



# LEED 2009 for Existing Buildings: Operations & Maintenance

## WE PREREQUISITE 1: MINIMUM INDOOR PLUMBING FIXTURE AND FITTING EFFICIENCY

All fields and uploads are required unless otherwise noted.

### ALL OPTIONS

This static sample form has been modified for offline access. All sections of the form are visible. Sample forms are for reference only.

**Upload WEp1-1.** Provide a copy of the policy mandating an economic assessment of conversion to high-performance plumbing fixtures and fittings as part of any future indoor plumbing renovation.

Select one of the following:

- ☐ **LEED Design & Construction Streamlined Path:** The project building earned a prerequisite or at least one point for water use reduction under LEED for New Construction, LEED for Core and Shell, or LEED for Schools.
- ☐ Initial new construction of the building was completed on or after January 1, 1993.
- ☐ All relevant fixtures and fittings installed or replaced after January 1, 1993.
- ☐ **Performance Calculation:** A water use performance calculation will be completed to demonstrate compliance.



**Note:** To earn WE Credit 2, complete either the LEED Design & Construction Streamlined Path option OR the Performance Calculation option. The other streamlined paths are not applicable to WE Credit 2.

### LEED DESIGN & CONSTRUCTION STREAMLINED PATH

Percentage of water use reduction, demonstrated towards a LEED prerequisite or credit, from a calculated baseline case:

 %

Select one of the following:

- ☐ The design and construction elements that contributed to the previously-earned prerequisite or credit have not been altered, replaced, or removed.
- ☐ The design and construction elements that contributed to the previously-earned prerequisite or credit have been altered, replaced, or removed. These changes do not affect the ability of the project to meet the LEED-EB: O&M requirements of this prerequisite or credit.

## NEW CONSTRUCTION COMPLETED ON OR AFTER JANUARY 1, 1993

- ☐ Initial new construction of the project building was completed on or after January 1, 1993; the project building contains only fixtures and fittings that met the prevailing plumbing fixture efficiency standards codified at that time.

## FIXTURES AND FITTINGS INSTALLED OR REPLACED AFTER JANUARY 1, 1993

- ☐ All relevant fixtures and fittings in the project building have been replaced since January 1, 1993; the project building contains only fixtures and fittings that met the prevailing plumbing fixture efficiency standards codified at that time.

**Upload WEp1-2.** Provide construction permits, substantial completion notices, contract excerpts, plumbing inspection or commissioning reports, or similar formal authentication of the date and scope of the comprehensive fixture and fitting upgrades.

## PERFORMANCE CALCULATION

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

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	# of Fixtures Replaced before Jan-93	# of Fixtures Replaced after Jan-93	Annual Days of Operation	FTE	Transients (Student/ Visitor)	Retail Customers	Residents	% Female	% Male

Total fixtures		
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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.

**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 Baseine 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
Total calculated flush fixture water use annual volume, baseline case (kGal)									
Total calculated flush fixture water use annual volume, performance case (kGal)									
Percent reduction of water use in flush fixtures (%)									

<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.

Select one of the following:

- ☐ Manufacturer or supplier data was available to verify flow rates for each flush fixture type that differs from UPC/IPC efficiency requirements.
- ☐ Manufacturer or supplier data was not available for each flush fixture type that differs from UPC/IPC efficiency requirements, so measured flush rates for at least 20% (by number of fixtures) of each type were used.

**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	Performance Case
Total calculated flow fixture water use annual volume, baseline case (kGal)										
Total calculated flow fixture water use annual volume, performance case (kGal)										
Percent reduction of water use in flow fixtures (%)										

<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> For public metering/autocontrol lavatory faucets, convert all flow rates in gallons per minute (GPM) to gallons per cycle (GPC) using a default 12 second duration of flow. Provide a narrative or calculations to support the installed flow rate. The "Duration" is not applicable and therefore should not be modified.

Select one of the following:

- ☐ Manufacturer or supplier data was available to verify flow rates for each flow fixture type that differs from UPC/IPC efficiency requirements.
- ☐ Manufacturer or supplier data was not available for each flow fixture type that differs from UPC/IPC efficiency requirements, so measured flow rates for at least 20% (by number of fixtures) of each type were used.

**Table WEp1-5. Flush & Flow Summary Statistics**

IPC/UPC baseline annual water use (kGal)	
Number of fixtures substantially completed before 1993	
Number of fixtures substantially completed in 1993 or later	
LEED-EB: O&M baseline multiplier (%)	
LEED-EB: O&M annual water use, baseline case (kGal)	
Calculated annual water use, performance case (kGal)	
Percent water use reduction in all fixtures (%)	

*The total calculated performance case must less than or equal to the LEED-EB: O&M baseline case to document compliance with WE Prerequisite 1.*

## ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.

### SPECIAL CIRCUMSTANCES

Describe the circumstances limiting the project team's ability to provide the submittals required in this form. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

**Upload WEp1-SC.** Provide any additional documentation that supports the claim to special circumstances. (Optional)

- ☐ 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.

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

SUMMARY

WE Prerequisite 1: Minimum Indoor Plumbing Fixture and Fitting Efficiency  
Compliance Documented: