



## LEED® for New Construction (NCv2.2) Rating System Guide for MCAA Contractors

### Water Efficiency Credit 2

#### MCAA Contractor Involvement - HIGH

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#### One Point - Innovative Wastewater Technologies

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##### Intent

Reduce generation of wastewater and potable water demand, while increasing the local aquifer recharge.

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##### Requirements

###### OPTION 1

Reduce potable water use for building sewage conveyance by 50% through the use of water conserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled greywater, and on-site or municipally treated wastewater).

###### OR OPTION 2

Treat 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.

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##### Potential Technologies & Strategies

Specify high-efficiency fixtures and dry fixtures such as composting toilet systems and non-water using urinals to reduce wastewater volumes. Consider reusing stormwater or greywater for sewage conveyance or on-site wastewater treatment systems (mechanical and/or natural). Options for on-site wastewater treatment include packaged biological nutrient removal systems, constructed wetlands, and high-efficiency filtration systems.

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##### How MCAA Contractors Can Impact This Credit

The entirety of this LEED point impacts work performed by MCAA contractors, especially in plumbing and wastewater treatment. While LEED WE credit 3.1 and 3.2 concentrate on water consumption and demand, LEED WE credit 2 focuses on the wastewater aspect of water use and the amount of potable water used to return or convey sewage to be cleaned at municipal treatment facilities.

Although this credit can appear to be easily achievable through fixture specification, it is rarely approached beyond platinum or gold rated projects. This is because the fixtures that would have to be specified are low flow and composting toilets or low flow and waterless urinals. Approaching this credit does have benefits though, making it more approachable. Manufacturers are developing urinals with minimal flushes of 1/8 gallon, making them more attractive to both occupants and building maintenance. More dual flush and pressure assisted flush toilets are becoming available at prices within acceptable margins.



**Option 1 - Reduce potable water use for building sewage conveyance by 50% through the use of water conserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled greywater, and on-site or municipally treated wastewater).**

The most common way to achieve this LEED point through this option is to specify high efficiency fixtures. The amount of additional building cost is minimal and the synergies that can be used towards LEED credit 3.1 and 3.2 are beneficial. Typically, fixtures alone are not enough to get most projects over the 50% mark. In these cases rainwater capturing systems or the use of treated greywater systems can be used to further reduce potable water consumption. Of the two, the rainwater capturing systems will be the cheaper option as it will require less dual piping and treatment.

- [For more information on rainwater capturing systems, click here.](#)
- [For more information on greywater systems, click here.](#)
- [Sample WEc2 LEED Online template calculator.](#)

**Option 2 - Treat 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.**

To approach option two's goals, wastewater will need to be treated on-site. This can be done either through the use of packaged mechanical systems or through constructed wetlands. The building of constructed wetlands does not fall within the scope of most plumbing and mechanical contractors, but the installation of a packaged biological wastewater system does. Unfortunately, the cost of these packaged mechanical systems is relatively high to the overall building cost and will not be practical unless the size and scope of the building is large enough to offset some of these high initial costs.

For more information on packaged wastewater treatment systems, visit the [EPA's online manual](#).

For a series of examples on constructed wetlands, the [EPA provides a website](#) with 17 sample case studies.

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### Synergies Available

- SS credits 6.1 & 6.2 - Stormwater Design
- WE credits 1.1 & 1.2 - Water Efficient Landscape
- WE credits 3.1 & 3.2 - Water Use Reduction

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### Primary Responsible Parties

The primary responsible party for this credit is the plumbing engineer.