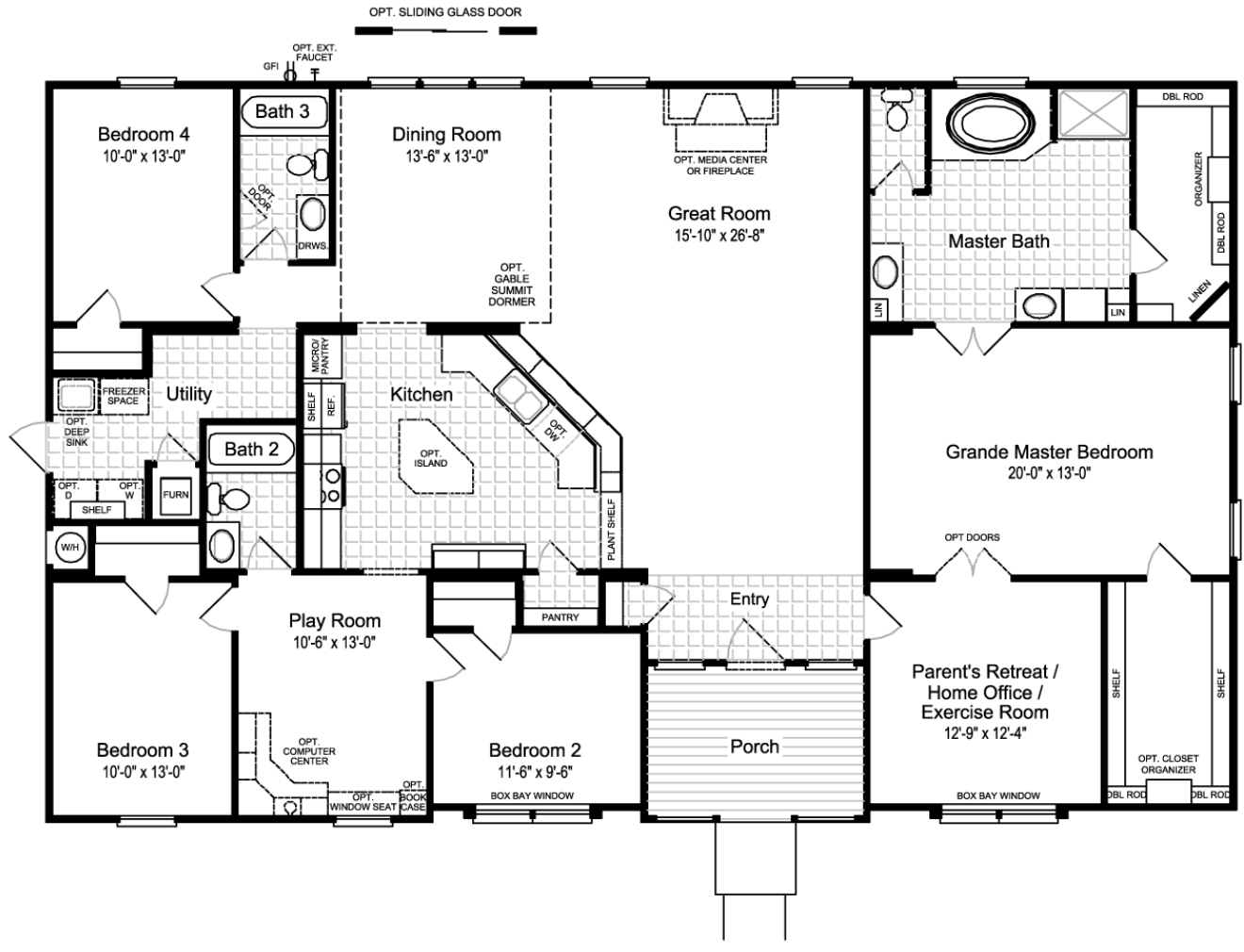


CMGT 235 Electrical and Mechanical Systems
 Exam #2 – Plumbing Systems - 20 points each question

Use 2016 California Plumbing Code. Show all work for full credit

Name: _____

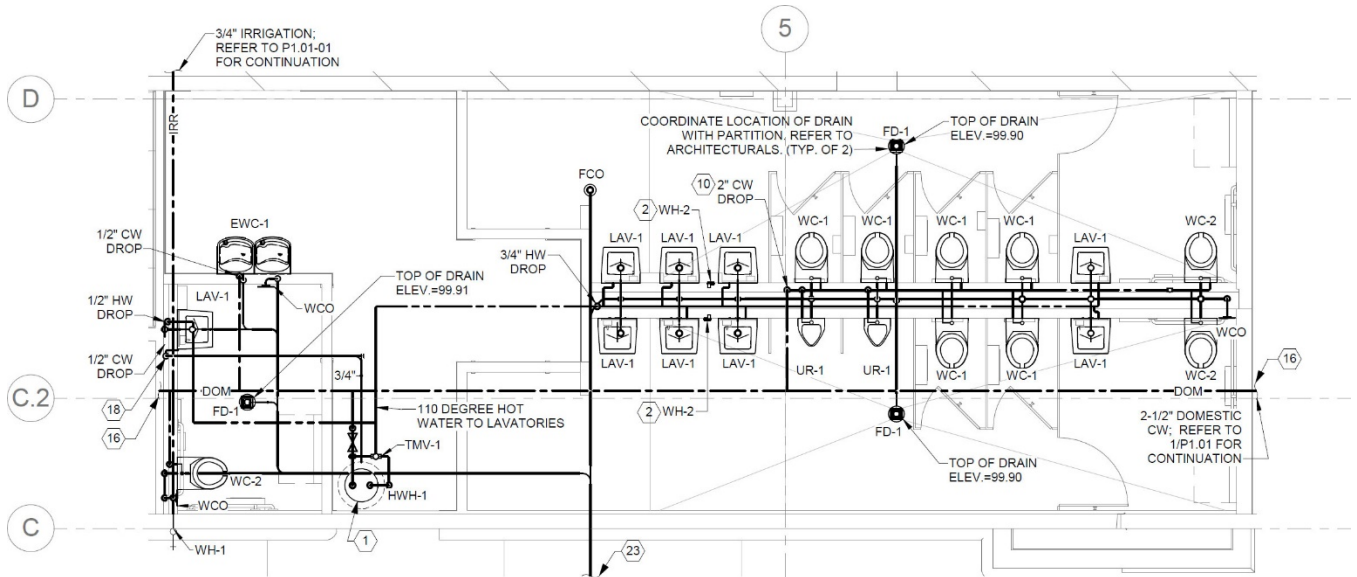
1. Determine the Meter and Street Service size and the Building Supply and Branches Pipe size for the Dwelling shown. MDSSPA = 80 psi. The highest water outlet in the building is 9 feet above the source of supply. Pressure loss due to the meter is 5 psi. The maximum developed length of the piping between the source of supply and the furthest fixture is 92 feet. Each side of the house has a ½" hose bibb.
- 2.



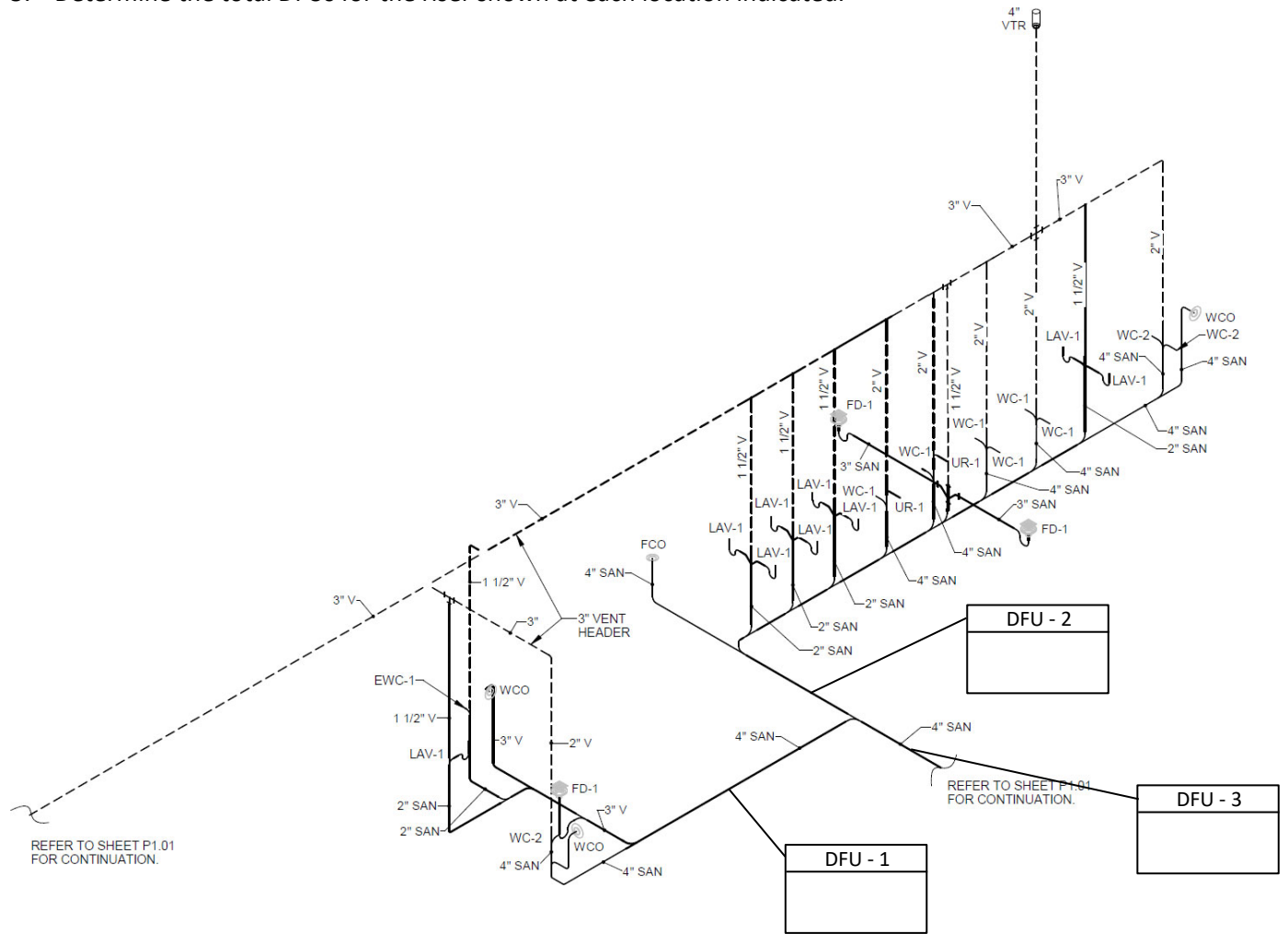
3. A busy airport has installed WaterSense toilets in all of the restrooms and 0.35 GPM aerators on the Lav faucets. If during a 24-hour period 3500 people use the toilet and wash their hands, how many gallons of water will be used? What is the percentage improvement from baseline fixtures?

4. A five-story office building has the restroom fixtures shown below on each floor. There is also one kitchen sink and a dishwasher in the staff room and a service sink in a janitor's closet on each floor. In July, the cooling tower requires 3 gpm for makeup water and the irrigation system requires 8 gpm. What flow rate should the service be designed to handle (in gpm)?

- WC-1 Wall hung, Flushometer Valve Water Closet
- WC-2 Wall hung, Flushometer Valve Water Closet
- UR-1 Flushometer Valve Urinal
- LAV-1 Lavatory
- EWC-1 Split Level Water Cooler



5. Determine the total DFUs for the riser shown at each location indicated.



6. For the residential site shown use the Rational Method to determine the peak runoff rate (gpm) and volume (gallons) for the drainage area given. The rainfall intensity is 4.2 in/hr.

