



# LEED 2009 for New Construction and Major Renovations

## WE PREREQUISITE 1: WATER USE REDUCTION

### 20% REDUCTION

Project #

All fields and uploads are required unless otherwise noted.

## THRESHOLD ATTEMPTED

Points Attempted: 0

## ALL OPTIONS

The Table. Daily Occupancy below is a linked submittal from PI Form 3: Occupant and Usage Data to be used for reference only. PI Form 3 must be completed before values will display in WE Prerequisite 1. These values should inform, but not necessarily parallel, the numbers entered in the Table. Fixture Groups Definition.

**Table WEp1-1. Daily Occupancy**

FTE	Average Transients (Student/ Visitor)	Average Retail Customers	Residents	Total
10	60	0	106	176

### Fixture Groups Introduction:

This table allows for project occupants to be organized in a way that best represents fixture usage patterns in the project. Occupants can be grouped together or separated into sub-groups at the option of the project team. The usage groups defined must be derived from daily occupancy data for the project building. Accordingly, all project occupants, as recorded in the Daily Occupancy tables from PI Form 3: Occupant and Usage Data must be represented in the Table. Fixture Groups Definition below. All residential occupants should be represented separately from non-residential occupants. Refer to the additional guidance document in the Credit Resources section.

**Table WEp1-2. Fixture Groups Definition**

Group Name	Annual Days of Operation	FTE	Transients (Student / Visitor)	Retail Customers	Residents	% Female	% Male
Resident	365	0	0	0	106	50	50
FTE	365	10	60	0	0	50	50

Add Row

Delete Row

Briefly describe the inputs in the Table. Fixture Groups Definition. Explain the methodology used to define each fixture group, as well as the derivation of data in each row. Additionally, provide a detailed explanation if the default gender ratio is not used.

There are 10 staff at the facility each day to monitor the property and it's 106 residents. It is expected that 60 people a day will visit the facility, to visit relatives, make deliveries or provide services to the residents.

**Table WEp1-3. Flush Fixture Data**

Enter flush fixture data for each fixture group defined in the Table. Fixture Groups Definition.

*Note: Click "Calculate" placed next to the Add and Delete to perform the calculations in the table. "Calculate" must be run after any or all the data is entered in the table to obtain the values in the summary section, the Baseline Flush Rate, IPC/UPC Baseline and the Performance Case. "Calculate" needs to be run to perform Water Savings Calculation and document Credit compliance.*

Fixture Groups						Flush Rate (GPF)		Annual Water Consumption (kGal)	
Select	Display	Fixture ID <sup>1</sup>	Fixture Family	Fixture Type	Total Daily Uses <sup>2</sup>	Base-line	In-stalled <sup>3</sup>	IPC/UPC Baseline	Performance Case
Resident	Resident	WC-1,2	Water Closet	HET, Pressure Assist	530	1.6	1	309.52	193.45
FTE	FTE	WC-3,4	Water Closet	HET, Dual Flush	38	1.6	1.3	22.19	18.03
FTE	FTE	U-1	Urinal	IPC/UPC (Conventional)	22	1	0.125	8.03	1
Total calculated flush fixture water use annual volume, baseline case (kGal)					339.74				
Total calculated flush fixture water use annual volume, performance case (kGal)					212.48				
Percent reduction of water use in flush fixtures (%)					37				

Add Row

Delete Row

Calculate

<sup>1</sup> Define a reference name or descriptor that can be used to identify each fixture family/type.

<sup>2</sup> May be modified for special circumstances. Provide a narrative and upload daily use calculations to justify modifications. Refer to the additional guidance document in the Credit Resources section.

<sup>3</sup> To account for dual-flush fixtures, enter a weighted average flush rate.

Save Form

## Table WEp1-4.. Flow Fixture Data

Enter flow fixture data for each fixture group defined in the Table. Fixture Groups Definition.

*Note: Click "Calculate" placed next to the Add and Delete to perform the calculations in the table. "Calculate" must be run after any or all the data is entered in the table to obtain the values in the summary section, the Baseline Flush Rate, IPC/UPC Baseline and the Performance Case. "Calculate" needs to be run to perform Water Savings Calculation and document Credit compliance.*

Fixture Groups							Flow Rate (GPM / GPC)		Annual Water Consumption (kGal)	
Select	Display	Fixture ID <sup>1</sup>	Fixture Family	Fixture Type	Total Daily Uses <sup>2</sup>	Duration (Secs) <sup>2</sup>	Base- line	In- stalled <sup>3</sup>	IPC/ UPC Base- line	Perfor- mance Case
Resident	Resident	SH-1,2, B	Residential Shower	Low-Flow	106	480	2.5	1.6	773.8	495.23
Resident	Resident	L-1	Residential Lavatory		530	60	2.2	0.5	425.59	96.73
Resident	Resident	S-1&2	Residential Kitchen	Other	424	60	2.2	1.5	340.47	232.14
FTE	FTE	L-2	Public Lavatory Fau	Metering	60		0.25	0.08	0	0
FTE	FTE	BT-1	Shower	IPC/UPC (Convention	1	300	2.5	1.75	4.56	3.19
Total calculated flow fixture water use annual volume, baseline case (kGal)					1544.42					
Total calculated flow fixture water use annual volume, performance case (kGal)					827.29					
Percent reduction of water use in flow fixtures (%)					46					

<sup>1</sup> Define a reference name or descriptor that can be used to identify each fixture family/type.

<sup>2</sup> May be modified for special circumstances. Also, a reasonable estimate MUST be provided for pre-rinse spray valves when selected in the table above. In either case, provide a narrative and upload calculations to justify modifications. Refer to the additional guidance document in the Credit Resources section.

<sup>3</sup> When using the metering lavatory faucet, please convert all flow rates in gallons per minute (GPM) to gallons per cycle (GPC) based on duration from the product specifications. Provide a narrative or calculations to support the installed flow rate. The "Duration" is not applicable and therefore should not be modified.

**Upload WEp1-1.** Provide the plumbing fixture and fitting schedule for the project highlighting flush and flow rates for all applicable plumbing fixtures and fittings within the project building.

Files: 3

## Table WEp1-5. Flush & Flow Fixtures Summary Statistics

Total calculated fixture water use annual volume, baseline case (kGal)	1884.16
Total calculated fixture water use annual volume, performance case (kGal)	1039.77
Percent reduction of water use in all fixtures (%)	45

A 20% reduction of water use in fixtures is required to document compliance with WE Prerequisite 1.

## ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.
- ☒ The project team is using an alternative compliance approach in lieu of standard submittal paths.

### ALTERNATIVE COMPLIANCE PATH

Describe the alternative compliance path used by the project team. Include justification that this path meets the credit intent and requirements. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

See uploaded Greywater system plans and calculations with narrative.

**Upload WEp1-ACP.** Provide any additional documents that support the alternative compliance path approach. (Optional)

Upload

Files: 1

## SUMMARY

WE Prerequisite 1: Water Use Reduction - 20% Reduction  
Compliance Documented:

Y