



**CITY OF LONG BEACH**  
 Department of Development Services  
 BUILDING AND SAFETY BUREAU

**PLUMBING**

**PLAN REVIEW CHECKLIST**

**DATE:**

<b>INFORMATION</b>	PROJECT NO.:	EXPIRATION DATE:	STATUS:
	PROJECT ADDRESS:		
	WORK DESCRIPTION:		
	APPLICANT'S NAME:		TEL. NO.:
	E-MAIL:		FAX. NO.:
<b>INSTRUCTIONS</b>	<p>Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any sections of the Building Code or other local ordinances or state laws.</p> <p>In an effort to streamline the plan review process, please follow the steps outlined below to ensure that there is no delay in processing your application and reviewing your responses to these plan check comments.</p> <ul style="list-style-type: none"> <li>• Comments with circled item numbers under subtitle A &amp; B apply to this plan check. <u>All Plan Check Comments under subtitle C &amp; D apply to this plan check</u></li> <li>• Revised plans and calculations shall incorporate or address all comments marked on the original checked set of plans, calculations, and this plan review checklist. Provide a written response to each comment and show where and how it has been addressed. Identify the sheet number and detail or reference note on the revised plans where the corrections are made. Once all comments on the plans, calculations, and this checklist have been addressed, contact the plan check staff to <b>SCHEDULE AN APPOINTMENT</b> to review the changes made.</li> </ul>		
	PLAN REVIEWER:	MEI KWAN	TEL. NO.: (562) 570-7630
	ADDRESS:	333 W. OCEAN BLVD., 4 <sup>TH</sup> FLOOR, LONG BEACH, CA 90802	
	EMAIL:	<a href="mailto:mei.kwan@longbeach.gov">mei.kwan@longbeach.gov</a>	WEBSITE: <a href="http://www.lbds.info">www.lbds.info</a>
<b>NOTE</b>	<p>Should you have any questions or need clarification pertaining to the comments made on your project, you may contact the plan check staff by telephone from 7:30 AM (8:30 AM Wed) to 4:30 PM (Mon. – Fri.).</p> <ul style="list-style-type: none"> <li>• Bring the original checked set of plans and calculations along with this checklist to the appointment meeting. Do not schedule an appointment meeting with the plan check staff until all comments have been addressed.</li> <li>• We will ensure that the appointment meeting or re-submittal of the plans for recheck will proceed as expeditiously as possible. If an impasse is reached during the appointment meeting, you may request that the plan check supervisor be summoned for a 2<sup>nd</sup> opinion or to attempt to resolve and/or clarify the matter.</li> <li>• Major revisions to the plans that necessitate additional review time may be subject to re-submittal and additional plan check fees as authorized by Section 18.06.030 of the Long Beach Municipal Code.</li> <li>• Reviewed plans and/or calculations not picked up within 60 days of notice will be discarded.</li> </ul>		
	<p>Numbers within the parenthesis ( ) refer to the section of the applicable code. 2013 California Building Code (CBC). Table (T). 2013 California Electrical Code (CEC). 2013 California Plumbing Code (CPC). 2013 California Mechanical Code (CMC). Long Beach Municipal Code (LBMC). Health and Safety Code (HSC).</p>		

**A. PERMIT APPLICATION**

1. When all required approvals are obtained, the permit application must be signed by the property owner, licensed contractor, or authorized agent at the time the permit is to be issued:
  - a. For owner-builder permits: Owner's signature can be verified with owner's driver license. Owner's representatives must present owner's approval with a notarized letter from the owner.
  - b. For contractor building permits: Prior to the issuance of a building permit, the contractor shall have the following:
    - i. Certificate of workers Compensation Insurance made out to the Contractors State License Board.
    - ii. Copy of Contractors State License or pocket ID.
    - iii. Copy of city business tax registration certificate or a newly paid receipt for one.
    - iv. Notarized letter of authorization for agents.
2. Valuation provided or determined during the initial submittal process was not accurate. Valuation is revised to \$\_\_\_\_\_. Pay additional required plan check fee of \$\_\_\_\_\_.

**B. ADMINISTRATION**

1. Obtain all approvals/clearances from the following department/bureau/agency noted below. It is necessary to apply immediately for the signoff or approval as it can take weeks or months for some departments/bureaus/agencies to review and approve the project. All required approvals or clearances must be secured prior to permit issuance.
  - a. Building Plan Check Review (562) 570-5237
  - b. Health Department (562) 570-4195
  - c. Water Department (562) 570-2381
  - d. Gas and Oil Department (562) 570-2032
  - e. Public Works (562) 570-6383
  - f. Complete Sewer Capacity Charge Form per attachment.

**C. PLAN SUBMITTAL**

1. Each sheet of the construction documents must bear stamp, wet signature, registration number and expiration date of the Responsible Party. The Responsible Party is the Registered Mechanical Engineer, or Licensed Architect, or Licensed Plumbing Contractor (C-36).
2. The address of the project and the name/address of the owner are required on the first sheet of the

construction documents. Include the name/address of the registered design professionals and/or consultants on the construction documents where applicable.

3. Provide the scope of work to be done on the cover sheet.
4. Two final set(s) of construction documents will be required during permit issuance. Construction documents must be:
  - a. Quality blue or black line drawings with uniform and light background color
  - b. All required documents, wet signed by the Responsible Party, shall be included on the plans
  - c. Max. 36" x 48" size with min. 1/8" lettering size
  - d. Provide a complete and accurate Plumbing Permit application.
5. Remove all plans, details or notes that do not pertain to the project from the final set of construction documents.

**D. PLUMBING PLAN CHECK COMMENTS**

**PLUMBING FIXTURES**

1. Equipment or materials shall be listed. (CPC 301.1.1)
2. The effective flush volume for urinal not to exceed 0.5 gallons. (CPC Sec. 403.3)
3. Provide a schedule of plumbing fixtures and faucets showing compliance to water-conserving fixtures and fittings. Limited the effective flush volume for single flush toilets or dual flush toilets not to exceed 1.28 gallons. (CPC Sec. 403.2)
4. Non-water supplied urinals shall comply per Sec. 403.3.1 and 403.3.1.1 of California plumbing code.
5. Self-closing or self-closing metering faucets delivering not more than 0.25 gallons per use shall be installed on lavatories intended to serve the transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants, and convention halls. (CPC Sec. 403.4)
6. Commercial food service pre-rinse spray valve shall have a maximum flow rate of 1.6 gallons per minute and shall be equipped with an integral automatic shutoff. (CPC Sec. 403.5)
7. Show the maximum flow rate for kitchen faucet. Limited the maximum flow rate for kitchen faucet not to exceed 1.8 gallons. (CPC Sec. 403.6)
8. Show the maximum flow rate for residential lavatory faucet. Limited the maximum flow rate for lavatory faucet not to exceed 1.5 gallons. (CPC Sec. 403.7)
9. Show the maximum flow rate for lavatory faucets in common and public use area. Limited the maximum flow rate for lavatory faucet not to exceed 0.5 gallons. (CPC Sec. 403.8)
10. Show the maximum flow rate for showerheads. Limited the maximum flow rate for showerheads not to exceed 2.0 gallons. (CPC Sec. 408.2, California Green Code)
11. Mixed water to showers, tub-shower combination shall be limited to 120°F. Provide water tempering valve conform to ASSE 1016 for showers, tub-shower combination. Provide water tempering valve conform to ASSE 1069 for gang shower. (CPC Sec. 408.3)
12. Hot water to bathtubs and whirlpool bathtubs shall be limited to 120°F. Provide water tempering valve conform to ASSE 1070 for bathtubs and whirlpool bathtubs. (CPC Sec. 409.4)
13. Provide a removable panel for access and removing the pump. Whirlpool pump access located in the crawl space shall be located no more than twenty (20) feet from an access door, trap door, or crawl hole. (CPC Sec. 409.6)
14. Provide elongated type water closet bowls with open front type or automatic seat cover dispenser of water closet seats for public use. (CPC Sec. 411.1 & 411.2)
15. Commercial dishwashing machines shall discharge indirectly through an air gap or direct connection in accordance with Section 704.3 with floor drain protection. (CPC Sec. 414.3)
16. Drinking fountains shall be connected directly into the drainage system or indirectly through an air break. (CPC Sec. 415.3)
17. Drinking fountains shall not be installed in toilet rooms. (CPC Sec. 415.4)
18. Emergency eyewash and shower equipment shall be located on the same level as the hazard and accessible for immediate use. (CPC Sec. 416.4)
19. Floor drains shall be installed in the following areas (CPC Sec. 418.3):
  - a. Toilet rooms containing two or more water closets or a combination of one water closet and one urinal.
  - b. In commercial kitchens and in accordance with Section 704.3.
  - c. In laundry rooms in commercial buildings and common laundry facilities in multi-family dwelling buildings.
20. Hot water to public use lavatory shall be limited to 120°F. Provide water tempering valve conform to ASSE 1070 for public-use lavatory. Water heater thermostat shall not be considered as complying. (CPC Sec. 421.2)
21. Identify which fixtures are for private use and which are for public use.
22. The quantity and type of fixtures shall comply with CPC Table 422.1. Occupant load factor to determinate required number of plumbing fixtures

based on California Building Code. (CPC Sec. 422.0)

23. Provide separate toilet facilities, except the following: (CPC Sec. 422.2)
  - a. Residential installations.
  - b. In occupancies with a total occupant load of 10 or less, including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.
  - c. In business and mercantile occupancies with a total occupant load of 50 or less including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.

### **WATER HEATERS**

24. Indicate the type, size and capacity of the water heaters and water storage tanks.
25. Show location and permanent access to the water heaters.
26. State the first hour rating (in gallons) of the water heaters and the number of bathrooms and bedrooms. (CPC Sec. 501.0)
27. Provide the manufacturer's printed sizing and installation instructions on the tankless water heater.
28. Provide seismic restraint details for water heaters / storage tanks. Water heaters shall be strapped to the building at the 1/3-point top and bottom. (CPC Sec. 507.2)
29. Water heater clearances shall be installed per manufacturer's installation instruction. (CPC Sec. 504.3)
30. Drainage pan shall discharge to an observable location with a minimum 3/4" drain pipe. (CPC Sec. 507.4)
31. Show location and size of all combustion-air openings. Provide calculations for the combustion air. Air for combustion, ventilation and dilution of flue gases shall comply with CPC Sec. 506.0.
32. Provide water heaters with an expansion tank or other device designed for intermittent operation for thermal expansion control or excessive water

pressure. Show it on the riser diagram. (CPC Sec. 608.2, 608.3)

33. Provide a temperature & pressure relief valve on the water heaters. The valve shall discharge to an approved location. Pressure relief valves for water heaters installed inside a building shall discharge to a floor sink or similar fixture. (CPC Sec. 608.3 & 608.5)
34. Provide a water pressure relief valve between any water-heating devices connected to a separate storage tank. (CPC Sec. 608.6)
35. Provide a vacuum relief valve at hot-water storage tank or an indirect water heater, which is located at an elevation above the fixture outlets in the hot-water system. (CPC Sec. 608.7)

### **WATER SYSTEMS & CALCULATIONS**

36. Specify the piping materials for the domestic water systems. (CPC Sec. 604.0)
37. CPVC systems shall be sized per IS-20-2010.
38. Provide complete site plan showing water meter, water main pipe sizing and backflow protection devices and water pressure regulators. Calculate any friction loss for these devices and provide complete water sizing calculations.
39. Provide riser diagram for hot & cold water systems. (Municipal Code 18.05.030, Sec. G)
40. The riser diagram shall indicate all the fixtures served. The pipe size and the fixture unit count on each leg of pipe, pressure regulators, backflow prevention devices, and water meter.
41. Install a control valve in the domestic water supply to each building. (CPC Sec. 606.2)
42. Install a control valve in the domestic water supply to each dwelling unit. (CPC Sec. 606.3)
43. Show points of connection of new pipe to existing pipe.
44. Provide a low-pressure cutoff switch on the inlet side of the booster pump when it is connected to water service system. (CPC Sec. 609.8)
45. Provide water hammer arresters where quick-acting valves are installed. Provide manufactures

installation requirements for proposed water hammer arrestor. (CPC Sec. 609.10)

46. Show new and existing devices located between the city water service and the building plumbing system that cause pressure losses or gains in the system. Devices shall included but not be limited to pumps, water softeners, and sub meters.
47. Indicate all fixture unit loads in addition to the loads of the new fixtures including but not limited to, existing fixtures, irrigation load, make up water for cooling towers and boilers, demand for future use, and any other uses. (CPC Appendix A Sec. A2)
48. Future fixtures shall be included in sizing of the systems. (CPC Sec. 402.12, Appendix A Sec. A2)
49. Provide a table with calculations for the total number of fixture units to be installed. Table shall indicate the total of each type of fixture, the associated hot and/or cold fixture unit value for each, total contribution of hot and cold fixture units in the system and the total number of fixture units in the building.
50. Indicate the types of the water closets and urinals (tank or flushometer valves) used. (CPC Sec. 610.0, Table 610.4, Appendix A Sec. A2)
51. Provide hydraulic calculations for sizing the cold and hot water systems. The calculations should be submitted showing the following information:
  - a. Minimum and maximum water pressure.
  - b. Height of highest outlet above meter.
  - c. Meter size and losses through it.
  - d. Maximum developed length.
  - e. Total fixture units and GPM.
  - f. Type of pipe.
  - g. Residual pressure (minimum 15 psi).
  - h. Any other losses (Regulators, RP devices, water filter, and tankless water heater shown).
  - i. Table showing SIZE OF PIPE vs. FIXTURE UNITS allowed.

It should be noted that maximum velocity of 8ft/sec for cold water and 5ft/sec for hot water should be maintained for copper tubing as required by section 610.12 of the California Plumbing Code. (CPC Sec. 610.0 & Appendix A)

#### **PRESSURE REGULATING VALVES (PRV)**

52. Provide an approved pressure-regulating valve (PRV) to reduce the water pressure at any fixture to 80 psi or less. (CPC Sec. 608.2)

53. Show make, model and size of the PRV. (CPC Sec. 608.2)
54. Provide a copy of the manufacturer's catalog for the PRV used showing pressure drop through them. (CPC Sec. 608.2)
55. The PRV shall be installed at least 12 inches above grade or finished floor. The PRV shall not be installed in a pit where it can become submerged in water. (CPC Sec. 608.2)

#### **BACKFLOW DEVICES (RP)**

56. Provide a reduced pressure backflow device (RP) at the meter. (CPC Sec. 603.0, Table 603.2)
57. Show make, model and size of the RP on the plans. (CPC Sec. 610.2)
58. Provide a copy of the manufacturer's catalog for the RP used showing pressure losses.
59. The RP shall be installed at least 12 inches above grade or finished floor. The RP shall not be installed in a pit where it can become submerged in water. (CPC Sec. 603.3.4, 603.4.9, Table 603.2)
60. Provide backflow devices for carbonated beverage machines or dispensers such as soda and beer dispensers, coffee machines. (CPC Sec. 603.5.12)
61. Provide plumbing plans with wet stamp and signature of approval by Long Beach Health Department regarding backflow devices. Please contact Zenaida Savella at (562) 570-4195 for information. (CPC Sec. 603.1)
62. Plans must be submitted to the Department of Water for review of possible cross-connection hazards as a condition of service for new service or modification to existing services. Provide plumbing plans with wet stamp and signature of approval by the Long Beach Water Department regarding backflow devices. Please contact Jared Mataalii at (562) 570-2415 or Rachel Davis at (562) 570-2393 for information. (LBWD Regulation Part 8, CPC 603.1)

#### **WASTE SYSTEMS**

63. Specify the piping materials for waste systems. (CPC Sec. 701.0)

**City of Long Beach**  
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**Plumbing**

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64. ABS and PVC installations are limited to not more than two stories of areas of residential accommodation. (CPC Sec. 701.1.2.2)
  65. ABS or PVC pipe is proposed to be used as waste and vent pipe for this project, obtain approval from Building Bureau for fire-rated assemblies.
  66. Provide riser diagram for the waste and vent systems.
  67. The riser diagram shall indicate all the fixtures served; the pipe sizes and the fixture unit count on each leg of pipe.
  68. Show all pipe sizes on the plan.
  69. Show points of connection of new pipe to existing pipe.
  70. Pot sinks, scullery (pre-rinse) sinks, dishwashing (ware-washing) sinks, silverware sinks, and commercial dishwashing machines shall be directly connected to the drainage system. Provide a floor drain adjacent to the fixture with the fixture connected on the sewer side of the floor drain trap. (CPC Sec. 704.3)
  71. Provide complete sanitary waste piping plan for the building and submit a site sewer plan, showing materials, pipe sizing, slope, cleanouts, and any backwater devices.
  72. Show the slope of the horizontal drainage piping. Only 4" and larger drainage or sewer lines are allowed to slope at one-eighth (1/8) per foot. (CPC Sec. 708.0)
  73. Show size of the sewer main in the street.
  74. Install a clean out every 100 feet or a manhole every 300 feet in the building sewer (site sewer) in straight runs and for each aggregate horizontal change in direction exceeding 135°. (CPC Sec. 719.1 & 719.6)
  75. Rain, surface, or subsurface water shall not be connected to or discharged into any sanitary drainage system. (CPC Sec. 714.2)
  76. The building sewer shall not cross lot lines. (CPC Sec. 721.1)
  77. Drainage connections shall not be made into a drainage piping system within eight (8) feet of any vertical to horizontal change of direction of a stack containing suds-producing fixtures. (CPC Sec. 711.0)
  78. Indicate the waste stacks that carry the discharge of suds producing fixtures. (CPC Sec. 711.0)
  79. The Authority Having Jurisdiction shall review before approval the installation of a commercial food waste grinder to a private sewage disposal systems. (CPC Sec. 714.4)
- SEWAGE EJECTORS, or OTHER MECHANICAL DEVICES**
80. Show size, length and type of material of the sewage ejector discharge line.
  81. Provide an accessible check valve and gate valve or ball valve at the discharge line from the ejector. (CPC Sec. 710.4)
  82. Gate valve or ball valve and check valve shall be located outside the pit. (CPC Sec. 710.4)
  83. Provide dual pumps each capable of handling the load independently shall be provided in "public use" occupancy. (CPC Sec. 710.9)
  84. Provide audio and visual alarm. (CPC Sec. 710.9)
  85. Show load discharging into the sump.
  86. Show make, model and HP of sewage ejector. Provide pump performance curves.
  87. Provide a riser diagram showing the sumps, sump inlet & outlet check valves and gravity line.
  88. State the length of pipe & elevation difference between the bottom of the sumps and the gravity line.
  89. Sump receiving waste from water closets shall have a minimum two (2) inch discharge for single-family dwelling. Three (3) inch discharge is required for commercial building. (CPC Sec. 710.3)
  90. When calculating fixture unit, allow two fixtures units for each gallon per minute discharging from the sewage ejector. (CPC Sec. 710.5)
  91. Show high water level. It shall be at least two (2) inches below the lowest inlet. (CPC Sec. 710.9)

- 92. Specify the type of material of the sump on the plans, or specify make, model of the prefabricated sump.
- 93. Provide airtight cover for the sumps. (CPC Sec. 710.10)
- 94. Sewage ejector sump shall be provided with a separate vent pipe, which shall extend through the roof. (CPC Sec. 710.7 & 710.10)
- 95. Vent from an air-operating sewage ejector shall not combine with other vents. (CPC Sec. 710.10)

### **INDIRECT WASTE SYSTEMS**

- 96. Ice machines, iceboxes, drink dispensers, coffee machines, freezers, refrigeration coils, and similar equipment shall be indirectly connected to the drainage system. (CPC Sec. 801.2)
- 97. Except for refrigeration coils and ice-making machines, the size of the indirect waste pipe shall not be smaller than the drain on the unit, but shall not be smaller than one (1) inch, and maximum developed length shall not exceed fifteen (15) feet. (CPC Sec. 801.2.1)
- 98. Indirect waste pipe for ice-making machines shall be not less than the drain on the unit, and in no case less than three-quarters (3/4) of an inch. (CPC Sec. 801.2.1)
- 99. For walk-in coolers, floor drain shall be permitted to connect to a separate drainage line discharging into an outside receptor. Such floor drain shall be trapped and individually vented. (CPC Sec. 801.2.2)
- 100. Food-preparation sinks; steam kettles, potato peelers, dipper wells, and similar equipment shall be indirectly connected to the drainage system by means of an air-gap. (CPC Sec. 801.2.3)
- 101. Bins, sinks, and other equipment having drainage connections and used for the storage of unpackaged ice used for human ingestion, or used in direct contact with ready-to-eat food, shall be indirectly connected to the drainage system by means of an air gap. (CPC Sec. 801.2.3)
- 102. Each indirect waste pipe from food-handling fixtures or equipment shall be separately piped to the indirect waste receptor and shall not combine with other indirect waste pipes. (CPC Sec. 801.2.3)
- 103. Refrigeration coils and ice makers, which may use 3/4" drains (to receptor), piping from other equipment shall not be smaller than the drain on the unit or 1/2" minimum. (CPC Sec. 801.2.3)
- 104. Where the sink in a bar, soda fountain, or counter is so located that the trap serving the sink cannot be vented, the sink drain shall discharge through an air gap or air break into an approved receptor that is vented. The developed length from the fixture outlet to the receptor shall not exceed five (5) feet. (CPC Sec. 801.3)
- 105. Vent pipe from indirect waste piping shall not combine with any sewer-connected vent, but shall extend separately to the outside air. (CPC Sec. 803.0)
- 106. Indirect lines greater than 5ft shall be trapped. Indirect lines less than 15ft need not be vented. The vent shall remain separate from any other system vent. (CPC Sec. 803.0)
- 107. No indirect receptor shall be installed in a storeroom or other portion of the building not in general use. (CPC Sec. 804.1)
- 108. No piping or equipment discharges under pressure shall directly connect to the drainage system. Except approved fixtures and devices, such as commercial dishwashers, where the drainage system is properly sized. (CPC Sec. 805.0)
- 109. No domestic dishwashing machine shall be connected directly to a drainage system. Use an air gap fitting. (CPC Sec. 807.4)
- 110. Steam and/or hot water drainage requires an indirect waste line. (CPC Sec. 810.1)
- 111. Pipe from boilers shall discharge by means of indirect waste piping. (CPC Sec. 810.1)
- 112. Carbonated liquid waste piping shall be of corrosive resistive material. Do not use copper or cast iron until proper neutralization or dilution has occurred. (CPC Sec. 811)
- 113. Chemical (corrosive) waste shall discharge in a manner approved by the Authority Having Jurisdiction. (CPC Sec. 811.7)

### **CONDENSATE SYSTEMS**

- 114. Specify the piping materials for condensate drains.

- 115. All condensate from air-cooling coil, evaporative cooler, and air conditioning equipment shall be collected and discharge to an approved plumbing fixture or disposal area or by means of an indirect waste pipe. The minimum condensate pipe size per CPC Table 814.1. (CPC Sec. 814.1)
- 116. Provide a primary and a secondary condensate drain for cooling coils installed above the ceiling or in furred spaces. The secondary drain shall terminate in a visible location.
- 117. Plans must be submitted to the Long Beach Development Services – Mechanical Division for review of condensate systems. Please contact Steven Cullum at (562) 570-6265 for information.
- 125. Show details for the island venting. (CPC Sec. 909.0)
- 126. Provide yoke vents. (CPC Sec. 907.1)
- 127. All wet vented fixtures shall be within the same story and is limited to vertical drainage receiving the discharge from trap arm of one (1) or two (2) fixtures that serves as a vent not exceeding 4 fixtures, no wet vent shall exceed 6 feet in developed length. (CPC Sec. 908.1.1)
- 128. Each drain pipe and each trap, in a wet vent system, shall be one (1) pipe sizes larger than the sizes required by Chapter 7 of the California Plumbing Code, in no case less than two (2) inches. (CPC Sec. 908.1.2)

### **VENTING SYSTEMS**

- 118. Specify the piping materials for venting systems.
- 119. Venting or drainage line from any equipment shall not be connected with the vent pipe serving the waste line.
- 120. Traps serving sink that are part of the equipment of bars, need not be vented as long as is indirectly connected to an open floor sink or other approved type of receptor. (CPC Sec. 902.2)
- 121. Vent pipe and fittings shall be in accordance with CPC 7-1 standard, except that: galvanized and stainless steel shall not be installed underground and less than 6” above ground. ABS and PVC DWV is permitted with the applicable standard referenced in table 14-1. (CPC Sec. 903.1.1 & 903.1.2)
- 122. The aggregate cross sectional area of the vent shall not be less than that of the largest required building sewer. (CPC Sec. 904.1)
- 123. Each plumbing fixture trap shall be vented. Unless prohibited by structural conditions each vent shall vertically to a point not less than six (6) inches above the flood level rim of the fixture; or less than 12 inches from a vertical surface. (CPC Sec. 906.1)
- 124. Wet venting is limited to vertical drainage receiving the discharge from trap arm of one or two fixtures that serves as a vent not exceeding 4 fixtures; no wet vent shall exceed 6 feet in developed length. (CPC 908.1). Minimum wet vent size is 2"φ per CPC Sec. 908.1.2.
- 129. Show a detail of the connection of the branches of a waste and vent system to the main horizontal line. (CPC Sec. 910.2)
- 130. Show a typical detail of the tailpiece and trap.
- 131. Show the type & use of each fixture served by the combination waste and vent system.
- 132. Combination waste and vent system is only allowed where structural conditions preclude the installation of a conventional system. (CPC Sec. 910.1)
- 133. Provide a separate vent for each waste branch line exceeding fifteen (15) feet in length and provide a vent downstream of the furthest fixture. (CPC Sec. 910.3)
- 134. The minimum area of any vent installed in a combination waste and vent system shall be at least ½ the cross sectional area of the drainpipe served. (CPC Sec. 910.3)
- 135. Each drainpipe and each trap, in a combination waste and vent system, shall be 2 pipe sizes larger than the sizes required by Chapter 7 of the California Plumbing Code. (CPC Sec. 910.4)
- 136. Vertical waste pipes are not allowed in a combination waste and vent system. (CPC Sec. 910.5)
- 137. Toilets or urinals are not allowed in a combination waste and vent system. (CPC Sec. 910.7)
- 138. Combination waste and vent systems shall not be utilized where solids or grease waste is anticipated. (CPC Appendix B Sec. B1)

139. Relief vents shall be provided every one hundred (100) feet along the mains. (CPC Appendix B Sec. B3)

**TRAPS, GREASE INTERCEPTORS, HYDRO-MECHANICAL INTERCEPTORS (GREASE TRAPS) or OTHER INTERCEPTORS**

140. One trap serving a three-compartment sink shall have the trap centrally located. (CPC Sec. 1001.1)

141. No food waste disposal unit shall be installed with any set of restaurant sinks served by a single trap. Use a separate trap. (CPC Sec. 1001.1)

142. Floor drains directly connect to the drainage system and subject to infrequent use shall be provided with a trap primer. Trap primers shall be placed in an accessible location for maintenance. (CPC Sec. 1007.0)

143. Show all grease waste piping on the plans.

144. Interceptors, or clarifiers shall be properly vented. (CPC Sec. 1009.4)

145. Show detail of grease interceptors, hydro-mechanical interceptors, or clarifiers on plans.

146. Show locations of the grease interceptors, hydro-mechanical interceptors, or clarifiers on the lay out.

147. Food waste disposal unit or dishwasher shall not be connected to or discharge into any grease interceptor. Commercial food waste disposers shall be permitted to discharge directly into the building's drainage system. (CPC Sec. 1014.1.3)

148. Size hydro-mechanical interceptors per CPC Sec. 1014.2.1.

149. Show location of required flow control and venting for hydro-mechanical interceptors. (CPC Sec. 1014.2)

150. Size hydro-mechanical grease interceptors per CPC Sec. 1014.2.1,

151. Provide product literature for the hydro-mechanical grease interceptors.

152. Size grease interceptors per CPC Table 1014.3.6 (for grease interceptor 500 gallon or more). (CPC Sec. 1014.3.6)

153. Provide product literature for the grease interceptors.

154. Gravity grease interceptors shall not be installed in a part of the building where food is handled, and shall be placed as close as practical to the fixtures they serve (CPC Sec. 1014.3.4)

155. Each business establishment shall have an interceptor that serves only that establishment unless otherwise approved by the AHJ. (CPC Sec. 1014.3.4.2)

156. Car wash racks are required to have an interceptor. (CPC Sec. 1011.0)

157. Commercial and industrial laundries are required to have an interceptor when the laundry equipment does not have integral strainers. (CPC Sec. 1012.0)

158. The following locations are required to drain to an approved sand, or oil and flammable liquid interceptors interceptor (CPC Sec. 1016.0 and 1017.0):  
a. Parking Lots.  
b. Gas Stations and auto repair shop.  
c. Roof top parking areas.

159. Provide plumbing plans with wet stamp and signature of approval by the Long Beach Water Department regarding sewer protection. Please contact Dennis Santos at (562) 570-2381 for information (CPC Sec. 1009.1)

160. This project may be required to have a sand / oil interceptor (clarifier). Under roof cover (garage floor) emergency drains way require sand / oil interceptor prior to discharging to sanitary waste.

161. Show any garage (under roof cover) parking area emergency drains. Provide riser diagram.

**STORM DRAINAGE SYSTEMS**

162. Specify the piping materials for storm drainage systems. (CPC Sec. 1101.3, 1102.0)

163. Provide a riser diagram for storm drainage systems.

164. Rainwater systems are to be sized per 2013 CPC, Table 1101.7 and 1101.1 at 3" rainfall per hour.

- 165. Indicate on riser diagram, the area (ft<sup>2</sup>) covered by each drain. (CPC Appendix D Sec. D-3, Sec. 1101.11, Table 1101.7 and Table 1101.1)
- 166. Indicate the slope of horizontal piping. (CPC Table 1101.7)
- 167. Rainwater drains shall not be connected to sanitary system. (CPC Sec. 1101.2)
- 168. Provide overflow drains. Overflow drains having the same size as the roof drains shall be installed with the inlet flow line located two (2) inches above the low point of the roof. (CPC Sec. 1101.11.2)
- 169. Roof drains and overflow drains shall be piped independently to the outside of the building. (CPC Sec. 1101.11.2.2(A))
- 170. The number of courtyard drains shall be calculated per LBDS Policies Procedures Interpretations P-09.

**SUBSURFACE DRAINAGE SYSTEMS**

- 171. Show subsurface drainage on the floor plans.
  - 172. Specify the piping materials for the subsurface drains. (CPC Sec. 1102.5)
  - 173. Subsurface drains shall not terminate into sanitary drainage system; either terminate the subsurface drains to the city storm drain, or provide a soil report showing that there is no continuously flowing springs or ground water. (CPC Sec. 1101.5.2)
  - 174. Backwater valves shall be installed to prevent flooding of the garage. (CPC Sec. 1101.5.5)
  - 175. Catch basins shall not be installed at sewer/waste line. (Only can install with storm water or landscape line)
- 179. The gate valve shall be located on the discharge side of the check valve (CPC Sec. 710.4)
  - 180. Sumps shall be made of concrete, metal or other approved materials. (CPC Sec. 710.8)
  - 181. Specify the type of material or specify make, model and research report number of the prefabricated sump.
  - 182. Provided an airtight cover. (CPC Sec. 1101.5.2)
  - 183. The sump pit shall be at least 15 inches in diameter and 18 inches in depth. (CPC Sec. 1101.5.2)
  - 184. Show high water level. It shall be at least two (2) inches below the lowest inlet. The lowest inlet to the sump shall have a minimum clearance of two (2) inches above the high water level. (CPC Sec. 710.9)
  - 185. Sumps shall be provided with a vent pipe, which shall extend a minimum of six (6) inches above the solid sump cover. (CPC Sec. 710.7 & 906.0)
  - 186. The pumps shall have an audio and visual alarm, readily accessible, that signals pump failure or an overload condition. (CPC Sec. 710.9)
  - 187. Show load discharging into the sump.
  - 188. Provide a plot plan or lay out showing the sump location, the inlet lines, the outlet line, and gravity line.
  - 189. Show the gravity line all the way to the approved point of disposal.
  - 190. Show size, length and type of material of the pump discharge line.

**SUMP PUMPS, or OTHER MECHANICAL DEVICES**

- 176. Provide an approved modification from Grading allowing the site drainage to drain into a sump system.
  - 177. Provide a riser diagram showing the sump, sump inlet & outlet, backwater valves and gravity line.
  - 178. Backwater valves and gate valves shall be located outside the pit. (CPC Sec. 710.6)
- 191. The discharge line from the sump pump shall be provided with an accessible backwater valve and gate valve. (CPC Sec. 710.4)
  - 192. Provide dual sump pumps. (CPC Sec. 1101.13)
  - 193. Minimum size of pump shall be 15 gpm. (CPC Sec. 1101.5.2)
  - 194. The discharge line from the sump pump shall be at least 1-1/2 inch diameter. (CPC Sec. 1101.5.2)
  - 195. Where the sump pump discharge line connects to a horizontal drain line, such connection shall be

made from the top through a wye branch fitting.  
(CPC Sec. 710.4)

196. Show make, model and horsepower of pump.

197. Provide pump performance curves.

198. State length of pipe & elevation difference between the bottom of the sump and the gravity line.

199. Determine the flow of water in gallons per minute going into the sump.

### **NATURAL GAS SYSTEMS**

200. Specify the piping materials for the gas systems.  
(CPC Sec. 1208.0))

201. CSST Tubing shall be tested, listed and sized in compliance with their installation instructions.  
(CPC Sec. 1208.5.3.4)

202. Sediment traps shall be installed as close as practical to the inlet of the gas utilizing equipment. Ranges shall not be required to be so equipped.  
(CPC Sec. 1211.8)

203. Indicate the total developed length of the system from the meter or regulator to the most remote gas outlet. (CPC Sec. 1216.1.1)

204. Indicate the hourly volume (CFH) of gas required at each outlet. (Note: 1000BTU = 1CFH) (CPC Sec. 1208.4.1)

205. Provide riser diagram for the gas systems. Sizing of pipe are to be sized per CPC, Table 12-8.

206. Show all pipe sizes (new and existing) on the plan.

207. Show points of connection of new pipe to existing pipe.

208. The existing gas pipe shall be enlarged or a separate gas piping shall be provided to ensure adequate capacity of piping is provided. (CPC Sec. 1208.1.1)

209. Quick-disconnect device is a hand operated device that provides a means of connecting an appliance to a gas supply and is equipped with an auto shutoff. (CPC Sec. 1211.6)

210. Provide a separate gas shutoff valve for each system. (CPC Sec. 1210.11)

211. An "Alternate Methods of Construction" request form must be submitted to the Building Bureau for review prior to approval of request for medium pressure gas. (CPC Sec. 301.2, LBDS information bulletin BU-1)

212. Medium pressure gas and high pressure gas systems (over 14 inches W.C. or ½ psi) shall be required to obtain an approval from Long Beach Gas & Oil Department New Services Bureau.

213. Provide sizing tables included in the listed piping system manufacturer's installation instructions.  
(CPC Sec. 1208.4.2)

214. Provide a copy of manufacturer's cut-sheet for vapor extraction unit showing volume pressure of gas required to operate the unit. (CPC Sec. 1215.2)

215. Provide an approved type check valve at each gas connection to the vapor extraction unit. (CPC Sec. 1208.8)

216. Provide plumbing plans with stamp and signature of approval by the Long Beach Gas Dept. regarding any requirements and for the approval of gas meter locations. Gas meters located in a confined space will need to comply with Gas Dept. and Building Dept. requires. Please contact Phil Carroll at (562) 570-2085 for information.

### **GAS PRESSURE REGULATORS**

217. Show the size, make, model, orifice size, spring number, pressure at the inlet of the pressure regulator, and setting of pressure regulator.

218. Provide manufacturer's cut-sheet for regulator showing inlet and outlet pressures at the selected setting.

219. Provide overpressure protection devices where the gas supply design pressure in piping systems located indoors exceeds 2 psi and line pressure regulators are installed to reduce the supply pressure to 14" wc. (CPC Sec. 1208.7)

220. Pressure regulator shall be vented to the outside of the building. (CPC Sec. 1208.7.5)

221. Provide an approved gas valve immediately preceding each regulator. (CPC Sec. 1210.11)

**MEDICAL GAS**

222. Provide required ventilation calculations for medical gas storage area per NFPA 99.

**SEWER CAPACITY CHARGE (See attached city form)**

223. Provide exact number and type of added plumbing fixtures for sewer capacity calculation.
224. Sewer Capacity Charge: This notice and acknowledgement form must be completed and signed by the applicant and submitter to the department. (I) (We) have read all of the following conditions noted below and provided initials next to each item to acknowledge that (I am) (we are) ware of the requirements. As the Applicant for the plumbing permit at the stated project address, (I) (we) hereby execute this Notice of Acknowledgement form as a condition to the issuance of the permit.
225. Provide a demolition plan showing the existing plumbing fixtures for sewer capacity credit.

**OTHERS**

226. Provide wet stamp or signature of approval by Long Beach Health Dept. for any food preparation areas or facilities. Please contact Zenaida Savella at (562) 570-4195 for information.
227. Provide Civil sheets with site utilities for the next review.
228. Show compliance with all Green Building Standards on the plans.
229. Provide any attached Architectural sheets identified as "For Reference Only" showing compliance with requirements for accessible features related to Plumbing Plans.
230. Any new or additional construction work within 5ft of property line shall require obtaining an approval from Long Beach Gas & Oil Department New Services Bureau.
231. Provide a kitchen/cooking equipment schedule.
232. Protective sleeves shall be provided when piping is penetrated thru concrete or masonry wall. Provide details including size of the protective sleeve and method of sealing at exterior walls. (CPC Sec. 312.10.1)

233. Note type of fire penetration protection for fire rated wall / floor / ceiling assemblies. (CPC Sec. 312.7)
234. ABS or PVC pipe is proposed to be used as waste and vent pipe for this project, obtain approval from Building Bureau for fire-rated assemblies.
235. Provide drawing abbreviation and symbol schedules.
236. The following note(s) shall be added to plan:
- a. All work to comply with 2013 California Plumbing Code, 2013 California Building Code, and 2013 California Building Energy Efficiency Standards.
  - b. Lead free compliance required effective January 1, 2010 per California Health & Safety code Sec. 116875.
  - c. All fixtures in handicap restrooms shall be installed in accordance with the requirements of the State of California Handicap Code and local handicap codes having jurisdiction.
  - d. All piping shall be supported at intervals not to exceed those shown in CPC Table 313.1.
  - e. Install approved temperature mixing valves at plumbing fixtures that require 110 °F water per CPC and Title 24.
  - f. All service water heating equipment to be in compliance with the model energy code requirements and labeled.
  - g. Each plumbing fixture shall be independently valve per code.
  - h. Water closets required to have elongated bowls with open front seats.
  - i. All potable water outlets with hose attachments, such as hose bibs, and mop sinks are to be provided with a backflow / anti-siphon valve.
  - j. Plastic pipe and the fittings used for plastic pipe, other than those for gas, shall meet the requirements of NSF14.
  - k. New or repaired potable water systems shall be disinfected prior to use according to the method set in Sec. 609.9 of California plumbing code.
  - l. Hot water piping shall be insulated as per energy conservation standards.
  - m. The premise owner or responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation.
  - n. Portable water supply to beverage dispensers, carbonated beverage dispensers, or coffee machines shall be protected by approved type non-removable pressure vacuum breaker device.

**City of Long Beach**  
**Department of Development Services – Building and Safety Bureau, Plan Review Division**  
**Plumbing**

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- o. No exposed ABS (plastic piping with a flame-spread rating of 75 or more). (CPC Sec. 310.11)
  - p. All required cleanouts should be installed as per Sec. 707.0 & 719.0 of the California Plumbing Code.
  - q. All sanitary and Grease waste piping to be minimum 2% slope.
  - r. Plumbing vent through roof shall terminate vertically not less than one (1) foot from any vertical surface and not less than ten (10) feet horizontally or at least three (3) feet above any window, door, opening, air intake or shaft.
  - s. Sanitary waste vents shall rise vertically to a point not less than six (6) inches in height above the flood level rim of the fixture before being connected to any other vent.
  - t. Drainage piping serving fixtures which have floodwater rims located below the elevation of the next upstream manhole cover of the sewer serving such drainage piping shall be protected from backflow of sewage by installing an approved type backwater valve.
  - u. Vent terminals that terminate through an outside wall of a building shall be located not less than 10 feet horizontally from an operable opening in an adjacent building. This shall not apply to operable openings that are not less than 2 feet below or 25 feet above the elevation of the vent terminal. (CPC Sec. 509.8.5)
  - v. Trap seal protection required for all floor sinks and floor drains.
  - w. The boilers and venting systems shall be installed in accordance with all requirements of the boiler and listed vent/chimney manufacturer's listing and installation instructions.
  - x. Water having a temperature above 140 F shall not be discharged under pressure directly into any part of the drainage system. Pipes from boilers shall be discharged by means of indirect waste piping.
  - y. Indirect wastes longer than five (5) feet must be trapped, and it longer than fifteen (15) feet must be trapped and vented indirect wastes from food service equipment must discharge to receptor with a minimum air-gap of one (1) inch.
  - z. Primary condensate piping to terminate at tailpiece of lavatory/sink in the unit it serves, floor sink or dedicated roof top receptor.
  - aa. Secondary condensate piping to terminate at exterior observable location or interior over lavatory/sink.
  - bb. Roof drains, overflow drains, and rainwater piping within the interior of the building shall be tested in accordance with the provisions of the 2013 CPC for testing drain, waste and vent systems.
  - cc. Roof drains and overflow piping within the building shall utilize approved drainage fittings.
  - dd. Testing procedure of gas systems should be performed as per Sec. 1213.0 of the California Plumbing Code.
  - ee. The premise owner or responsible person is responsible to coordinate with Gas Company for new gas demands, meter location and type of pressure available. Coordinate with tenant for pressure required at each appliance.
  - ff. The premise owner or responsible person shall coordinate with Long Beach Water Department for new water demand, meter location and type of pressure available.
  - gg. Firestopping: Penetrations through rated walls, floors, and roofs shall be sealed with a material capable of preventing the passage of flames and hot gases when subjected to the requirements of test standard specific of fire stops ASTM E-814.
  - hh. Medical gas piping installation requires continuous third part inspection and certification by an approved inspection agency; certification documentation is to be submitted to building and safety prior to final inspection.
  - ii. Medical gas pipe size, installation and material shall follow the guidelines of NFPA 99, Standard of Healthcare Facilities.
  - jj. Applicant shall contact dig alert/UAS prior to the commencement of any demolition or earth disturbance.
237. See additional corrections marked in red on the checked set of plan.
238. Plans are incomplete, additional corrections may follow.

