SHOWCASE PROJECT: U.S. GENERAL SERVICES ADMINISTRATION: PAGE FEDERAL COMPLEX (PREVEDEL BUILDING)

SOLUTION OVERVIEW
Starting in 2007, Region 6 of the General Services Administration (GSA) undertook a series of minor remodels designed to improve the water efficiency and overall sustainability of one of their largest Midwest campuses. The Page Federal Complex contains over 1.8 million square feet of office buildings, headlined by the Charles F. Prevedel Building, the headquarters for this campus. While the size and funding capacity limited the extent by which these retrofits could happen at once, the GSA team responsible for upgrading these buildings opted instead for a slow and steady approach, implementing a series of water conservation features over the course of a decade.

LOCATION
St. Louis, Missouri

SOLUTIONS
The first and most essential focus for water efficiency in these buildings was to focus on equipment/fixtures that used water. Restrooms, and other domestic uses of water, are the leading end use of water in office buildings, but also offer the most direct opportunities for savings. GSA prioritized this by requiring that all remodels which affected the plumbing fixtures in the building were required to replace those fixtures with EPA WaterSense compliant low-flow toilets/sinks. By installing low-flow fixtures, along with automatic sensors to avoid unnecessary consumer overuse, the GSA was able to significantly cut into their overall water usage with relatively low cost and effort by coordinating with other remodeling efforts.

Along with equipment upgrades, GSA looked to implement some form of water capture/reuse on this campus to push beyond the low-hanging fruit of water efficiency. The GSA team transformed the parking space for the Page Federal Complex into a semi-permeable material and paired it with an onsite stormwater retention system. This helps to increase the resiliency of this complex to flooding while also increasing the water catchment capacity to further reduce the need for the complex to use water from the local utility. The sustainability team also recognized the potential for decreasing water usage needs from the local landscaping and slowly implemented more smart irrigation equipment and practices, along with a water efficient xeriscaping.

Energy and Cost Savings Estimates:

For more information, visit https://betterbuildingssolutioncenter.energy.gov
OTHER BENEFITS

One of the most important aspects of this remodeling was its comprehensive and synergistic approach. By focusing on improving the performance of these buildings holistically, the GSA team sought to improve efficiency in water and energy and looked for ways to combine their practices for the lowest cost and effort solutions with the greatest benefits. This took the form of coupling remodels with high efficiency lighting and plumbing fixtures, upgrading metering capabilities or pairing LED retrofits to parking/entry areas with replacing impervious surfaces.

It’s also worth noting that the Page campus had begun experiencing reduced tenant use prior to the retrofitting process, due to both market conditions and the federal goal of using less space, and therefore less resources. Nevertheless, the GSA believes that even semi-utilized buildings shouldn’t be overlooked for their water and energy conservation potential. Ultimately, the buildings’ successful overhaul demonstrates the value of good sustainability management practices even for supposedly end-of-lifecycle buildings. Despite reduced capacity, the water use intensity of the Page campus is less than that of the average completely uninhabited warehouse, according to the U.S. Energy Information Administration’s Commercial Buildings Energy Consumption Survey (CBECS).

\[ https://www.eia.gov/consumption/commercial/reports/2012/water/ \]

\[ https://betterbuildingssolutioncenter.energy.gov/showcase-projects/us-general-services-administration-page-federal-complex-prevedel-building \]

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### Annual Energy Use

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<td>Annual Energy Use</td>
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#### Energy Savings
74%

### Annual Energy Cost

#### Cost Savings