

# UNIVERSAL KITCHEN DESIGN

By Chau Phan  
Sponsor Dr. Mitzi Perritt

**References**  
Center for Universal Design. (2006). Retrieved from [http://www.ncsu.edu/ncsu/design/cud/pubs\\_p/docs/poster.pdf](http://www.ncsu.edu/ncsu/design/cud/pubs_p/docs/poster.pdf)  
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## General Information

The kitchen is the major work area of the home. It provides a place for planning meals, preparing food, and family dining. Depending upon the requirements of the household, a kitchen may need to accommodate people of varied abilities.

## Theory

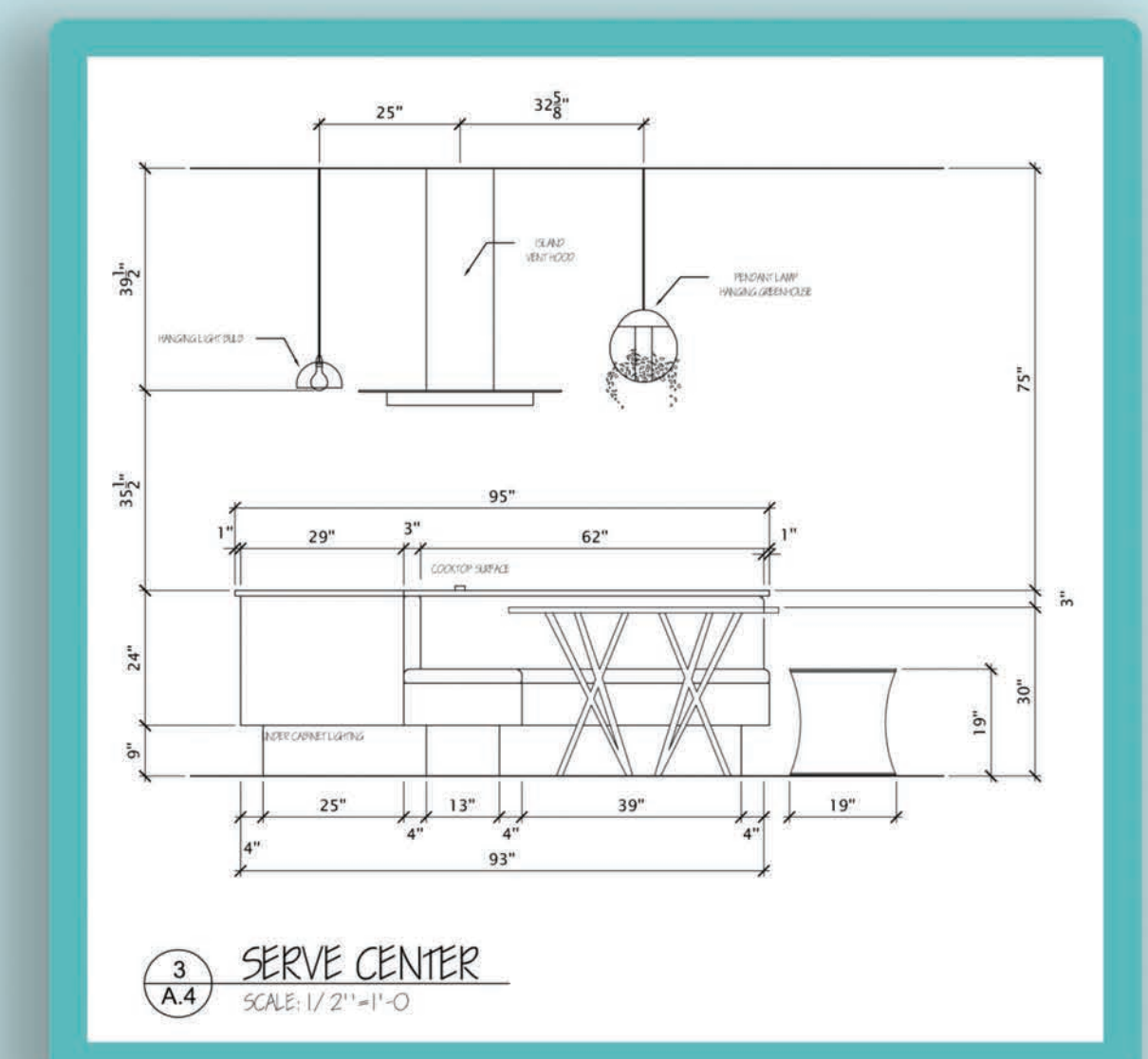
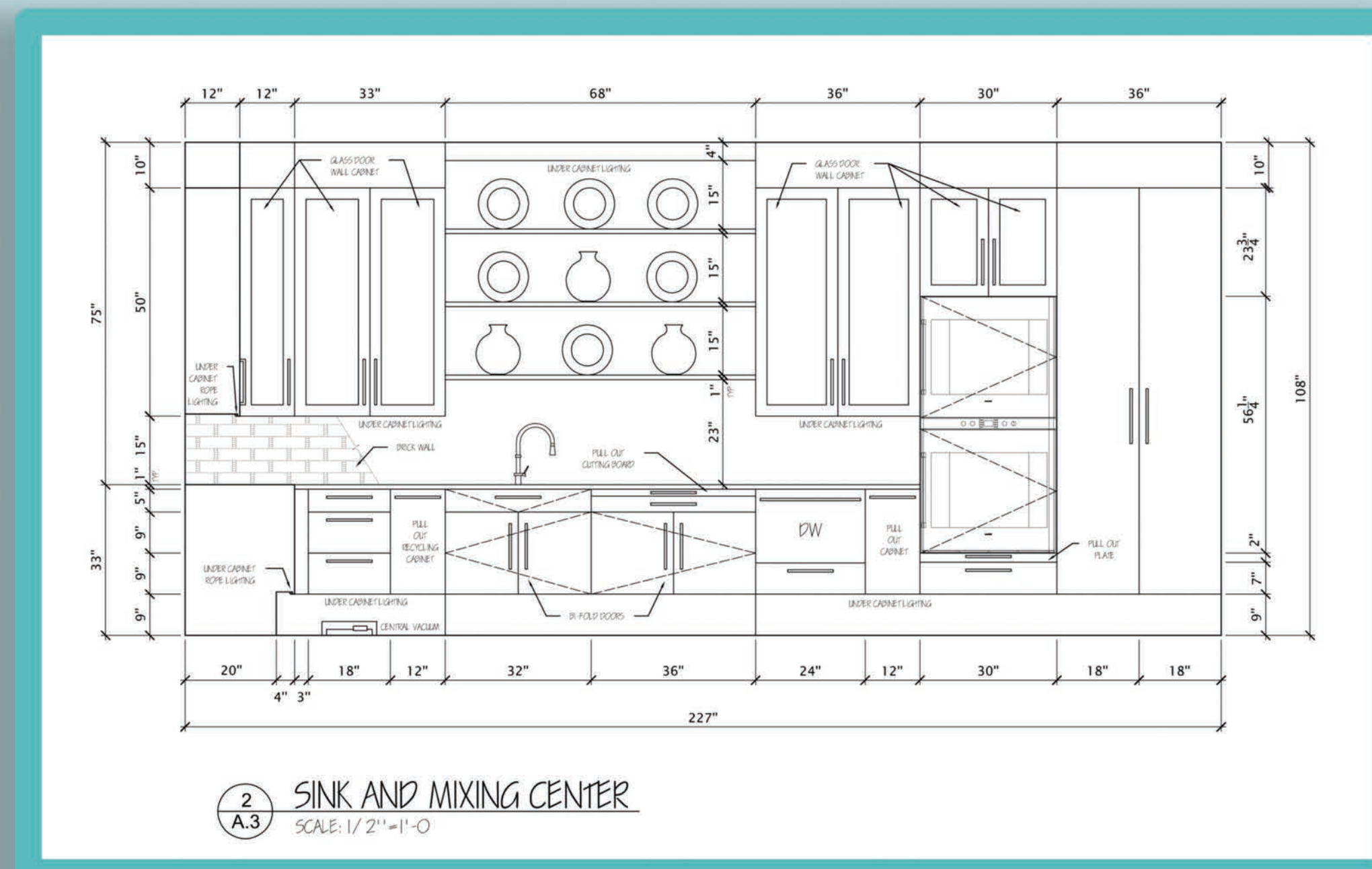
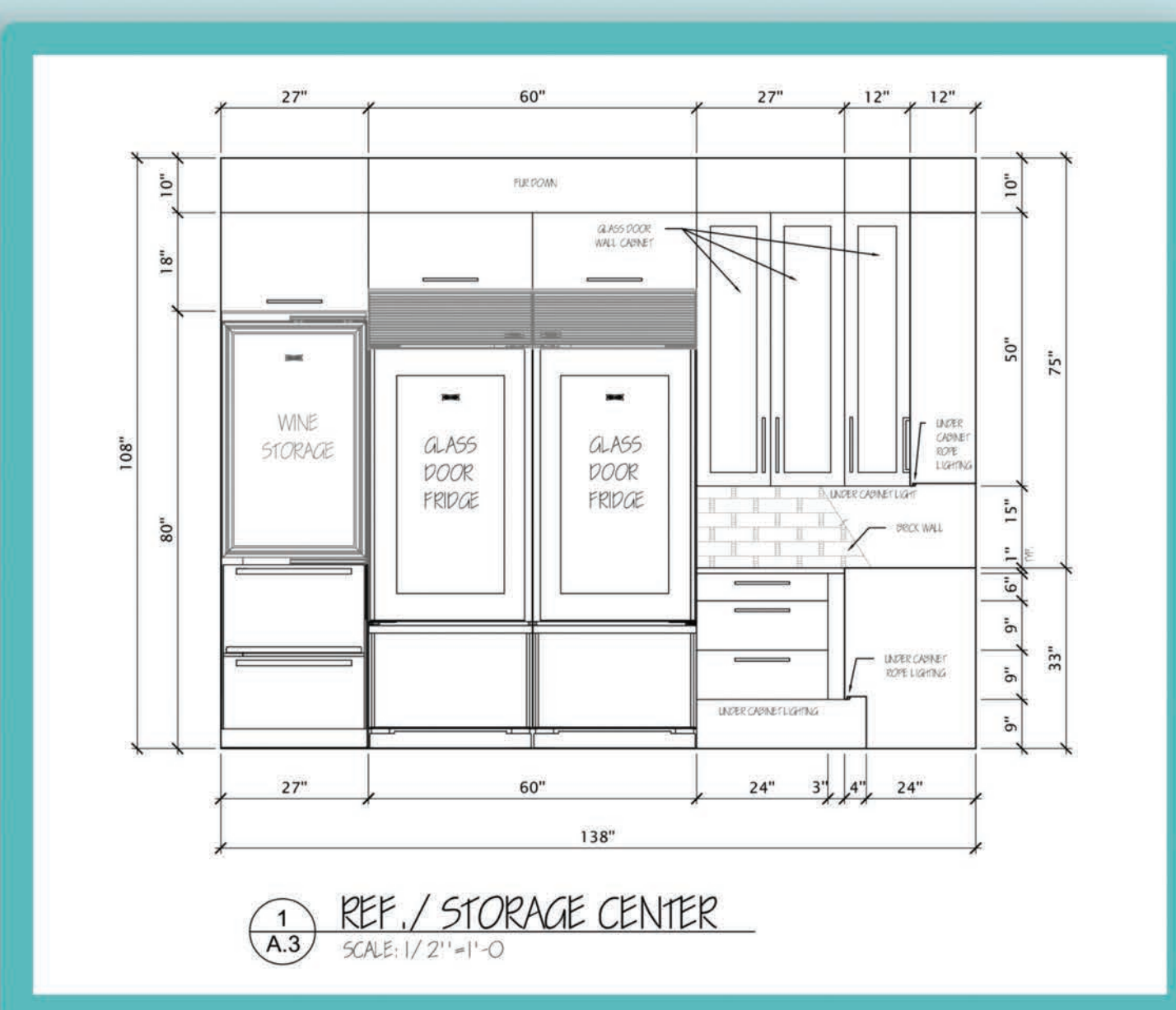
Meeting the demand for diverse use is termed “universal design” (UD). UD provides user-friendly features to meet age-related needs, to provide access for people of various body statures, and to assist people with physical/mental disabilities. Seven principles guide UD design development: equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, and size/space for approach and use (Center for Universal Design, 2006).

## Methodology

The student was challenged to design a custom kitchen for a conceptual residential client. Basic kitchen design guidelines (Nissen, Faulkner, & Faulkner, 1994) as well as additional Universal Design criteria were explored. The student researched appropriate workflow, clearances, appliances, cabinetry, and finishes compliant with quality construction and UD principles.

## Results

The residential kitchen design solution satisfied each of the seven UD principles.



**Equitable use.** Design is useful and marketable to people with diverse abilities.

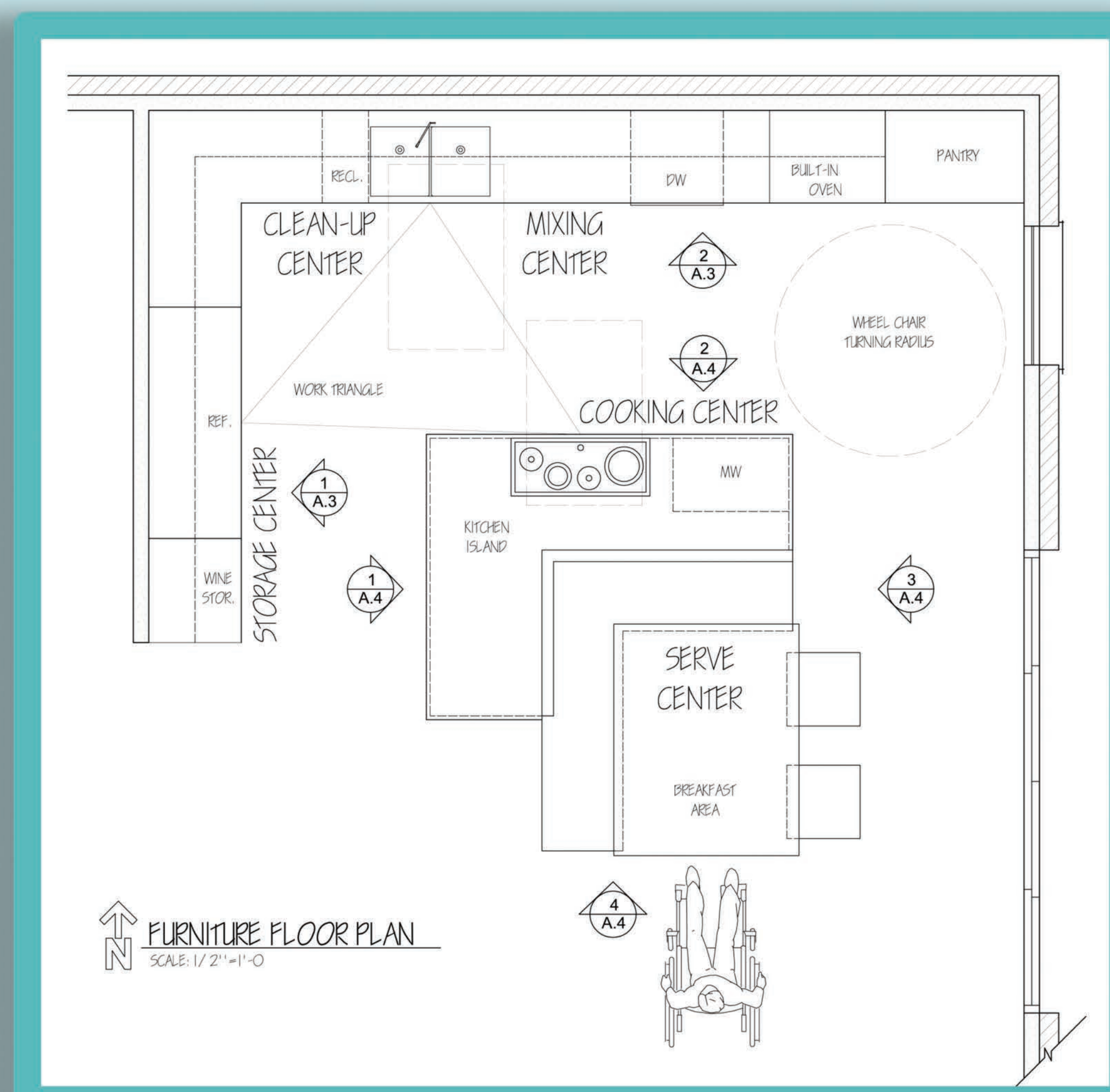
- Wall-hung cabinets for standing user easily lowered for future needs of seated user.
- Lowered mixing center height of 33" accommodates all users.

**Flexibility in use.** Design accommodates a wide range of individual abilities.

- L-shaped layout with central island provides continuous work surface, prevents household traffic from disrupting the work triangle, and provides ample storage.
- Folding base cabinet doors conceal future kneehole below sink.

**Simple and intuitive.** Use of design is easy to understand, regardless of user's experience, knowledge, language skills, or current concentration level.

- Open shelves for easy access to storage.
- Glass-door cabinets for visual identification of contents.



**Perceptible information.** Design communicates necessary information effectively.

to the user, regardless of ambient conditions or user's sensory abilities.

- Induction stove provides red light indicator when cooktop is hot.
- Faucet with blue/red light indicates cold or hot water.

**Tolerance for error.** Design minimizes hazards and adverse consequences of accidental or unintended actions.

- Anti-scald device on hot water.
- Anti-slip floor finishes.

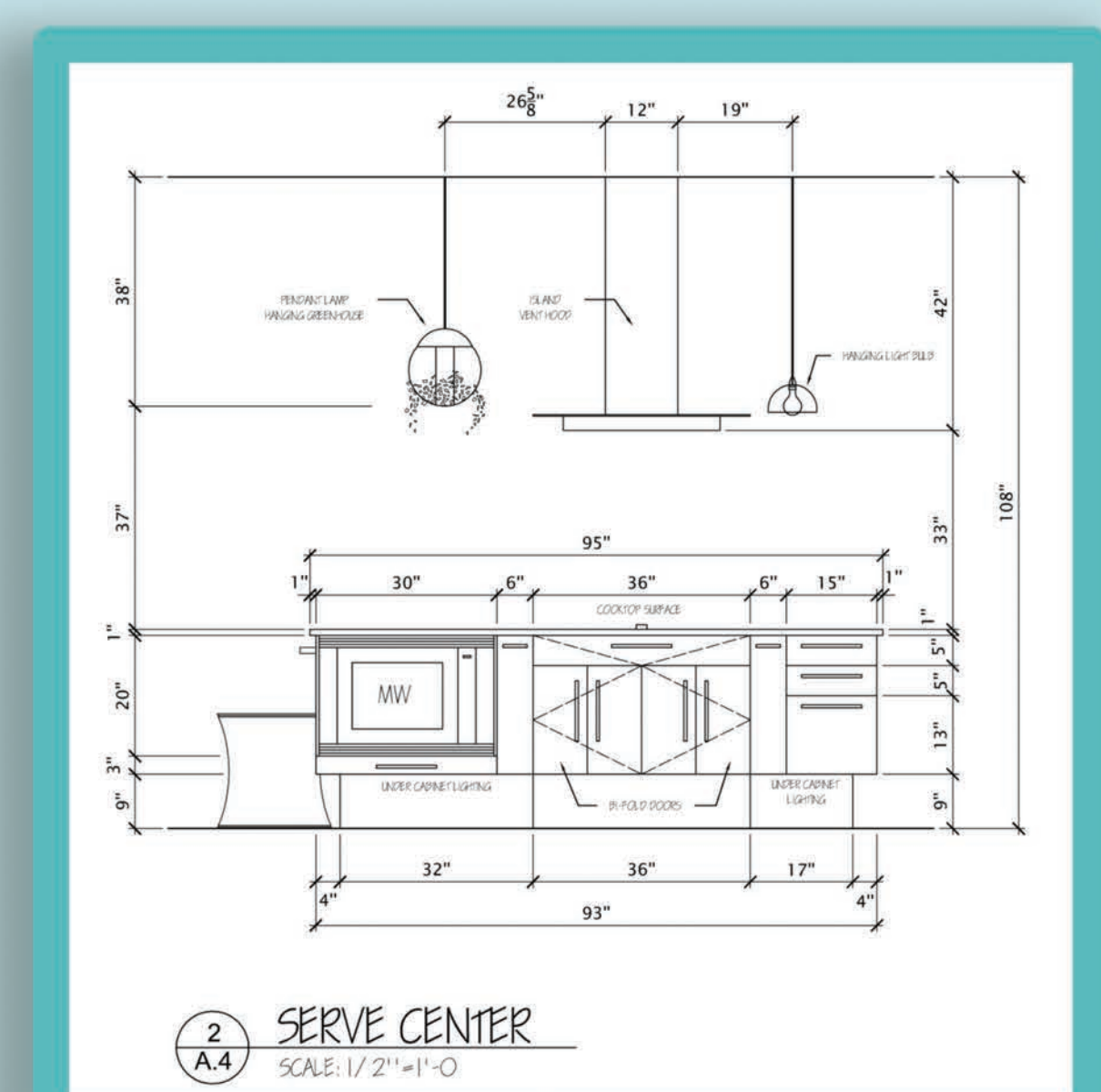
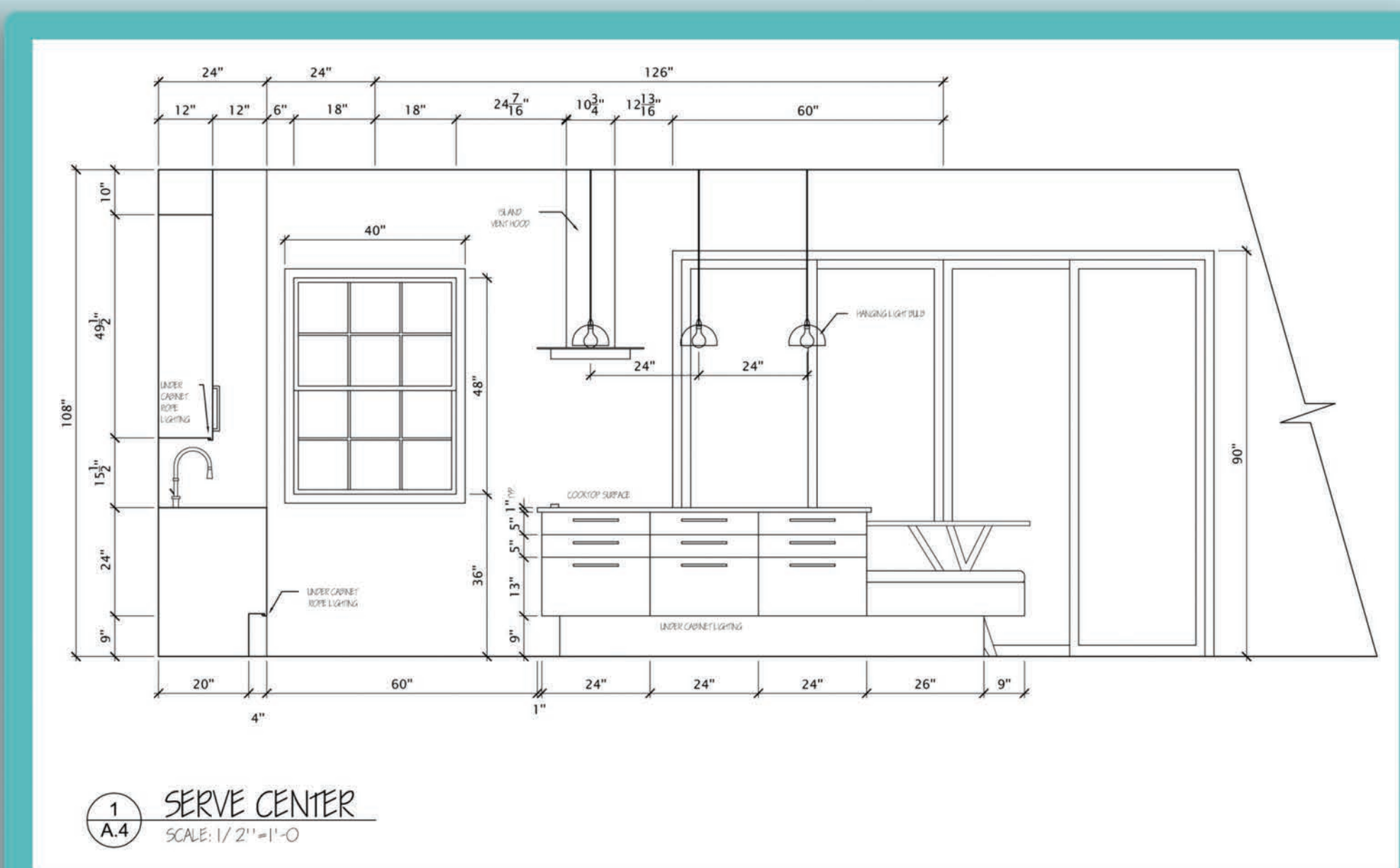
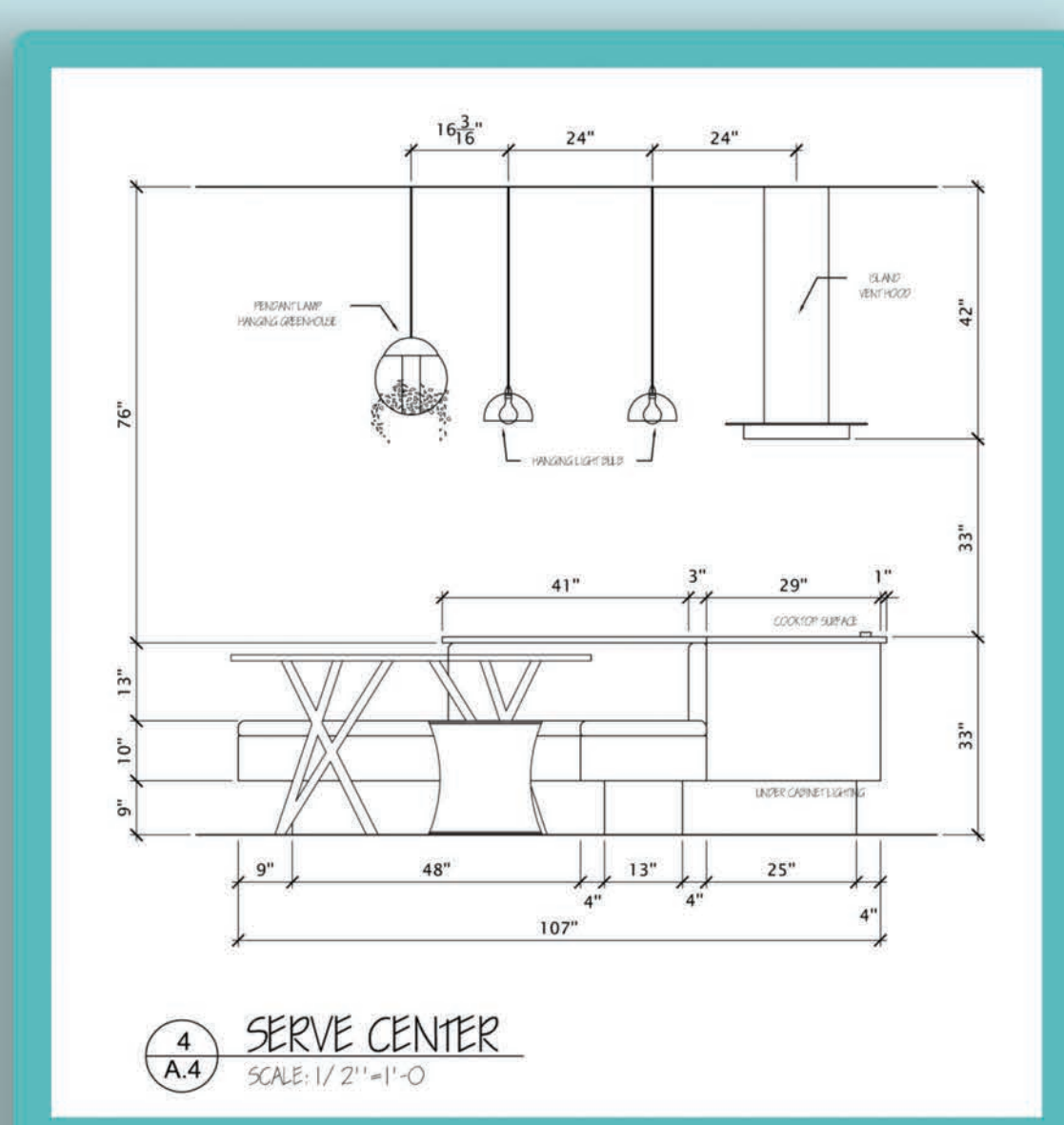
**Low physical effort.** Design can be used efficiently with a minimum of fatigue.

- Central vacuum for cleaning the floor easily.
- Pull-out base cabinets for easy access to items.

**Size/space for approach and use.**

Appropriate size/space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

- 60" turning space for wheelchair.
- 30" x 48" wheelchair parking space at major appliances.



Some clients have the misconception that a *universally* designed kitchen or home is unnecessary and less attractive. One needs only to view the home of Cynthia Liebrock, a universal design specialist, to realize that UD can be beautifully and tastefully implemented (Liebrock, 2013). Including these features upfront in new construction is more cost effective than undergoing later home renovations. Knowledgeable designers who incorporate UD principles fulfill the true mission of the Interior Design profession—“improving quality of life, increasing productivity, and protecting the health, safety, and welfare” of all users” (NCIDQ, 2004).