

BASE + An Approachable Toolkit for DADU Design

BASE + is a Detached Accessory Dwelling Unit (DADU) concept that provides clients with a unique and innovative method to design and build their own accessory dwelling unit. No two projects are exactly the same, BASE + offers a tailored approach to designing a DADU that creates an affordable and unique housing option. This is achieved by deconstructing the house into its individual base program elements: bedroom, bathroom, kitchen, living area, utility and outdoors. The client can then scale up any of the elements to better fit their site and vision for their DADU. BASIC + provides the toolkit to add program elements where desired, while still offering an affordable solution that can be altered to fit any communities' housing needs.

The BASE + model provides an initial base iteration that is viable for homeowners while also giving them areas to expand as they need, depending on their priorities. The BASE + iteration shown in this submission is the BASE + DINING. This proposal provides an 820 SF one bed, one bath home with an additional flex space lofted above that serves as an extra room for a second bed, storage, or an office. This design option showcases all the BASE + primary program elements with the addition of an enlarged dining area. This iteration locates all the essential programming on the ground floor to reduce the need for vertical circulation. By using universal design principles and incorporating accessibility clearances into the primary design elements, each BASE + configuration is adaptable and can adjust over time as residents age in place and physical capabilities change. Versatility and longevity are further expressed in the construction of the DADU which implements passive design strategies that take advantage of building orientation, natural ventilation, and an airtight building envelope. All of these sustainable design strategies lead to a more efficient and durable building that lowers both utility costs and long-term building costs. Where traditional homes tend to deteriorate and degrade, BASE + resists typical deterioration with its passive design and high-performance construction methods. During its lifetime, BASE + can provide a resilient and comfortable home while reducing maintenance costs for its user.

These sustainable and passive design strategies work with any configuration or iteration of BASE +. This is done by always orientating the building to maximize southern exposure. Glazing is located on the southern face of the DADU to help heat the building in the winter, while also incorporating shading to reduce heat in the summer. Two operable skylights are located on the roof to pull unwanted heat up and out of the building to cool the building during summer. By constructing the DADU to achieve an airtight envelope with a high insulative value, the building maintains a comfortable and energy efficient environment year-round. By reducing heating and cooling costs and minimizing moisture infiltration due to the airtight building envelope, BASE + creates a cost effective and efficient home for both renters and owners.

To reach even further and to build an even more sustainable home, BASE + was designed to be built using only locally produced and manufactured building materials from within a 50-mile radius of Bellingham, WA. This was done not only to reduce embodied carbon transportation costs, but to also forge connections between community members and Whatcom County's design and construction professionals.

This design is not meant to be the final product for each DADU owner, but one with many options for customization and expansion as needed. As DADUs become more accessible for home owners and become a larger part of the middle housing building stock, it is important that their designs are diverse and unique, yet simple and approachable at the same time. This proposal also acknowledges that the middle housing deficit cannot be remedied with DADUs alone. Instead, this proposal aims to aid the discourse around alternative dwelling structures by providing an accessible and transparent approach to building. BASE + empowers future DADU owners by providing them with a "plug and play" model that they can modify to match their lifestyle needs.