </ul>	26	CAL-OSHA, CDC, BSO, BAAQMD	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Engineering, Fabrication, Nano Particles, Photography, Graphics, Optics, 3D Printing.</b> Have EH&amp;S evaluate operations for permit applicability and safety controls. Many regulations may be applicable depending on the combination or type of operations, especially water</li> </ul>	12	BAAQMD, CAL-OSHA, EBMUD, EPA, COB	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Lasers, Optics, Imaging.</b> All lasers must register and review all laser installations, building materials, closures, equipment, renovations and operations with EH&amp;S laser safety officer.</li> </ul>	12	CAL-OSHA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Liquid Nitrogen, Gases, Refrigerants.</b> Contact EH&amp;S for proper safety controls, alarms and ventilation requirements. Indoor and confined spaces will require monitoring and alarm systems for ensuring worker safety.</li> </ul>	2	CAL-OSHA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Oil-filled Machinery and Electrical Equipment.</b> Review new equipment with EH&amp;S for permit applicability. All equipment for surplus or resale must be EH&amp;S certified for decontamination.</li> </ul>	2	CAL-OSHA, EPA	<b>EH&amp;S REVIEW</b>
<p><b>Lecture/Instructional labs must review space with lecturer.</b> Benches, shelving and fixtures must not obscure overhead visual areas or chalkboard/lecture area from student seating or work areas.</p>	Pre-Design	Professors	<b>BEST MANAGEMENT PRACTICE</b>
<p><b>Flow of Space.</b> EH&amp;S recommends consideration of safe flow and space for travel, waste pickup, supply, delivery, storage, and access to spill kit materials. Review with space occupants &amp; building managers for best feedback.</p>	Pre-Design	CAL-OSHA/BMPs List	<b>BEST MANAGEMENT PRACTICE</b>



<p><b>Desks, Eating, Lounge Areas and Storage.</b> Consult with EH&amp;S chemical hygiene officer for design requirements. Eating areas within labs are prohibited. Create completely separate rooms from labs. Provide coat hooks and storage for protective wears and student personal items in an area segregated from lab work.</p>	Pre-Design	CAL-OSHA/BMPs List	<b>REQUIRED by PM</b>
<p><b>Eyewash, Shower and Safety Equipment.</b> Verify proper placement and distances with EH&amp;S. Water basins/drainage must be plumbed to sanitary sewer. Do not connect eyewashes or water fountains to industrial water.</p>	Pre-Design	CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Chemical Fume Hoods, Exhaust, Ductwork.</b> Check space history and scope of work with EH&amp;S for proper handling, disposal, reuse, or recycling &amp; permits.</p>	Pre-Design	CAL-OSHA, CDC, BSO, BAAQMD	<b>REQUIRED by PM</b>
<p><b>Ventilation, Rooftop Modifications, HVAC System Modifications.</b> Site specific review with EH&amp;S air quality specialist is required for permits and proper emission controls in labs or shops.</p>	Pre-Design	CDC, BSO, CAL-OSHA	<b>REQUIRED by PM</b>
<p><b>Hazardous Materials Communication.</b> Verify space and equipment decontamination through EH&amp;S certification. Provide Hazardous Materials Survey to workers and contractors prior to demolition, remodeling or renovating.</p>	2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<p><b>Plumbing/Sewers P-traps, Drains.</b> Have EH&amp;S screen for mercury prior to and after removal of pipes or p-traps in labs or shops. Sanitarian needs to inspect all new drinking and washing systems. All modifications and installations need EH&amp;S review for agency reporting.</p>	2	CAL-OSHA, RWQCB, EH&S Sanitarian	<b>REQUIRED by PM</b>
<p><b>Vacuum Systems, Pumps, Hoses.</b> Have EH&amp;S screen for mercury, PCBs and chemicals prior to and after removal of pipes or vacuum systems.</p>	2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>
<p><b>Waste, Recycling, and Hazardous Materials.</b> Only UCB DOT-trained personnel can sign waste manifests. All waste and equipment must be processed as detailed in Waste Table.</p>	2	CAL-OSHA, EPA	<b>REQUIRED by PM</b>



<b>WASTE TABLE P. 1/1</b> <b>Common Waste Streams of Concern</b>	<b>Possible Contamination</b>	<b>Who to Contact for Evaluation, Handling, Disposal, Removal Approval and Signature</b>
<b>AC Equipment, Chillers, Cooling Towers</b>	<b>Freon, Refrigerants</b>	Facilities Services HVAC SHOP
<b>Biosafety Suites or Equipment</b>	<b>Cabinets, Hoods, Equipment, Counters</b>	EH&S Biosafety Officer
<b>Chemicals, Chemical Fume Hoods or Other Lab Equipment</b>	<b>Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Concrete Surfaces/Walls</b>	<b>Asbestos</b>	FACILITIES - Abatement Shop
<b>Electrical and Shop Equipment, Building Transformers, Switchgear</b>	<b>Oils &amp; PCBs, Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Fabrication Areas, Optics/Polishing, Lasers</b>	<b>Heavy Metals, Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Fireproofing, Fire-doors</b>	<b>Asbestos</b>	FACILITIES - Abatement Shop
<b>HVAC, Exhaust Systems, Filters, Lab Hoods</b>	<b>Heavy Metals, Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Insulation, Duct insulation, Pipe Wrap, Fire Caulking, Floor Penetrations</b>	<b>Asbestos</b>	FACILITIES - Abatement Shop
<b>Lab or Shop Cabinetry, Storage, Shelves</b>	<b>Chemical residues</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Lighting Systems, Controls, Interior Transformers: Switches, Thermostats, Light Tubes, Ballasts, Electrical Equipment, Switchgear</b>	<b>Oils, PCBs, Mercury</b>	FACILITIES - Abatement Shop
<b>Paint, Inks, Maintenance Chemicals, Building Wash</b>	<b>Waste, Chemical disposal</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Plumbing, P-Traps, Drainage</b>	<b>Mercury, Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Radiography, Medical Suites or Equipment, Smoke Detectors, Exit Signs</b>	<b>X-ray Equipment, Medical Electronics/Sources</b>	EH&S Radiation Safety Officer
<b>Roofing Materials, Waterproofing, Mastics</b>	<b>Asbestos/PCBs</b>	FACILITIES - Abatement Shop
<b>Soil Removal, Digging, Trenching Spoils</b>	<b>Soil Contamination/Chemical residues</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Transite, Paneling, Piping, Chalkboards</b>	<b>Asbestos</b>	FACILITIES - Abatement Shop
<b>Vacuums, Pumps, Aspirators</b>	<b>Chemicals</b>	EH&S Construction Specialist or Hazardous Materials Team
<b>Walls, Surfaces, Finishes. Paint Chips/Stripping</b>	<b>Lead or Asbestos</b>	FACILITIES - Abatement Shop
<b>Window Caulking, Sealants, Glazing, Gaskets</b>	<b>PCBs, Asbestos</b>	FACILITIES - Abatement Shop*
<b>When Facilities Hazmat Manager is not available, contact EH&amp;S</b>		
<b>Equipment and Salvage/Reuse items must be decontaminated and certified using the EH&amp;S Equipment Decontamination Form.</b>		

<ul style="list-style-type: none"> <li><b>BIOSAFETY CHECKLIST P. 1/2</b></li> </ul>	YES	NO	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<ul style="list-style-type: none"> <li><b>Select Agents Influenza, Ebola, Viruses, Fevers, Pox, Bacteria, etc.</b> A class of biological agents and toxins determined to have the potential to pose a severe threat to both human and animal health, to plant health, or to animal and plant products.</li> </ul>			USFW, USDA, IACUC, NIH, CDC	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Biological and Controlled Substances Storage, Shelving, Cabinetry, Chemical Containment.</b> Verify requirements with BSO. Items must be in a secure and fixed location, non-mobile containment, secure from general access. Patriot Act &amp; CDC regulations apply.</li> </ul>			DoJ/DEA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Radiation</b> can also be found where biological uses apply. Contact RSO to cross reference your site's history or RUA status.</li> </ul>			DPH-RHB, RSO, CAL-OSHA	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Equipment:</b> Review new equipment with EH&amp;S for permit applicability. All new equipment must be approved by Biosafety prior to purchasing and installing. All equipment for surplus or resale must be EH&amp;S certified for decontamination.</li> </ul>			BSO	<b>EH&amp;S APPROVAL</b>

- Biological use is regulated by the UC's EH&S biosafety officer. Contact the biosafety officer for building and design inquiries:**

- **BSO@berkeley.edu**

- (510) 643-9366**

- All modifications and new biosafety lab designs must be vetted through EH&S during conceptual design and should be designed to BSL2 standards at a minimum, unless designing for BSL3 use spaces.**

- If designing for BSL3, it should be proper for select agents under federal guidelines.**

- No floor drains are allowed in BSL3 spaces.**

- All of these spaces should not be built by a general contractor.**



• BIOSAFETY CHECKLIST P. 2/2	YES	NO	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Sinks and Sanitation Handwashing, Glass Washing.</b> Sinks and handwashing areas must be provided in biosafety spaces. Shallow ADA sink depth can cause back-splashing on user; limit installation or allow for future installation of ADA sinks.			CDC, NIH, CAL-OSHA, ADA	<b>REQUIRED by PM</b>
<b>Eyewash, Emergency Shower, Safety Equipment/Devices.</b> Emergency equipment is required in all tissue and cell culture work areas.			CDC, NIH, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Flooring, Walls, Ceilings, Furniture Surfaces.</b> All surfaces of space and contents will be non-fabric/paper or made of non-porous surfaces.			CDC, NIH, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Air Balance and HVAC Modification, Biological Safety Cabinets, Fume Hood changes.</b> Proper air balance is required in all tissue and cell culture work areas. Negative pressure is required in all biological use labs.			CDC, NIH, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Barriers and Access. Access must be restricted.</b> Use cards or use mechanical locks. Public and common access are not allowed.			CDC, NIH, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Security, Elevators, Doors, Biological Controls.</b> Biosafety suggests installing cameras in BSL3 to improve safety and security.			DoD, Homeland Security	<b>REQUIRED by PM</b>
<b>Sterilization and Waste Management, Autoclaves, Infectious Materials.</b> Review equipment selection with BSO and CLEB prior to purchasing. Some products have proven difficult to maintain or fix. Consultation with lab technicians and EH&S is highly encouraged prior to purchasing equipment.			CDC, NIH, CAL-OSHA, EPA,	<b>REQUIRED by PM</b>
<b>Alarms and Warning Systems. Airlocks, Doors, Airflow Controls, HVAC.</b> Alarms required on biosafety cabinets and in select areas for system failure and evacuation warning.			NIH, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Veterinary, Surgery, Operation Equipment, Animals, Cells, Cultures, Tissues, Biological Synthesis, Extraction, DNA work.</b> Animal and operation areas must have sinks and a floor drain along with other equipment needs.			USFW, USDA, IACUC, NIH, CDC	<b>REQUIRED by PM</b>



<b>• RADIATION, X-RAY AND MEDICAL EQUIPMENT •</b> P. 1/1	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Medical and Diagnostic X-Ray Suites or Equipment.</b> Contact radiation safety officer for construction details.			Pre-Design	RSO, CA-DPH	<b>PERMIT REQUIRED</b>
<b>• New Projects, Renovation, Demolition.</b> Contact Radiation Safety to check spaces for Radiation Use Authorization (RUAs) in laboratory buildings. Current or historic use, may impact facility changes or worker protocols. New licensing requires RSO review and approval. Decommissioning and demolition should not occur in labs without consulting with RSO.			Highly Variable	RSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>• Industrial Radiography or X-ray, Weld Checks, etc.</b> Radiation Safety must verify contractor license and credentials when scanning structures for structural imaging. Shielding controls must prevent pedestrian and building occupants from exposure.			72-hrs Notice	RSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>• Iodine Suite, Radiation Tracer Use, Air-borne Isotopes.</b> Proper space design and final shielding must meet state and federal criteria. Work with Radiation Safety when designing such spaces.			Pre-Design	RSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>• Biosafety Cabinets, Filters or Operating Tables.</b> Some radioactive work also use biological materials. Contact the biosafety officer to cross reference your site's history or BUA status.			Pre-Design	RSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>• Electron Microscopes or Radiation Producing Machines.</b> Electron microscopes and other high voltage equipment may produce radiation and require Radiation Safety approval and registration. Although this equipment may not produce external radiation to the research space, the equipment installation must be verified and tested through Radiation Safety.			Pre-Design	RSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>• Lasers and Optics.</b> All lasers must be properly decommissioned prior to working in use areas. Lasers are not allowed to be given to the public or auctioned for resale without LSO approval.			Pre-Design	LSO, CA-DPH	<b>EH&amp;S APPROVAL</b>
<b>Sewers, Sanitary Pipes and Vacuum Lines.</b> Historical contamination may exist in plumbing where former radiation use occurred and must be screened by Radiation Safety before and after removal. Mercury is also commonly found in old sewer systems.			Pre-Design	RSO, CA-DPH	<b>BEST MANAGEMENT PRACTICE</b>

• **Radiation use is regulated by UC Berkeley's Radiation Safety Office. Contact the Radiation Safety Office for all building and design inquiries:**

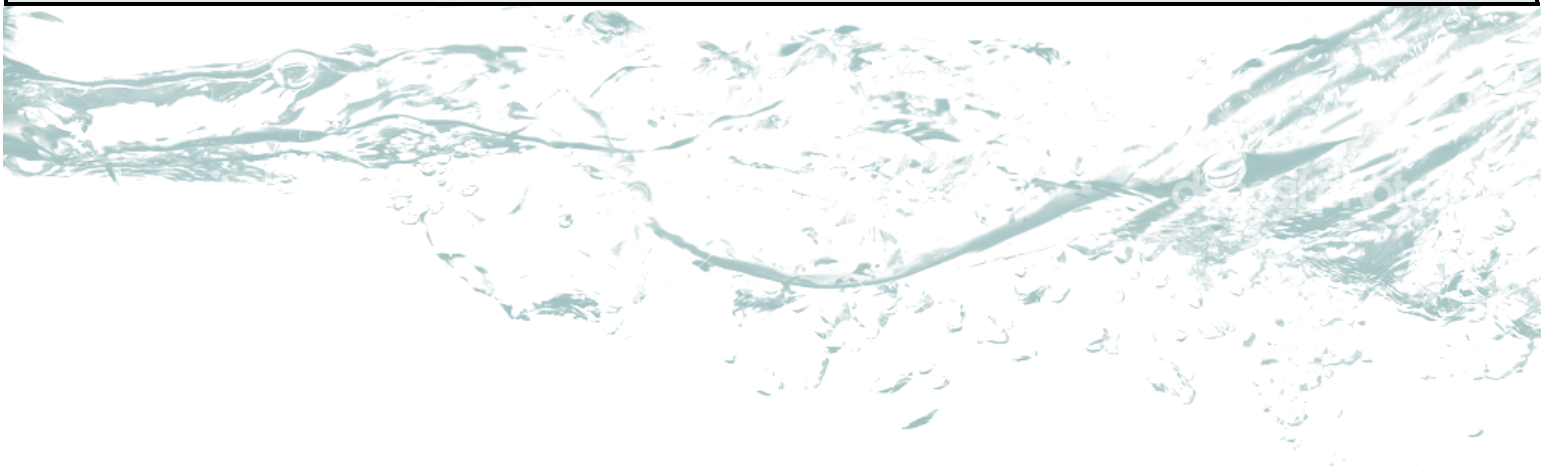
– [radsafety@berkeley.edu](mailto:radsafety@berkeley.edu)

– (510) 643-8765

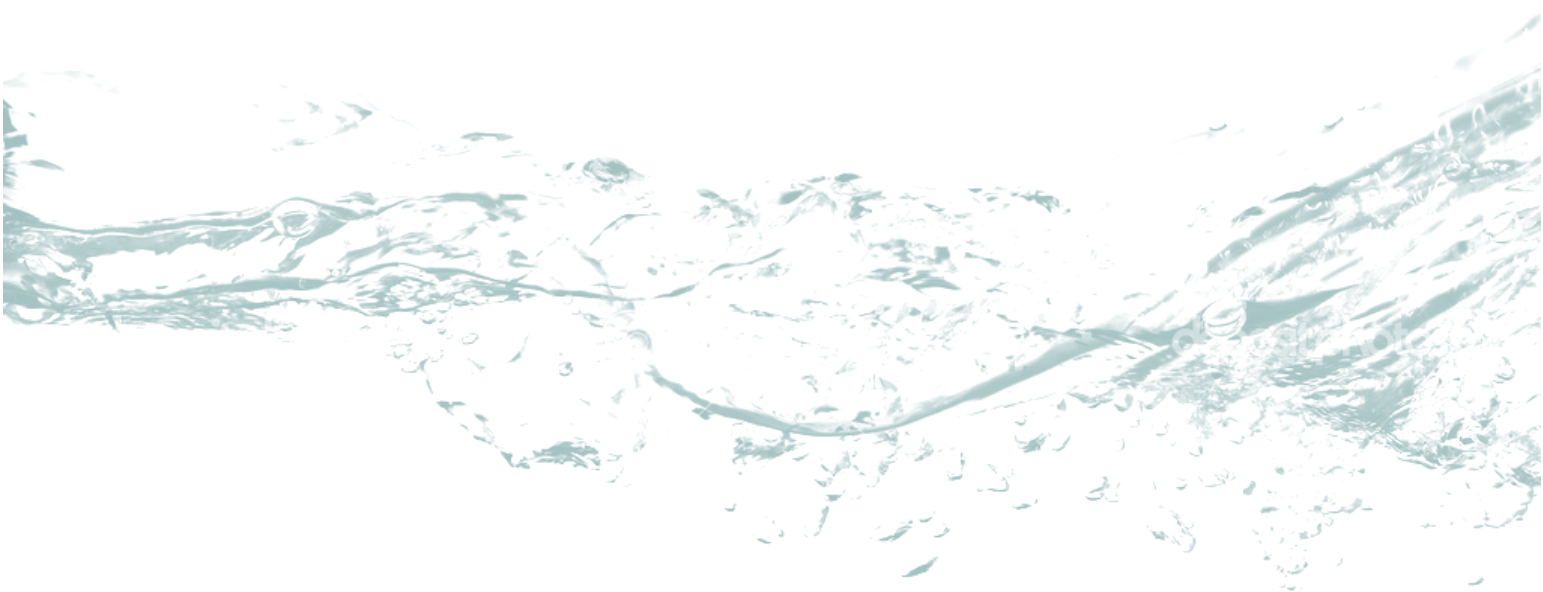




WATER REGULATIONS P. 1/2	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Oil or Fuel Storage Systems, Emergency Generators, Containment Tanks.</b> Campus policy is to no longer install Underground Storage Tanks. Federal program requirements apply to all fuel storage. Compliance overseen by CoB. Periodic and regular testing is required.			Pre-Design	RWQCB, BAAQMD, COB, EPA	<b>PERMIT REQUIRED</b>
<b>Creek, Waterways or Habitat modifications.</b> Involves multiple agency permits and reporting: USACE, F&W and RWQCB. Landscaping, culverts and creek restoration within freshwater or coastal channels require multiple agencies.			24	RWQCB,	<b>PERMIT REQUIRED</b>
<b>Remediation or Extraction System, Contaminated Sites.</b> Requires well installation permit with City of Berkeley. Air District and Water Board NPDES permits will also apply. Water treatment requires permits from EBMUD for sanitary discharges.			12	RWQCB, BAAQMD, COB, EPA	<b>PERMIT REQUIRED</b>
<b>Greenhouses, Farming, Livestock, Pesticide Application and Agricultural Irrigation.</b> Review regulations with EH&S construction coordinator. Pesticide application, live stock and farming may be subject to Water Board review for biological influences to watershed.			12	RWQCB, BAAQMD, COB, EPA	<b>PERMIT REQUIRED</b>
<b>Construction Sites Greater Than 1 Acre:</b> Sites > 1 acre: Must file for the Construction General Permit application in SMARTS. Requires specific controls regarding dust, water and construction materials, debris (SWPPP). QSD/QSP personnel and training requirements apply.			2	SWRCB	<b>PERMIT REQUIRED</b>
<ul style="list-style-type: none"> <li><b>Wells, Borings and Groundwater Sampling.</b> See <a href="#">City of Berkeley summary table on Page 9</a>. Depending on the type of well, it may need approval by City of Berkeley even if locations are within campus boundaries.</li> </ul>			2	EPA, EBMUD	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Surface and Building Washing, Power Washing/Stripping.</b> Building wash water must be tested by EH&amp;S for disposal requirements. Discharges to sanitary drain require permission from EBMUD through EH&amp;S.</li> </ul>			2	EPA, EBMUD	<b>EH&amp;S APPROVAL</b>
<ul style="list-style-type: none"> <li><b>Hydrant or Plumbing Flush, Non-Storm Water Discharges.</b> Complete EH&amp;S Water Discharge Form: Chloramines from domestic water are of concern due to impacts on creek. Dechlorinate water, avoid discharges to storm drains and use sanitary drains or send to landscap-</li> </ul>			72-hrs Notice	RWQCB, EBMUD	<b>EH&amp;S APPROVAL</b>



<ul style="list-style-type: none"> <li>• <b>MS4 water balance controls are required for projects that create and/or replace more than 2,500 square feet of impervious surface.</b> Roof and paving changes apply: permeable or hardscape; roofs, roads, plazas, walkways</li> </ul>	Pre-Design	RWQCB	<b>EH&amp;S REVIEW</b>
<ul style="list-style-type: none"> <li>• <b>Construction Site Smaller Than 1 Acre:</b> Sites &lt; 1 acre must meet State Water Board MS4 post water balance criteria and implement basic erosion controls. Specific requirements apply to projects modifying &gt;2,500 sq ft of impermeable surfaces from pre-construction size.</li> </ul>	Pre-Design	RWQCB	<b>EH&amp;S REVIEW</b>
<p><b>Building Demolition, Redevelopment, Grading, Excavation, Trenching, Land Disturbance:</b> Each require stormwater, dust and erosion controls. Demolition requires a permit with Air District.</p>	2	RWQCB, BAAQMD	<b>REQUIRED by PM</b>
<p><b>Utilities and Trenching. Erosion and dust controls apply to all trenching work.</b> Utilities are also captured in SMARTS if disturbance areas are &gt; 1 acre.</p>	2	RWQCB	<b>REQUIRED by PM</b>
<p><b>Sewer Systems, Drains, Culverts, Food Preparation, Sanitary Sewer Overflow Reduction Program.</b> Coordinate with EH&amp;S to inspect new sanitary connections. Project and financial costs must be reported to Water Board for all new and replaced plumbing. Sanitary Sewer Management Program requires filing data for volume and flow reporting. Rain or stormwater cannot be discharged to sanitary sewers. Grease traps are required by EBMUD for food facilities.</p>	2	RWQCB, EBMUD	<b>REQUIRED by PM</b>



AIR REGULATIONS P. 1/3	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>Boilers.</b> Site specific review with EH&S Air Quality specialist is required prior to purchasing or modifying any equipment.			24	BAAQMD	<b>PERMIT REQUIRED</b>
<b>New Purchases, Upgrades, Retrofits to Equipment with Exhaust.</b> Buy equipment that is certified by California Air Resources Board (CARB), retrofitting old equipment exhaust is possibly required. All new EH&S applicable equipment must obtain an "Authority to Construct" from Air District before installation. All equipment must comply with the Statewide Air Toxics Control Measure (ATCM).			24	BAAQMD	<b>PERMIT REQUIRED</b>
<b>Fueling Stations.</b> Fuel storage will also involve Water Board or EPA program.			24	BAAQMD	<b>PERMIT REQUIRED</b>
<b>Portable Diesel Equipment Registration.</b> Required for many engines equipment above 50-horse power: air compressors, generators, concrete pumps, tub grinders, wood chippers, water pumps, drill rigs, rock drills, abrasive blasters, and welders.			12	BAAQMD	<b>PERMIT REQUIRED</b>
<b>Emergency Standby Diesel Generator.</b> Site specific review with EH&S air quality specialist is required. Need to obtain an "Authority to Construct" from Air District before installing equipment.			36	BAAQMD, CAL-OSHA	<b>PERMIT REQUIRED</b>
<b>Cogeneration Facility and Energy Production.</b> Sites require many compliance elements and reporting. Contact EH&S prior to modifying existing facility/equipment and to review future designs or changes.			12	BAAQMD, CAL-OSHA	<b>PERMIT REQUIRED</b>



AIR REGULATIONS P. 2/3	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<ul style="list-style-type: none"> <li>• <b>Energy Production.</b> AB 32 GHG reporting requires data submission to EH&amp;S air quality specialist. Operators of facilities have sector-specific reporting obligations specified in the mandatory greenhouse gas reporting regulation.</li> </ul>			36	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Gasoline Dispensing Facility.</b> Installation of equipment is regulated by Air District and requires permitting through EH&amp;S air quality specialist.</li> </ul>			24	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Surface Coating Operations.</b> Applies to many painting and finishing operations that use equipment beyond spray paint can use.</li> </ul>			24	BAAQMD, CAL-OSHA	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Dust Collectors (Emissions Control Devices).</b> Site and equipment specific review with EH&amp;S air quality specialist is required prior to purchase and installation of filters and dust collectors to control particulate emissions.</li> </ul>			12	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Environmental Extraction and Treatment Systems.</b> Catalytic/thermal oxidation and air/carbon filters require Air District approval. Many rules apply; site specific review with EH&amp;S air quality specialist is required prior to purchase/installing remediation equipment.</li> </ul>			12	RWQCB, BAAQMD,	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Refrigerants and Cooling Equipment.</b> Program is managed by Facilities. Requires capturing refrigerants from equipment during maintenance or decommissioning.</li> </ul>			12	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Freon, Chillers, Air Conditioning and Cooling.</b> May require EH&amp;S permitting. Recordkeeping and reporting must be readily available for EPA/Air District to inspect.</li> </ul>			12	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Chillers and Cooling Towers.</b> Site specific review with EH&amp;S air quality specialist is required. Do not add any hexavalent chromium containing compounds to the cooling tower circulating water.</li> </ul>			12	BAAQMD	EH&S APPROVAL
<ul style="list-style-type: none"> <li>• <b>Chemical Fume Hoods, Exhaust, Ductwork.</b> Site specific review with EH&amp;S air quality specialist is required.</li> </ul>			2	BSO, CAL-OSHA, CDC, FM	EH&S APPROVAL



AIR REGULATIONS P. 3/3	YES	NO	TIMELINE	AGENCY REPORTING TO:	EH&S APPROVAL, PERMIT, or REQUIRED step
<b>ADA Compliant Hoods.</b> Requires public entities to provide equal access to conduct research in the most integrated setting possible.			Pre-Design	ADA	<b>REQUIRED by PM</b>
<b>Building Abatement, Decommissioning, Renovation or Demolition.</b> Contact facilities hazmat manager to survey building. Permit required from BAAQMD to demolish “any structure.” Renovations with >100 linear ft or >35 cu. ft of Asbestos removal and all dry wall removal, require BAAQMD registration. State asbestos regulations require written notification of demolition or renovation operations through BAAQMD.			4	BAAQMD, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Building Air Intakes.</b> Building design should evaluate all potential sources of air contamination in relation to desired air intake locations. Idling vehicles near buildings is prohibited as it usually impacts building occupants.			2	CAL-OSHA	<b>REQUIRED by PM</b>
<b>Sealants, Waterproofing and Paints.</b> Provide safety data sheets/ chemical information to EH&S. Check buildings intakes or plan shut-downs when needing to run combustion equipment, petroleum based roofing projects or if using other strong odor substances. Consult with EH&S and possibly host an informative meeting to concerned/ affected parties with communications.			2	CAL-OSHA	<b>REQUIRED by PM</b>
<b>Air Balance, Biosafety Cabinets, Chemical Hoods.</b> Building air flow must be balanced to avoid creating negative pressure in rooms making doors difficult to open or impacting air flow for biosafety cabinets and chemical fume hoods.			2	CAL-OSHA, CDC, BSO, FM	<b>REQUIRED by PM</b>
<b>Modifications to existing or any additions of air emission sources.</b> Campus must report the types and quantities of certain substances routinely released into the air. Contact EH&S air quality specialist to review.			2	EPA, CAL-OSHA	<b>REQUIRED by PM</b>
<b>Lab Ventilation and Rooftop modifications.</b> Select and install equipment that meets research ventilation needs. Generally stack of 10 ft and an exhaust velocity of 3,000 fpm at the roof is required.			2	BAAQMD, CAL-OSHA	<b>REQUIRED by PM</b>



EH&S APPROVAL IS REQUIRED FOR ALL ITEMS

All installations and finishes shall be compliant with California Retail Food Code (CRFC) Standards. Sanitation, Kitchen, and Food Prep plans must be approved by a Registered Environmental Health Sanitarian (REHS).	YES	NO
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- **Floors.** Must be durable, water resilient, smooth and sealed. Quarry Tile, commercial sheet vinyl, sealed concrete/epoxy floor, Toe Kick – integral coved base.

- **Ceilings.** Must be durable, water resilient, smooth, sealed, cleanable. Must be light in color to meet reflectance requirements. Washable finishes may include; non-perforation acoustic tile, painted – gypsum, drywall, sheetrock.

- **Dry Storage and Chemical Cleaners Storage.** Provide ample dry food storage in regulated temperature areas to avoid spoiling and segregated from chemical cleaner storage areas.

- **Electrical.** Ample power should be supplied to match equipment, load requirements.

- **Employee, Personnel Items and Storage.** Provide ample employee storage for personal items, changing and sanitation needs.

- **Equipment Inventory.** Projects must identify what the site's menu, cooking and equipment needs are. Hoods and grease traps may be required depending on operations.

- **Janitorial/Custodial Spaces.** Follow Campus Custodial Ergonomic Design Guidelines For New Construction and Existing Buildings:  
<https://uhs.berkeley.edu/facstaff/ergonomics/design-guidelines>

- **Mechanical.** Determine which exhaust hoods Type I (Grease) or II (Heat/Vapor) and amount of make up air required.

- **Plumbing.** Minimum needs for all kitchens: a floor sink/mop sink, Hand wash sink, 3-compartment dish sink, food prep sink, floor/trench drains, grease traps required where food is served.

- **Trash, Storage and Custodial Areas.** Follow Campus TRASH AND RECYCLING ENCLOSURE Construction Design Standards:  
<https://uhs.berkeley.edu/facstaff/ergonomics/design-guidelines>

- **Walls.** Must be durable, water resilient, smooth, sealed, cleanable, light in color. Washable finishes include: ceramic tiles, FRP, stainless steel.

- **Washout Areas.** Provide appropriate areas for kitchen equipment cleaning and disassembly for routine maintenance and/or washing.



• This section includes design suggestions from janitorial and residential staff.

RESIDENTIAL ELEMENTS	SUGGESTIONS
<b>Split Level and Multi-story Units</b>	Multiple stories within a unit creates challenges to haul equipment like vacuums and cleaning equipment up and down stairs. Past experience has proven this design makes cleaning work more difficult and should be avoided.
<b>Dedicated Lounge, Lockers and Laundry</b>	Dedicated office spaces in buildings for residential staff to work from and store personal items is often overlooked and not included. It is highly beneficial to for staff to have this included.
<b>Water Connections</b>	Residential staff find water connections that are not placed in proper areas for equipment or end use. More effort should be made to review final operations with building staff.
<b>Floor Drains and Grading</b>	Floor drains and proper grading must be included in residential design. Janitorial often find grading to be incorrect or floor drains lacking from bathrooms.
<b>Lighting and Maintenance Access</b>	Heights and lack of access make overhead equipment, lighting, shades, etc., difficult for staff to maintain or reach. Limiting installation heights can significantly ease Cal/CAL-OSHA maintenance requirements.
<b>Windows and Blinds</b>	Tall windows and venetian blinds are problematic to clean by residential staff. It is recommended to avoid these elements in design where possible.
<b>Waste and Trash</b>	<p><b>Follow Trash Enclosures specification and Campus Ergonomic Design Standards for best practices:</b>  <a href="#">Trash/Recycle Enclosure Design Guidelines</a></p> <ul style="list-style-type: none"> <li>• All building waste systems should be in the 'Toter' style. No more building chutes are allowed on campus.</li> <li>• Ensure waste containers have simple and short access to curb.</li> <li>• Ensure design meets Water Code regulations by not using storm drains for washing out dumpsters/loading dock areas.</li> </ul>
<b>Beds</b>	Triple height beds are difficult for staff to reach and change sheeting. This design should be avoided where possible to eliminate height hazards.
<b>Furniture Sliders</b>	Sliders are highly recommended to provide easier furniture moving so staff can perform better cleaning. Sliders should be considered at time of order for installing furniture.
<b>Flooring - Buffers/Scrubbers</b>	Most mechanical floor equipment are too heavy for personnel to move and load or carry. Flooring that need special equipment beyond sweeping and vacuuming should be reconsidered.
<b>Showers and Bathrooms</b>	Use higher quality materials, less sharp corners and less grout for easier cleaning.



# Attachment I – Construction and Spill Response Protocol

## UCB Project Managers:

Contact EH&S Construction Coordinator prior to planning work with buildings or items identified in scope of work.

Verify spaces and equipment have EH&S Decontamination Certificate or equivalent from EH&S hired contractors and have been surveyed for Hazardous Building Materials with the facilities haz-mat manager.

1. During project demolition or renovation planning, identify all ventilation, piping (vacuum, air, gas) and laboratory drainage to be removed, disturbed, or spliced/modified from work space.
2. Contact EH&S for space modification planning and verify laboratory history for biological, radiation or chemical use.
3. **Gain Facilities/Equipment Decontamination Certificate from EH&S for the space to be disturbed prior to allowing contractors to work on site.**

## Planning in Advance:

- EH&S construction coordinator can screen or sample most building components where access is given or where internal contents of systems can be exposed for sampling.
- Approved hazardous materials contractors may need to be hired if EH&S determines the work is beyond internal UC capabilities.
- These building components can also be removed during hazardous materials abatement when containment and air controls are in place.
- **Contractors should always create a spill containment system and have spill controls in place** when cutting, splicing or exposing piping and drainage within laboratories.
- **It should always be assumed that some liquids may be within all piping on campus.**

**In the event any contractor work causes an accident or spill of chemicals or hazardous materials:**

**Contact EH&S — Designated Urgent Response Team (DURT):**

**(510) 642-3073**

DURT will contact construction coordinator and both will respond to scene.

## Emergency Response:

Environment, Health & Safety:

**Monday – Friday: 8am – 5pm (510) 642-3073**

University Police:

**24 – hours (510) 642-6780**

Life Threatening Emergency Numbers From campus telephone, call **911** and direct ambulance to work location.

From a cell phone: **(510) 642-3333**

## Non-Life Threatening Emergency Numbers

EH&S Construction Coordinator:

**Monday – Friday: 8am – 5pm (510) 642-0359**

Physical Plant - Campus Services:

**24 – hours (510) 642 – 1032**

Campus Emergency Info Line: **(800) 705-9998**



## Attachment II – Post-Construction Water Balance Calculator

- **APPLICABILITY** — Required for projects that create and/or replace more than 2,500 square feet of impervious surface (i.e., buildings, roads, parking lots, patios, sidewalks, etc.).
- **CHECKLISTS** — Can be downloaded from EH&S' website:  
<https://ehs.berkeley.edu/construction-berkeley/how-do-i-get-approval-ehs-my-construction-project>  
Complete the EH&S Stormwater Checklist and the Post-Construction Water Balance Calculator
- **EXEMPTIONS** — **The following projects are exempt from the Phase II Small MS4 permit storm water site design measure and low impact design requirements:**
  1. Projects completed before July 1, 2014.
  2. Regulated projects that have been designed, approved, and funded prior to July 1, 2014.
  3. Interior remodels.
  4. Routine maintenance or repair projects such as:
    - A. Maintenance, repair, and replacement work on existing underground utilities such as sanitary sewer lines or other utilities.
    - B. Exterior wall surface replacement.
    - C. Roof replacement.
    - D. Pavement or asphalt resurfacing within the existing footprint.
    - E. Sidewalk replacement within an existing footprint to replace concrete that is causing a trip hazard.
    - F. Routine replacement/repair of damaged pavement/asphalt such as pothole repair.
  5. Bicycle lanes or pedestrian ramps on existing roads or sidewalks within existing footprint (e.g., no new impervious area).
  6. Sidewalks built as a part of new streets or roads and built to direct storm water runoff to adjacent vegetated areas.
  7. Bicycle lanes that are built as part of new streets or roads that direct storm water runoff to adjacent vegetated areas.
  8. Impervious trails built to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas.
  9. Sidewalks, bicycle lanes or trails constructed with permeable surfaces.
  10. Project runoff does not drain to the storm sewer system.

Verify this exemption by contacting [ehs-ep@berkeley.edu](mailto:ehs-ep@berkeley.edu)

**Project Compliance Information and BMP Requirements**

1. Are sanitary water sources present/in use?
2. Are sanitary sewer systems present or part of the scope of this project?
3. What areas can contribute to stormwater run-on?/Areas of concern beyond project fence line?
4. Are MS4 impermeable changes (modifications > 2,500 sq ft) Applicable to project?
5. Will fire or domestic water discharges be part of project scope?
6. Does the site include storm lines that drain to a creek or natural water body?
7. Will the site be storing, treating, or discharging water on site?
8. Did hazardous materials abatement work occur during this period?
9. Project Notes:

**State Water Resources Control Board Order 2013-0001 DWQ Permit Section F.5.e items must be maintained daily:**

10. Are storm drains protected from debris or liquids (other than stormwater entering the drain)?
11. Are site perimeter controls present and intact/working?
12. Is proper erosion control present and intact/working?
13. Are stockpiles covered?
14. Is regular site sweeping/cleaning occurring?
15. Are dust control measures being utilized?
16. Is there site entrance stabilization present and intact/working?
17. Is trackout present/notable dirt or debris beyond the project fenceline?
18. Are portable restrooms properly contained?
19. Are portable generators contained from rain or spilling?
20. Are or were concrete, stucco, or drywall pours or mixing occurring on site?
21. Is chemical storage contained from rain or spilling to waterways/drains?
22. Is fuel storage contained from rain or spilling to waterways/drains?
23. Are trash containers covered?
24. Is there asphalt work, concrete cutting or patching present?
25. Is hydraulic or fuel containing equipment contained?
26. Current weather:

**Attachment IV – State Registered Construction General Permit and MS4 Construction Sites  
P. 1/2**

<b>Construction sites greater than 1 acre registered with the State Water Board under the Construction General Permit application in SMARTS.</b>
Anna Head/Maximino Martinez Commons
Berkeley Way West
BAM PFA
Cal Aquatics Center
Cal Memorial Stadium
Clark Kerr Campus
Clark Kerr Volley Ball Fields
Energy Biosciences Building
Haas/Chou Hall
Li Ka Shing
Lower Sproul
Maxwell Field/Parking Structure
Northern Regional Library Facility at Richmond
Tolman Hall Demolition
Smyth Fernwald Demolition

<b>MS4 construction sites that create and/or replace more than 2,500 square feet of impervious surface, but less than 1 acre.</b>
2223 Fulton Demolition
Albany—Sprouts Grocery Store
Albany—Belmont Village
Bancroft/Stiles Hall
Bowles Hall
Etcheverry Hall café
Greek Theatre Plaza Improvements
Oppenheimer Way
Prospect Parking Lot
Women’s Faculty Club Patio

## Attachment V – Construction and Design Sanitary Sewer System Expenditure Request Form

**ALL PROJECTS REPLACING OR BUILDING NEW SANITARY SEWER SYSTEMS MUST PROVIDE EH&S WITH THIS INFORMATION.**

Please **download**, complete and return the Construction Request Expenditure form to Environment, Health & Safety – [ehs-ep@berkeley.edu](mailto:ehs-ep@berkeley.edu) to be included in the UC Berkeley Sewer System Management Plan.

The following information is required by the State Water Resources Control Board Order No. 2006-0003-DWQ – Statewide General Waste Discharge Requirements for Sanitary Sewer Systems:

- **PROJECT INFO:** *Project Name, location, Project Manager, Start/Finish Dates.*
- **DESCRIPTION OF SANITARY SEWER CAPITAL IMPROVEMENT:** *Rehabilitated Pipes or New Installation. Include pipe size, material and linear feet.*
- **COST BREAKDOWN:** *Sanitary Sewer project only or Part of larger construction project. Include methodology of how cost is calculated if it is not just a sanitary sewer project. Include mobilization, site preparation costs and restoration costs if part of a bigger project (estimating is okay).*
- **REASON FOR PROJECT:** *Project previously identified in Utilities Master Infrastructure Plan, Emergency Repair, New Construction of Building, Frequent sanitary sewer overflow hotspot, or Other.*

## Attachment VI – Equipment Decontamination Protocol

- **DEPARTMENTS/PROJECTS**— must identify equipment desired for release by creating a list for Equipment Management (contact: [betshelp@berkeley.edu](mailto:betshelp@berkeley.edu)).
1. Department equipment listings must provide a BETS #, serial #, building and room number of the equipment intended for release. Departments must also include: equipment history, associated chemical use, biological use or radiation use authorizations - where applicable.
  2. Verify and update equipment building, room and description to match BETS records.
  3. Departments must provide a complete list to Equipment Management.
  4. Ensure the correct room numbers, location descriptions, equipment type, model numbers, serial numbers are accurate.

### **Departments have three options for releasing unwanted equipment:**

- Give away or sharing with other labs, colleagues, departments – may require updating licenses or authorizations.
- Releasing to Surplus for resale – requires decontamination by lab/researcher or EH&S selected contractor.
- Disposal and/or recycling – hazardous waste or decontamination charges may apply.

### **Each of these options will require decontamination and documentation with the [EH&S' Facilities/Equipment Decontamination Clearance Certification](#)**

- **EH&S**— must evaluate all equipment for potential hazards, chemical residues and proper decontamination needs. EH&S must also identify if chemical use/history, BUAs or RUAs are applicable.  
If selected equipment is intended for resale or disposal, any associated licenses/authorizations and asset numbers should be properly closed (BETS, RUAs, BUAs, etc.). Lab and shop equipment must be cleared and labeled by EH&S before it can be released from campus.
- **EQUIPMENT MANAGEMENT** — verifies clearance of the listed items with Surplus, Moving Services, EH&S and department representatives prior to final removal.
- **SURPLUS** — is not allowed to pick-up or collect lab equipment that does not have the EH&S certification form and decontamination labels attached to the equipment.

See example below:

