

 Building Division	SUMPS AND SEWAGE EJECTORS City of Palo Alto (CPA) Building Inspection Division 285 Hamilton Ave. Inspection Request: 650 329-2496 IVR# 512	Revision Date: 03/04/11
		General Requirements/Checklist for: Residential and Commercial Codes Enforced: 2010 CRC, CBC, CPC, CMC, CEC Palo Alto Municipal Code (PAMC)
The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.		

WARNING

- Failure to complete items below prior to inspection may result in a re-inspection fee.

APPLICATION

- 2007 CPC min. installation requirements for commercial sumps and sewage ejectors.

MATERIALS AND EQUIPMENT

- Piping: Cast iron, schedule 40 PVC, ABS
- Equipment: Only listed and tested ejectors/equipment are allowed.

PRIOR TO INSTALLATION AND INSPECTION

- Buildings with basements shall submit isometric plumbing drawings for approval prior to installation/inspection.

CPA WASTE GAS & WASTEWATER

- CPA-WGW requirements: Sewage ejector pumps shall meet the following conditions:
 1. The pump(s) shall be limited to a total 100 GPM capacity or less.
 2. The sewage line change to a 4" gravity flow line must be at least 20' upstream of the city clean out.
 3. The tank and float is set up such that the pump run time shall not exceed 20 seconds each cycle.

CPA INSPECTION

- See illustration **FIGURE A-1**
- All plumbing fixtures located at or above grade are required to be drained to the public sewer by gravity. *CPC 709*
- Drainage piping serving fixtures located below the crown level of the main sewer shall discharge into an approved watertight sump or tank and discharge into the building drain or sewer using an approved ejector pump. *CPC 710.2*
- Drainage piping serving fixtures located below the elevation of the next upstream manhole cover or below the main sewer lateral shall be protected from backflow of sewage by installing an approved type backwater valve. fixtures located above such elevation shall not discharge through the backwater valve *CPC 710.1*

- The discharge line from the ejector pump shall be provided with an accessible backwater or swing check valve **and** gate or ball valve. The gate or ball valve shall be located on the discharge side of the backwater or check valve. *CPC 710.4*
- Gate or ball valves shall be fullway type, with working parts of corrosion-resistant metal. Sizes 4" or more in diameter shall have cast iron bodies and less than 4" cast iron or brass bodies. *CPC 710.4*
- All sumps receiving discharge shall be properly sized. *CPC 710.3*
- If the gravity drainage line to which a pump or ejector discharge line connects is horizontal, the method of connection shall be from the top through a WYE branch fitting. *CPC 710*
- Sumps or receiving tanks shall be water and gas tight and provided with substantial gasketed covers. *CPC 710*
- Building drains or sewer receiving discharge from any pump or ejector shall be sized to prevent overloading. two fixture units shall be allowed for each gallon per minute of flow. *CPC 710.5*
- Sumps or receiving tanks shall be **vented separately** through the roof and vent shall be sized to be large enough to maintain atmospheric pressure within the sump under normal operating conditions and shall be sized per table 7-5 and in no case less than 2" in diameter. *CPC 710.10*
- Testing of sumps or tanks requires the tank to be filled with water to the point of overflow
- All sumps or tanks shall be secured in place.

Electrical requirements

- Provide a dedicated 15a circuit for ejector pumps up to 7 amp or 20a circuit for pumps rated above 7amps
- Electrical outlet required to serve ejector pump shall be located outside of sump or tank and 12" above finished floor.

Accessory structures

- When it is not possible to provide drainage, an ejector pump may be approved. design for such a alternate shall be submitted and pre- approved.
- Ejector drainage lines from accessory structures shall be run separately around the primary structure and connected down stream of primary residence house drain clean out.
- Min. 2" waste line only
- Gravity drainage @ 2% slope (1/4" per foot)
- Cast iron pipe only will be allowed for under ground use as sewer material.

Commercial Sumps and Sewage Ejector Installations

- Dual pumps or ejectors shall be provided in all commercial applications and shall be arranged to function independently in case of overload or mechanical failure. Only one pump is pumping at any one time. *CPC 710.9*
- Each pump receiving the discharge of water closets or urinals must have a pumping capacity of 20 GPM minimum. *CPC 710.3.1*
- Each ejector pump discharge piping, backwater valve, and gate valve shall be a minimum 3".

□

