

## CMGT 235 – Electrical and Mechanical Systems

Department of Construction Management ☻ California State University, Chico

### Homework #9 – LEED BD+C Indoor Water Use Reduction

Points: 20

Due: 9/22/2022

Name: Solution

1. For A LEED v4 Building Design and Construction prerequisite and credit, Indoor Water Use Reduction, complete the following table:

Points Earned (BD+C)	% Reduction from Baseline
Prerequisite (Req)	20%
1	25%
2	30%
3	35%
4	40%
5	45%
6	50%

2. List the Flush and Flow Fixtures that must be included in the Prerequisite and Credit for a LEED v4 Commercial Office project:

1. Water Closet (Toilet)
2. Urinal
3. Public LAV Faucet
4. Kitchen Faucet
5. Showerhead

3. A LEED Commercial Office project has 54 Fulltime Employees and 32 Halftime Employers. Calculate the total Baseline water usage for the flush fixtures using the table shown below. Show calculation for FTE. Use default value for gender ratio. Round to whole numbers (No decimal answers).

$$\text{FTE} = 54 + 32/2 = 54 + 16 = 70$$

Flush Fixture	Flushrate (gpf)	Duration (flush)	Users (FTE)	Uses per person per day	Water Consumption (gal)
Water closet (male)	1.6	1	35	1	56
Water closet (female)	1.6	1	35	3	168
Urinal (male)	1.0	1	35	2	70
Total Daily Water Consumption for Flush Fixtures (GAL)					294
Annual Work Days					275
Total Annual Water Consumption for Flush Fixtures (GAL)					80,850