# Plans Review Comments From Stanford University

**Environmental Quality Program**

**Utilities Division**

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>ADDITIONAL COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. DEMOLITION AND CONSTRUCTION</strong></td>
<td>For stormwater BMPs, see: <a href="https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx">https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx</a></td>
</tr>
<tr>
<td>Sites over 1 acre must apply for a storm water Notice of Intent through the State Water Resources Control Board and prepare a Storm Water Pollution Prevention Plan before site disturbance.</td>
<td><strong>[General Use Permit Condition of Approval (N6 + N7), 2000 GUP], [SCC Ordinance Sec. B11 1/2-13]</strong></td>
</tr>
<tr>
<td>Where chemicals, hazardous materials, grease, oil, or waste products are handled or used within the loading dock area, a drain to the storm drain system shall not be allowed. A drain to the sanitary sewer system may be allowed if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation. The area in which the drain is located shall be covered or protected from rainwater run-on by berms and/or grading. Appropriate wastewater treatment approved by the Superintendent shall be provided for all rainwater contacting the loading dock site.</td>
<td><strong>[SCC Ordinance Sec. B11 1/2-27]</strong>, <strong>[P.A. Ordinance, 16.09.165 (g)]</strong></td>
</tr>
<tr>
<td>Interior floor drains shall not be connected to the storm drain system.</td>
<td><strong>[SCC Ordinance Sec. B11 1/2-27]</strong>, <strong>[P.A. Ordinance, 16.09.165 (d)]</strong></td>
</tr>
<tr>
<td>Boiler drain lines shall be connected to the sanitary sewer system and may not be connected or allowed to drain to the storm drain system.</td>
<td><strong>[SCC Ordinance Sec. B11 1/2-27]</strong>, <strong>[P.A. Ordinance, 16.09.175(1)]</strong></td>
</tr>
<tr>
<td>Elevator sumps or any sumps that may collect hydraulic fluid cannot be connected to stormdrains or sanitary sewer. Please identify how hydraulic fluid will be contained in sump.</td>
<td><strong>[SCC Ordinance Sec. B11 1/2-27]</strong>, <strong>[P.A. Ordinance, 16.09.180 (5)]</strong></td>
</tr>
</tbody>
</table>

**Note:** Steam condensate must be connected to the Stanford condensate system. The mechanical area must be planned so that condensate is not allowed to flow into the storm drain system.

Copper, copper alloys, lead and lead alloys, including brass, shall not be used in sewer lines, connectors, or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are not practical. **[P.A. Ordinance, 16.09.180 (6)]**

---

**Plans Review Comments From Stanford University Environmental Quality Program Utilities Division**

**Plan Name:**
**Building ID #:**
**Project Name:**
**Project Manager:**
**Project Number:**
**Reviewer:**
**Plan date:**
**Review date:**

The checked boxes below are applicable to your project. Stanford University discharges its wastewater to the City of Palo Alto wastewater treatment plant, therefore the Palo Alto Sewer Ordinance requirements apply. Although not all plans go to the City of Palo Alto for plan check the following items are required. Due to General Use Permit Requirements, all the projects must provide information about estimated water consumption and water conservation; see section below. If you have questions, please contact the Environmental Quality Program at 725-7864, 723-9747, or 736-1946.

---

**Plan Name:**
**Plan date:**

1. If you have questions, please contact the Environmental Quality Program at 725-7864, 723-9747, or 736-1946.

---

**Plan Name:**
**Plan date:**

1. If you have questions, please contact the Environmental Quality Program at 725-7864, 723-9747, or 736-1946.
Since February 2004, the domestic water Stanford purchases from San Francisco PUC has been chloraminated (ammonia and chlorine used for disinfection). All building projects that include water treatment need to ensure the water treatment systems will treat chloraminated water. All rubberized components within the building must be chloramine compatible and/or resistant.

http://lb-re.stanford.edu/sem/drinking_water#chloramination

If installed, parking garage floor drains on interior levels shall be connected to an oil/water separator prior to discharging to the sanitary sewer system. The oil/water separator shall be cleaned at a frequency of at least once every twelve months or more frequently if recommended by the manufacturer or the Superintendent. Oil/water separators shall have a minimum capacity of 100 gallons. [P.A. Ordinance, 16.09.180 (9)]

Non-emergency once-through cooling water from systems using potable water as a coolant shall not be discharged to the sanitary sewer system; provided that the Superintendent may approve an exception in the following instances: (1) For once-through cooling water used for bench top reflux or distillation or other similarly sized activity; or (2) For short term use only, upon the determination that the use is for a research activity for which another source of cooling is not easily available. [P.A. Ordinance, 16.09.055 (b)]

Fire flow testing must be directed into sanitary sewer system.

<table>
<thead>
<tr>
<th>V. LABORATORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirators connected to laboratory sink faucets are prohibited. Aspirators designed and used for transferring acids and bases from stationary, permanent laboratory sinks to treatment facilities shall be allowed. [P.A. Ordinance, 16.09.175 (h)]</td>
</tr>
<tr>
<td>Laboratory countertops and laboratory sinks shall be separated by a berm which prevents hazardous materials spilled on the countertop from draining to the sink. [P.A. Ordinance, 16.09.175 (i)]</td>
</tr>
<tr>
<td>Lips shall be designed directly around sink, not around sink counter. Please provide detail showing lip height, trap type and material.</td>
</tr>
</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No person shall store hazardous materials above a sink that is connected to the sanitary sewer system in a commercial or industrial facility. [P.A. Ordinance, 16.09.195]</td>
</tr>
<tr>
<td>Sewer traps below laboratory sinks shall be made of glass or other approved transparent materials to allow inspection and to determine frequency of cleaning. Alternatively, a removable plug for cleaning the trap may be provided, in which case a cleaning frequency shall be established by the Superintendent. In establishing the cleaning frequency, the Superintendent shall consider the recommendations of the facility. The Superintendent will grant an exception to this requirement for areas where mercury will not be used; provided, that in the event such an exception is granted and mercury is subsequently used in the area, the sink trap shall be retrofitted to meet this requirement prior to use of the mercury. [P.A. Ordinance, 16.09.175 (j)]</td>
</tr>
</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Posting of signs visible from each drainage area (sink, cup sink, floor drain) not connected to appropriate treatment indicating &quot;NOTICE do not dispose of chemicals in this drain&quot; or equivalent. [P.A. Ordinance 16.09.185 (c)(3)]</td>
</tr>
<tr>
<td>Contact the Utilities Environmental Quality group at (725-7864 or 723-9747) for sample signs.</td>
</tr>
</tbody>
</table>
When the drain is installed with a temporary plug which remains closed except when the shower is in use, or when the drain is protected from spills by either a covered sump or berm system. If a sump is used, the capacity shall be at least as large as the largest chemical container in the laboratory. 
[P.A. Ordinance, 16.09.175 (a)(3)]

When directed by the superintendent, establishments from which industrial wastes are discharged to the sanitary sewer system shall provide and maintain one or more sampling locations or metering devices or volume and flow measuring methodologies or other sampling and measuring points approved by the superintendent which will allow the separate measuring and sampling of industrial and domestic wastes. Unless otherwise approved by the superintendent, domestic and industrial waste shall be kept completely separated upstream of such sampling locations and/or measuring points. Establishments that are billed for sewer service on the basis of sewage effluent constituents shall provide a suitable means for sampling and/or measurement of flow to determine billing constituents in accordance with the utilities rules and requirements. Sampling locations shall be so located that they are safe and accessible to the superintendent at any reasonable time during which discharge is occurring. [P.A. Ordinance, 16.09.105] Please provide lab sampling port detail, including access, depth to waste line, diameter of sampling port (should be >=2”).

In addition to lab wastewater, all photo labs, autoclaves, and dishwashing shall be connected to the lab waste lines. Please provide isometric diagram, if available, showing all lab waste connections, room numbers, sampling locations, for all building floors and basement.


Photo labs and Dark rooms: Areas for storing photo processing chemicals shall not be adjacent to or connected to sinks or floor drains. If floor drains are part of design for these areas, then the drain shall have a 0.25 inch berm to prevent inadvertent discharges of chemicals to the lab waste lines and sanitary sewer. Stanford Project Managers need to review new photo-processing equipment to ensure discharges are compliant (no spent fixer discharged, sewer limit for silver is 0.25mg/l). All site-specific designs have to be reviewed and approved by Stanford’s Environmental Compliance Group prior to submittal for building permits from Santa Clara County. Please provide detail illustrating location of chemical storage, sinks, photoprocessing equipment, and location of all lab waste drain connections.

### V. KITCHENS

**Food Service Establishments (FSEs)** shall have a sink or other area connected to a Grease Control Device (GCDs) for cleaning floor mats, containers, exhaust hood filters and equipment. The sink or cleaning area shall be large enough to clean the largest mat or piece of equipment. [P.A Ordinance, 16.09.075(2, B)]

**Drain Screens.** Screens shall be installed in all sinks, drains, floor drains, floor sinks, dishwashers, etc. [P.A Ordinance, 16.09.075(2, A)]

**Drain Fixture Identification.** All non-restroom drainage fixtures shall be labeled with their discharge location. Fixtures draining to GCDs shall be clearly labeled “drains to grease control device” or equivalent. Fixtures draining to the sanitary sewer that do not drain through a GCD shall be labeled “drains to sanitary sewer” or equivalent. [P.A Ordinance, 16.09.075(6)]

**Drain Fixtures where Fats, Oils, and Grease (FOG) may be discharged.** Such fixtures include, but are not limited to: (i) pre-rinse (scullery) sinks; (ii) three compartment sinks (pot sinks); drainage fixtures in dishwashing room except for dishwashers; (iv) trough drains (small drains prior to dishwasher), small drains of busing counters adjacent to pre-rinse sinks or silverware soaking sinks; (v) floor drains in dish washing area and kitchens; (vi) prep sinks; (vii) mop (janitor) sinks; drains in outside areas designated for equipment washing. These drains must be covered; (ix) drains in trash/recycling enclosures; (x) wok stoves, rotisserie ovens/boilers or other FOG generating cooking equipment with drip lines; (xi) kettles and tilt/braising pans and associated floor/sink drains. [P.A Ordinance, 16.09.075(2, A)]

**All drainage fixtures.** Where Fats, Oils, and Grease (FOG) may be discharged shall drain to a GCD. Such fixtures include, but are not limited to: (i) pre-rinse (scullery) sinks; (ii) three compartment sinks (pot sinks); drainage fixtures in dishwashing room except for dishwashers; (iv) trough drains (small drains prior to dishwasher), small drains of busing counters adjacent to pre-rinse sinks or silverware soaking sinks; (v) floor drains in dish washing area and kitchens; (vi) prep sinks; (vii) mop (janitor) sinks; drains in outside areas designated for equipment washing. These drains must be covered; (ix) drains in trash/recycling enclosures; (x) wok stoves, rotisserie ovens/boilers or other FOG generating cooking equipment with drip lines; (xi) kettles and tilt/braising pans and associated floor/sink drains. [P.A Ordinance, 16.09.075(2, A)]

**FSEs shall install GCDs in a suitable location to allow easy access for inspection, cleaning, and maintenance.** [P.A Ordinance, 16.09.075(1, D)]

**Sample boxes shall be installed downstream of all gravity grease interceptors as defined in the 2007 California Plumbing Code.** [P.A Ordinance, 16.09.075(1, E)]

**Lateral lines installed between a FSE and GCD, and GCD and the sanitary sewer system sewer main shall include installation of two way (double) clean outs to allow access points for sewer line maintence and inspection.** [P.A Ordinance, 16.09.075(1, F)]

**No FSE shall connect any high temperature discharge lines or drainage fixtures that are not a source of FOG to a GCD.** Such shall include, but not limited to, the following: (1) dishwashers; (2) steamers; (3) pasta cookers; (4) hot discharge lines from buffet counters and kitchens; (5) hand washing sinks; (6) ice machine drip lines; (7) soda machine drip lines; (8) discharge lines in bar areas. [P.A Ordinance, 16.09.075(e)]

**Buildings that house FSEs shall include a covered area for all receptacles, dumpsters, bins, barrels, carts or containers used for the collection of trash recycling, food scraps and waste cooking FOG or tallow.** The areas shall be designed to prevent water run-on to the area and runoff from the area. Drains that are installed within waste storage areas are optional. Any drain installed shall be connected to a GCD. If tallow receptacle(s) are to be stored outside then an adequately sized, segregated space for tallow receptacle(s) shall be included in the covered waste storage area. These requirements shall apply to remodeled or converted facilities to the extent that the portion of the facility being remodeled or converted is related to the subject of the requirement. [P.A Ordinance, 16.09.075(q, 2)]

**FSEs shall install, operate and maintain an approved type and adequately sized GCD sufficient to maintain compliance.** [P.A Ordinance, 16.09.075(m)]

**VI. WATER CONSERVATION**

#### A. WATER CONSERVATION FOR LANDSCAPING DESIGN (General Use Permit Condition of Approval P4, 2000 GUP)

- Provide estimated maximum daily and total annual water use for all landscaping.
- Turf borders (< 10 ft) not permitted. Eliminate sloping turf that is only ornamental.
- Provide details on planned ornamental fountain/water feature. Minimize water consumption in design. Estimate annual water use for routine operation. Identify minimum maintenance requirements and frequency. If fountains are to be installed: Please see: “Ornamental Water Features” in the FDG.

Last Updated: 1/19/2011
Can irrigation be stopped after 3-4 years once plants are established?

ET controllers shall be installed on all new/renovated landscaping projects. Provide brand name. Will the ET controllers be connected to the Grounds network?

All landscaping irrigation shall be tied into the lake system, or available recycled water, unless these systems are not available in area.

All landscaping shall be metered separately from building or other infrastructure.

### B. WATER CONSERVATION FOR BUILDING DESIGN

Use Performance Goals for Water Efficient equipment in new or renovated Stanford University Campus Buildings. Web site location:


SCVWD rebates may be available:


Resources such as domestic water shall be conserved. Cooling systems shall not use domestic water to provide "once-through" cooling. Cooling for equipment shall be accomplished using the campus chilled water system with a heat exchanger or a stand-alone, electric drive process chiller with pump. For details, please refer to Facility Design Standard Section 15000-G. Provisions should be made to accommodate research and equipment pressure needs, such as installation of pressure reducing valves.

All house vacuum systems shall use "dry vacuum pumps not "liquid ring" pumps.

Please estimate volume (gals/day) of wastewater from domestic water treatment; e.g. to produce Reverse Osmosis and/or De-ionized water.

Water mizers are required on all equipment requiring quenching with cold water to reduce the temperature of wastewater.

Please use the provided water use information table for water-consuming equipment and bathroom fixtures, and include maximum daily and total annual water use for building.


1. Environmental Quality Program, Utilities Services, Stanford University ph: 725-7864, 723-9747, or 736-1946
2. Contact the Utilities Division before design document preparation or finalization.
4. Palo Alto Sewer Use Ordinance: