WE PREREQUISITE 1: MINIMUM INDOOR PLUMBING FIXTURE AND FITTING EFFICIENCY

Project # 1000002893 Crawford House Office Building

All fields and uploads are required unless otherwise noted.

THRESHOLD ATTEMPTED

Points Attempted: 0

ALL OPTIONS

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.

Upload *Files: 1*

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.*

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
3	5	0	0	8

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
First Floor	0	3	335	2	5	0	0	100	0
Second Floor	0	2	335	1	0	0	0	100	0
Total fixtures	0	5							

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.

Fixture Groups Definition:
For fixture group First Floor, two FTE have offices on this floor. In addition, the breakroom and the restroom used by the visitors to the building are all located on this floor. For fixture group Second Floor, one FTEs have offices on this floor and one restroom is located on this floor. It is only used by employees, not visitors. There are no urinals located in the restrooms, so %Female was changed to 100% per document #6493, USGBC resources.

Toilets: In 2009, both restroom toilets were fitted with an EcoFlush dual-flush retro-fit kit purchased from www.ecoflushtoilet.com. This allows a full flush at 1.6 gpf or half flush at 0.8 gpf.

Bath Sinks: In 2010, both bathroom sinks and breakroom sink were fitted with 0.5 gpm sink aerators.

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[1]	Fixture Family	Fixture Type	Total Daily Uses [2]	Base-line	In-stalled [3]	IPC/UPC Baseline	Perfor-mance Case
First Floor	First Floor	Dual Flush To	Water Closet	HET, Dual Flush	8.5	1.6	1.07	4.56	3.05
Second Floo	Second Floor	Dual Flush	Water Closet	HET, Dual Flush	3	1.6	1.07	1.61	1.08

Total calculated flush fixture water use annual volume, baseline case (kGal)	6.17
Total calculated flush fixture water use annual volume, performance case (kGal)	4.13
Percent reduction of water use in flush fixtures (%)	33.06

Add Row | Delete Row | Calculate

[1] *Define a reference name or descriptor that can be used to identify each fixture family/type.*

[2] *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.*

[3] *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.

Upload WEp1-3. Provide manufacturer or supplier data verifying flow rates for each flush fixture type that differs from UPC/IPC efficiency requirements.

Upload *Files: 3*

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 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							Flow Rate (GPM / GPC)		Annual Water Consumption (kGal)	
Select	Display	Fixture ID[1]	Fixture Family	Fixture Type	Total Daily Uses[2]	Dura-tion (Secs)[2]	Base-line	In-stalled[3]	IPC/ UPC Base-line	Perfor-mance Case
First Floor	First Floor	Sink1	Public Lavatory Fau	IPC/UPC (Convention	8.5	30	0.5	0.5	0.71	0.71
First Floor	First Floor	KitSink1	Kitchen Sink	Low-Flow	2	15	2.2	0.5	0.37	0.08
Second F	Second Floor	Sink2	Public Lavatory Fau	IPC/UPC (Convention	3	15	0.5	0.5	0.13	0.13
Total calculated flow fixture water use annual volume, baseline case (kGal)						1.21				
Total calculated flow fixture water use annual volume, performance case (kGal)						0.92				
Percent reduction of water use in flow fixtures (%)						23.97				

Add Row | Delete Row | Calculate

[1] *Define a reference name or descriptor that can be used to identify each fixture family/type.*

[2] *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.*

[3] *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.*

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.

Upload WEp1-4. Provide manufacturer or supplier data verifying flow rates for each flow fixture type that differs from UPC/IPC efficiency requirements.

Upload *Files: 2*

Table WEp1-5. Flush & Flow Summary Statistics

IPC/UPC baseline annual water use (kGal)	7.38
Number of fixtures substantially completed before 1993	0
Number of fixtures substantially completed in 1993 or later	5
LEED-EB: O&M baseline multiplier (%)	120
LEED-EB: O&M annual water use, baseline case (kGal)	8.86
Calculated annual water use, performance case (kGal)	5.05
Percent water use reduction in all fixtures (%)	43

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.

☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

SUMMARY

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

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