Universal Design Guidelines For Group Homes

Reflecting the Needs of Our Community Members in Residential Environments
Universal Design Guidelines for Group Homes

Based on the Needs of Our Consumers, Our Staff and the Principles of Universal Design

Prepared for the Fairfax-Falls Church Community Services Board

November 19, 2007
Foreword

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Foreword

On January 27, 2006, the Fairfax-Falls Church Community Services Board hosted a Focus Group Forum on Barrier Free Design for group homes. The first purpose of the Forum discussion was to announce a funded project involving a contract with an architectural firm to produce a design manual applying universal design principles to the development of residential group homes. The second purpose was to facilitate a roundtable discussion with the participants, highlighting their ‘lessons learned’ as underpinnings towards creating prototype model floor plans to be replicated by others.

The Forum participants were surveyed prior to the meeting, and in a facilitated discussion, were asked to share their comments and experiences with group homes including: space planning, maintenance issues, and tenant responses. A broad cross section of people attended from the public and private non-profit professional communities that serve individuals in group home settings. Also attending were landlords, engineers, architects, building contractors, advocates and people with various disabilities. Participants were asked to offer practical advice based on their perspectives of accommodations for physical needs in various residential environments.

The forum participants were asked survey questions, and the responses were compiled to share among community members. These recommendations and comments are included in this document.
Acknowledgments

The Fairfax-Falls Church Community Services Board would like to thank the many friends and associates who took their time to review and share experiences in the important area of space planning and universal design for group homes. A special thanks to the architectural firm of Gauthier and Alvarado, and Associates, Inc. for their attention to the vision and purpose of the project. It is our hope that the community accepts the principles of universal design as a philosophy of designing space to meet the ever changing needs of all individuals and families regardless of their age, size, strengths and limitations. We commend those in our community who continue to work to educate those in the building industry to create homes that allow people to move freely throughout their homes and participate in daily living tasks without unnecessary barriers.
About the CSB

The mission of the Fairfax-Falls Church Community Services Board (CSB) is to:

- Serve Fairfax-Falls Church residents with, or at risk of, severe and persistent mental illness or acute psychiatric emotional distress; mental retardation; or alcohol or drug abuse or dependency.
- Empower and support the people we serve to live self-determined, productive and valued lives within our communities.
- Identify, develop, and offer programs on prevention, intervention, treatment, rehabilitation, residential, and other support services in a personalized, flexible manner appropriate to the needs of each individual and family whom we serve.

The CSB’s residential programs are integrated into typical neighborhoods, so that our occupants have the opportunity to be fully included in the life of the community, with the same rights and opportunities as other citizens. These programs promote community living skills and participation in the community; hence these programs’ appearance and operations must in all ways be a positive alternative to institutional environments.

Therefore we value qualities such as:

- Housing choices typical of the larger community, and compatible with neighbors
- Locations that facilitate community living skills – e.g., sidewalks, close to shopping and transportation routes
- Locations that are within reasonable proximity to individuals’ jobs, job training or treatment programs
- Housing that will be suitable for the long-term so that people will not be forced to move as they age or lose mobility.

It is the express intent of the CSB to operate in the spirit of Fairfax County’s vision:

To protect and enrich the quality of life for the people, neighborhoods, and diverse communities of Fairfax County and the cities of Fairfax and Falls Church by:

- Maintaining Safe and Caring Communities: The needs of a diverse and growing community are met through innovative public safety, health care, housing, educational, recreational, and volunteer opportunities. As a result, residents feel safe and secure, capable of accessing the range of services and opportunities they need, and are willing and able to give back to their community.
• Practicing Environmental Stewardship: Local government, businesses, community organizations, and residents seek ways to use all resources wisely and to protect and enhance the County’s natural environment and open space. As a result, residents feel good about their quality of life and embrace environmental stewardship as a personal and shared responsibility.

• Building Livable Spaces: Distinctive and accessible town centers, neighborhoods, streets, walkways, and open spaces create a sense of place -- reflecting the character, history, and natural environment of the community. As a result, people throughout the community feel they have unique and desirable places to live, work, shop, play, and connect with others.

• Maintaining Healthy Economies: Investments in the workforce, jobs, institutions, and community infrastructure support a diverse and thriving economy. As a result, individuals are able to meet their needs and have the opportunity to grow and develop their talent and income according to their potential.

• Connecting People and Places: Transportation, technology, information, and partnerships effectively and efficiently connect people and ideas. As a result, people feel a part of their community and have the ability to access places and resources in a timely, safe, and convenient manner.

• Creating a Culture of Engagement: Individuals enhance community life by participating in and supporting civic groups, discussion groups, public-private partnerships, and other activities that seek to understand and address community needs and opportunities. As a result, residents feel they can make a difference and work in partnership with others to understand and address pressing public issues.

• Corporate Stewardship: Fairfax County Government is accessible, responsible and accountable. As a result, actions are responsive, providing superior customer service and reflecting sound management of County resources and assets.
Executive Summary

This design guide supports a key objective of the Community Services Board, to:

"Empower and support the people we serve to live self-determined, productive and valued lives within our communities."

In achieving this objective, the Community Services Boards provides or financially supports a variety of housing services in the community. These services are typically offered in a residence integrated into neighborhoods. With this strategy, those assisted have the opportunity to be fully included in the life of the community, with the same rights and opportunities as other citizens. These programs promote community living skills and full participation in the community. Therefore, the programs’ appearance and operations must in all ways be a positive alternative to institutional services and allow individuals to remain in a residential environment.

The information in this design guide provides helpful direction to our staff, our vendors and the many community partners for the appearance, features and construction of the homes in which we provide services.
The Purpose of the Design Manual

The purpose of the design manual is to guide decision making for the staff that manage our housing programs and operate our properties, the architects and engineers who design our projects, the contractors who build our projects and the vendors who supply and service our properties.

Organization of the Design Manual

This manual is designed to be user friendly. The table of contents describes the various sections to be discussed in the manual. There are narrative explanations of a home’s layout using universal guidelines. A summarization of the key features charted when using universal design is included. Graphics are included to show the layout of the universally designed home described in the narrative as well as the front, sides and rear of the home. Information about products will be described.

The State of Virginia code and regulation for licensing as a group home for service providers of Mental Health, Mental Retardation and Substance Abuse is displayed as a chart listing the various regulations a review of a home may include. Resources such as books, web sites and references concludes this manual and give the reader an opportunity to find additional assistance in planning a home with universal design.

Use of the Design Manual

The Design Manual presents a range of criteria with the belief that this range may better assist its users to balance building features, construction criteria, and aesthetics to their project’s goals, budget and schedule.

As a helpful tool, the key features are summarized in tables provided in the attachments. They offer a handy "decision matrix" for the design and operation of a group home.

Finally, if a word, product or item appears in bold text, additional information such as representative examples of the item are available within the Design Manual or the attachments.
Universal Design

According to the Center for Universal Design at North Carolina University in Raleigh, North Carolina, Universal Design advocates the creating of "products and environments that can be used effectively by all people, to the greatest extent possible, without the need for adaptation or specialized design." This approach is grounded in seven key principles developed by the Center. The principles are summarized as follows:

Equitable Use: There should be no difference in the way people of various abilities use places and things.

Flexibility in Use: People of various abilities should be able to use places and things in a way that suits them best.

Simple and Intuitive Use: People of various abilities should be able to use places and things spontaneously, applying the usual intuition and skills needed in their everyday life.

Perceptible Information: Spaces and things should use a variety of means to communicate essential information to people of all abilities, under the widest possible conditions. Spaces and things should communicate their function and operation intuitively, engaging the fullest possible range of the human senses.

Tolerance for Error: Errors in use should not lead to outcomes that are inconvenient or endanger the user. If potentially hazardous outcomes are unavoidable, provide warnings to the user engaging the fullest possible range of the human senses.

Low Physical Effort: Things should function using simple, linear motions and the lowest, shortest possible levels of applied physical force. People of all abilities should be able to use space and things without awkward or hazardous motions, overexertion and fatigue.

Size and Space for Approach and Use: People of all skill and ability levels should be able to get to and use spaces and things comfortably and gracefully without complex maneuvers and overexertion.
Mission and Objectives:

The Guidelines specifically address the needs for a six-eight bedroom group home for people with disabilities. Typically, these homes accommodate six to eight individuals. Typically individuals in a home are in a program operated by Mental Health Services, Mental Retardation Services, or Alcohol and Drug Services. The properties provide either long term housing for these individuals -- this is the person’s permanent home – or a time limited transitional treatment program. The people living, working or visiting in these homes may use a wheelchair or walker, and may have vision or hearing impairments, or may develop these over time. There is daily interaction with various staff members and coordination with outside service providers, such as employment programs. Supervision and support is provided 24 hours/day in shifts.

The primary objective of a group home is to provide an independent lifestyle for individuals within the broader communities of Fairfax/Falls Church. We strive to provide optimal support and supervision. Group homes should be comparable in appearance and blend-in with the surrounding homes and their neighborhoods.

Applicable Codes

Projects operated or financed by the Fairfax-Falls Church Community Services Board shall comply with the latest edition of the Virginia Statewide Uniform Building Code, the Virginia Statewide Fire Prevention Code, and the regulations of the Department of Mental Health, Mental Retardation and Substance Abuse Services. Federal Health Insurance Portability and Accountability Act (HIPAA) Regulations may also apply.

Special care shall be applied to comply with the Behavioral Health Standards Manual (BHSM). It includes criteria for licensing of the programs offered by the CSB in the group homes. Some of the criteria are related to the design, construction and operation of the building. In general, the criteria address these communal living components:

- ✓ Adequate personal space for privacy
- ✓ Security of property
- ✓ A homelike and comfortable setting
- ✓ Evidence of individual possessions and decorations
- ✓ Separate sleeping areas for the persons based on gender, age and needs.

See the State of Virginia "Physical Environment Review Form" provided in the attachments for additional information.
### Staffing and Operations

Each group home seeks to provide an optimal level of support so that individuals can live as independently as possible, with staff support and assistance as required. Staff provides support in personal care and health, home and community living skills, and in all areas as required by individual needs. Group homes vary in number of staff depending on individual needs, but typically are staffed in shifts 24 hours a day, with a staff manager who oversees the day-to-day operations.

### Continuity of Operations

A group home must be able to operate round the clock without any disruption in service to the individuals residing in the home. The group home shall be used as a sheltering in place during a state of national emergency or in inclement weather such as blizzards, hurricanes and tornadoes. Special consideration should be given to the durability of equipment such as appliances, furnaces or hot water heaters.

Some strategies for consideration would involve subdividing the hot water system into two systems with smaller, separate hot water heaters or the heating/air conditioning system into two smaller systems. If one system is impaired, the other may not be involved.

A group home will also need to continue to operate during routine maintenance and repair of systems such as plumbing, electrical power and heating/air conditioning.

This house should provide clear, accessible service points, and shut-off connections for individual pieces of equipment or systems. These examples will help lessen the impact of equipment failure and subsequent repair work. Consideration should be given to installing a portable generator to operate life safety, medical and food service equipment.

### Individual Needs

Individuals residing in these homes need a sense of home and community. Appearance of the home should blend in with the neighborhood and not stand out as different. As with any citizen, individuals have a right to privacy, dignity, safety and living in the community. They are able to work and enjoy leisure opportunities as any citizen would be able to do.

Individuals may have needs that arise from multiple disabilities or from natural aging as the general population would experience. The group home must be able to provide the infrastructure to be able to accommodate these various needs that may occur. This is the principle of Universal Design.
**Understanding Universal Design in Use**

Many technical resources are available on Universal Design and they have been provided in the bibliography. Most products, such as furniture and appliances, are not specifically identified by their manufacturers as reflecting the tenets of universal design. One well known group of universally designed products is the OXO line of kitchen and household tools. Recently appliance manufacturers such as GE, Whirlpool and others have begun promoting product features inspired by the tenets of Universal Design. Many products may be advertised as "accessible" or complying with the Americans with Disabilities Act (ADA.) Certainly, items designed as accessible may exhibit many of the features of universal design but frequently are specifically designed to address certain disabilities or capabilities and in this way are not "universal." The features of accessible items need to be critically evaluated to determine that the item serves the wide range of persons for which it is intended.

The question becomes, how do I know if a design feature, piece of furniture or appliance follows the tenets of Universal Design? For equipment and appliances, controls should be located between 16 and 46 inches. The buttons should be larger than a thumbprint, and raised or cupped. Knobs or other controls should be larger than a thumb and offer large, high contrast text (greater than 1/4 inch tall) and displays. The controls should include sound cues as well such as loud distinctive clicks, bells and buzzers. Furniture is a bit more difficult. At a minimum, look for seating that provides a sturdy means for sitting down and getting up which usually translates into seating with arms and firm upholstery. Provide tables, dressers, and other furniture in a variety of heights. Choose handles over knobs on drawers. Consider bed frames with adjustable heights.

In selecting furniture and equipment, consider an individual's range of abilities and ask a few basic but helpful questions such as,

- Is its use and operation clear and simple?
- Are the controls easy to reach?
- Are the controls easy to locate, see and read?
- Are the controls easy to grasp?
- Do the controls require much effort to turn, push or pull?
- Can this be used from a sitting position?
- Can this be used without bending over from the waist?
- Does this require reaching above my shoulders or below my waist?
- Could you use it if you couldn't bend your elbow or move your thumb or . . . . . ?

By addressing these questions, one should be able to understand how a wide range of people may use the furniture or equipment.
**Accessibility**

All portions of the group home accessed by the individuals shall be accessible and shall comply with laws and regulations for accessibility. These laws and regulations establish minimums based on the general population. A group home serves a segment of the population with a higher incidence of disabilities. Therefore the number, design and quality of features in a CSB group home may need to reasonably exceed any minimums established in the building codes, Fair Housing or Americans with Disabilities Act Accessibility Guidelines in order to adequately serve the needs of these individuals.

**Understanding Universal Design and Accessibility**

Universal Design and Accessibility are related but different. Accessibility seeks to address the minimum needs of people with disabilities and permits use of specialized equipment. Universal Design seeks to enable the full interaction of people of all abilities with their environment and each other without specialized equipment.

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**A Note About Manufacturer's Literature and Universal Design**

Many manufacturer's offer tips and suggestions for consumer's interested in applying the principles of universal design in their projects. Most of the guidance is helpful but may miss the point in the details.

In the example below the manufacturer promotes the use of a pull out shelf under a wall oven.

The ideal solution would be to pair the pull out shelf with a side hinged oven door to reduce the reach required to remove an item from the oven.

The lesson here is to critically evaluate information offered by manufacturers in their literature.
Visitability

Universally Designed homes not only provide for occupants, but also their visitors. Visitability means that a basic means of access be provided for visitors to enter, move through, and exit a building. Generally it focuses on creating an accessible path through the building, with an accessible entrance, wider doors and corridors, and access to a toilet room. It is less comprehensive than similar principles of Universal Design and ADA requirements. In the scope of a Universal Design home, however, it is developed further to allow visitation to other occupants as well as access to basic features of the home. This may mean providing bedrooms with space for two wheelchairs or meeting areas with convenient access to accessible visitor toilet rooms.

Consideration of Disabilities

Occupants in group homes may have a variety of disabilities. Therefore, redundancy in alarms and notifications is a key feature in the design. For example, fire alarms and door bells should be provided that have both audio and visual alarms.

Blindness, loss of hearing and limited mobility are covered fairly well by the Americans with Disabilities Act and building codes. However there are other disabilities which may be overlooked. Designing spaces for occupants who are hypersensitive to outside stimuli, such as specific noises or light, may be impractical as the types and degree of reactions vary in each individual case. Discussions with the end user may be required to determine if there are special accommodations to address specific cases.

Occupants in a Universal Design home may be subject to incapacitating incidents, such as strokes and seizures. Unlike other forms of disabilities, these illnesses may only occur periodically and unexpectedly. Surfaces in the home must be considered for the safety of the individual and those around them. Furniture and walls should have rounded or protected corners. Flooring should be a material which is easy to clean and resilient. Area rugs may be utilized in certain living areas to provide a softer surface in the event of a fall.
Communities:

The Policy Plan established within the Fairfax County Comprehensive Plan, 2003 Edition, Housing, amended through 8-5-2002 contains objectives for increasing the supply of housing available to special populations, including the physically and mentally disabled. The Policy Plan contains two broad objectives. These are,

- Locate housing resources for special populations in all parts of the County as a way of improving accessibility to employment opportunities, County services, as well as cultural and recreational amenities.
- Promote multifamily housing for the elderly and the handicapped that is conveniently located to public transportation and community services.

As an organization, the CSB values

- Housing choices typical of the larger community, and compatible with neighbors
- Locations that facilitate community living skills – e.g., sidewalks, close to shopping and transportation routes
- Locations that are within reasonable proximity to individuals’ jobs, job training or treatment programs
- Housing that will be suitable for the long-term so that people will not be forced to move as they age or lose mobility.

Therefore, group homes should be located in all communities with preference given to those with sidewalks connected to community resources such as retail centers, Metro and bus routes, parks, cultural facilities, churches, and other institutions.

Planning and Zoning Criteria:

In terms of the Fairfax County Comprehensive Plan, 2003 Edition Area Plan Overview, areas defined as Suburban Neighborhoods offer close vicinity to neighborhood supporting-serving commercial uses, public facilities or institutional uses and local transportation routes. Typically, these areas allow residential densities of 1 to 8 dwelling units per acre, which mean lot sizes from one to one-eight acre (approximately 40,000 SF to 5,000 SF.) Other areas with appropriate densities include Suburban Centers and Community Business Centers which have potential residential densities of 5 to 25 dwelling units per acre (DU/AC.)

In Low Density Residential Areas, the allowable residential densities are too low (from 0.1 to 0.5DU/AC) resulting in big lots with maintenance challenges. In addition, the low densities mean greater distances to neighborhood supporting-serving commercial uses, public facilities or institutional uses and public transportation routes.
Lot Criteria:

Existing properties are generally on lots from \( \frac{1}{4} \) to \( \frac{1}{2} \) acre. Mid-block lots are preferred since there are less restrictive setback requirements. Sites with drainage away from the building which also allows slight sloping of accessible paths are preferable. Lots should offer a minimum frontage of 80 feet of lot width at the front setback line. In most cases, this comfortably allows the construction of a house at least fifty feet wide where side yard setback requirements total 25 feet or less. For convenience, lot size requirements for typical residential zones are provided in the table on the adjacent page. Review zoning ordinances for actual setback requirements and special regulations. One should be aware of county requirements for permitting, such as Grading Permits, which may influence the size of additions or that impose restrictions which may make construction on a site impractical due to cost and permit delays. Some sites may also be subject to Home Owners Associations (HOA’s). These sites should be carefully evaluated prior to selection to ensure that Universal Design requirements do not conflict with HOA regulations.
<table>
<thead>
<tr>
<th>Residential District</th>
<th>Minimum Lot Area</th>
<th>Minimum Lot Width</th>
<th>Front Yard</th>
<th>Side Yard</th>
<th>Rear Yard</th>
<th>Maximum Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1 Residential District, One Dwelling Units /Acre</td>
<td>*36,000SF **25,000SF See Fairfax County Zoning Ordinance</td>
<td>*Interior lot - 150ft Corner lot – 175ft **Interior lot - NR Corner lot - 125ft</td>
<td>*40 **30</td>
<td>*20 **12 but minimum total of 40</td>
<td>25</td>
<td>One dwelling units per acre. See affordable dwelling unit developments for different regulations</td>
</tr>
<tr>
<td>R-2 Residential District, Two Dwelling Units /Acre</td>
<td>*15,000SF **13,000SF See Fairfax County Zoning Ordinance</td>
<td>*Interior lot - 100ft Corner lot - 125 **Interior lot - NR Corner lot - 100ft</td>
<td>*35, **25</td>
<td>*15, **8 but minimum total of 24</td>
<td>25</td>
<td>Two dwelling units per acre. See affordable dwelling unit developments for different regulations</td>
</tr>
<tr>
<td>R-3 Residential District, Three Dwelling Units /Acre</td>
<td>*10,500SF **8,500SF See Fairfax County Zoning Ordinance</td>
<td>*Interior lot - 80ft Corner lot – 105ft **Interior lot - NR Corner lot - 80ft</td>
<td>*30, **20</td>
<td>*12, **8 but minimum total of 20</td>
<td>25</td>
<td>Three dwelling units per acre. See affordable dwelling unit developments for different regulations</td>
</tr>
<tr>
<td>R-4 Residential District, Four Dwelling Units /Acre</td>
<td>*8,400SF **6,000SF See Fairfax County Zoning Ordinance</td>
<td>*Interior lot - 70ft Corner lot – 95ft **Interior lot - NR Corner lot - 70ft</td>
<td>*30, **20</td>
<td>*10, **8</td>
<td>25</td>
<td>Four dwelling units per acre. See affordable dwelling unit developments for different regulations</td>
</tr>
<tr>
<td>R-5 Residential District, Five Dwelling Units /Acre</td>
<td>*5,000SF **See Fairfax County Zoning Ordinance</td>
<td>*Interior lot – 50ft Corner lot – 70ft</td>
<td>20</td>
<td>8</td>
<td>25</td>
<td>Five dwelling units per acre. See affordable dwelling unit developments for different regulations</td>
</tr>
</tbody>
</table>

* conventional subdivision lot
** cluster subdivision lot
Site Design
Features
**General**

Choose sites in established communities offering vibrant neighborhoods and access to employment, cultural and recreational resources. All sites shall offer public water and sewer service. Give preference to sites that also offer gas service and cable TV service. Sites on public transportation routes are preferred. Sites within a quarter mile of public transportation routes are acceptable.

- **Slopes**

  Preference should be given to sites that slope up from the street. Select sites with slopes less than 5% from the house location to the street. Avoid sites with slopes greater than 8% within the buildable area of the site. Sidewalks and ramps shall slope less than 5% on the site and should not require extensive regrading. Grading along the building shall provide positive drainage away from the building perimeter.

- **Landscaping**

  Landscaping shall be attractive and require little to no maintenance except lawn mowing, annual leaf collection and seasonal pruning. Preference shall be given to plants native to Virginia, with a reputation for resistance to drought, disease and pests. Never select plants known to be poisonous or produce poisonous fruit. Protect existing mature trees to extent possible and provide additional trees to meet the code requirement for lot coverage.

- **Fencing**

  Provide a privacy fence along the side and rear yards of the site. The privacy fence shall comply with zoning requirements and provide a secure perimeter for the side and rear yards by returning from the property line to the sides of the home. Fencing should be designed with consideration that some occupants may require service animals which could be taken outside and may be unmonitored for several minutes at a time.

  A 6 foot solid board fence compatible with local regulations is preferred. It shall feature nominal 1x6 red cedar planks, pressure treated posts and rails, and a flat top. The fence shall follow the site grade. "Dog Ear" and "Stockade" style fences are acceptable. Avoid vinyl fencing and never use chain link fencing.

- **Exterior Lighting**

  Exterior lighting shall comply with Illuminating Engineering Society (IES) guidelines and normal standard of practice for residential design.

  Provide surface mounted lighting at the front entrance door controlled by a daylight sensor. The fixtures supplying this lighting shall be both functional and decorative. This lighting shall provide not less than 10 foot-candles at the entrance. Supplement this lighting with recessed lighting in the ceiling of the porch. This lighting shall be controlled by a motion sensor. It shall increase the lighting at the door landing to not less than 35 foot-candles.
Provide surface mounted lighting at the other exterior doors controlled by a daylight sensor. The fixtures supplying this lighting shall be both functional and decorative. This lighting shall provide not less than 10 foot-candles. At the rear and side doors used by the individuals, supplement this lighting with additional fixtures controlled by a motion sensor. It shall increase the lighting at the door landing to not less than 35 foot-candles.

Provide general site lighting for the driveway and walkways using residential styled fixtures on pole mounted lighting not higher than 10 feet. If possible the fixtures shall provide lamp "cut-off" to eliminate glare and bright spots. The lighting shall provide not less than 1 foot-candle average maintained lighting on the walkways and driveways.

Provide security lighting for the perimeter of the house activated by motion sensors.

- **Walkways and Sidewalks**

According to ANSI A117.1, the surface of walkways shall be stable, firm, slip-resistant, have a cross slope less than 2%, and a path of travel slope less than 5%. In addition, the walkway can not have vertical changes in level greater than ¼", or beveled changes in level greater than ½." The primary walking surface shall be not less than 48" wide with intersections or directional changes providing an area with a 60" diameter turning area.

Therefore, the preferred material for walkways is cast in place concrete with a light broomed finish. Bituminous paving is an acceptable alternative. Avoid pavings like brick or cut stone which may become slick when wet or may become uneven due to winter frosts.

In all walkways, favor designs with a light colored field paving and a well defined edge paving in a contrasting pattern, surface, tone and color. The edging should be in addition to the minimum width listed above. This strategy helps define the walkway limits in low light levels for all, but especially assists those with limitations of vision.

- **Driveways and Parking**

Provide a paved driveway and parking area. The paving may be cast in place concrete or bituminous concrete. Provide parking for not less than three vehicles. One parking space shall comply with the requirements for an accessible van space. Parking shall be designed so that a van with lift can lower the lift directly to an accessible path.

- **Trash Handling**

Provide an area for storage of municipal trash cans and recycling containers. Typically, a group home requires two to three municipal trash containers and three or four recycling containers. The trash enclosure shall be convenient to the side door serving the kitchen. It shall be designed to permit ease of service and protection from pests with an accessible path to the curb provided.
• **Yard Storage**

Provide a pre-manufactured exterior storage shed for yard maintenance equipment. The shed shall be not less than 80 square feet but 120 square feet is preferred.

• **Home Owners Association Rules**

When the selected site is in a planned community, many of the exterior features such as landscaping, fencing, and lighting may be governed by home owner associations. These regulations should be reviewed prior to selecting a site to be sure restrictions do not come in conflict with Universal Design criteria.
- **General**

The properties, in their appearance and construction, should be good neighbors and play a positive role in their communities.

In addition, the properties experience heavy use. Therefore, preference shall be given to durable materials and construction techniques which feature low maintenance requirements and a long service life.

In that these residences are constructed and maintained with public funds, their design and construction shall reflect a reasonable and effective financial relationship between the project's goals and the project's outcome and be seen by the community as a valued investment in the County's quality of life.

Finally, considerable effort shall be given to designing and constructing the buildings for the efficient use of energy and a healthy indoor environment.

- **Foundations and Basement Construction**

Foundations constructed of reinforced concrete are preferred and CMU foundations are acceptable.

For foundations supporting a floor slab on grade, damproofing shall be provided on the soil faces of the foundation stem wall, and a damp break shall be provided at the key joint between the stem wall and the floor slab. The assembly shall feature insulation in compliance with the energy code.

When the home includes a basement, the foundation wall assembly shall include a waterstop joint at the footing key and membrane waterproofing at the soil face. When footing drains are provided, the membrane waterproofing shall include a drainage board. The assembly shall feature insulation in compliance with the energy code.

In basement construction and when soil conditions warrant, a permanent sump pump system may supplement the membrane waterproofing protection as a precaution to flooding. Otherwise, the basement shall be provided with a 24 inch diameter by 24 inch deep depression to facilitate the use of an emergency portable sump pump if needed.

The basement shall be equipped with a passive radon vent system in compliance with EPA guidelines for "Model Standards and Techniques for the Control of Radon in New Residential Buildings."

- **Exterior Walls and Roofs**

Exterior walls and roofs shall comply with the applicable code and guidelines for high performing energy efficient residential design such as "Mixed-Humid Climate Case Study for Haymarket, Virginia" as issued by Building Science Corporation for the Department of Energy Building America program.

The construction shall feature low maintenance exterior finishes such as masonry veneer, or fiber cement siding. Avoid vinyl siding. The wall assembly shall include an air
barrier. Preference shall be given to insulating sheathing boards, 6" framing and R-19 wall insulation for increased energy efficiency.

**Windows and Exterior Doors**

Windows and exterior doors shall comply with the requirements of the Virginia Uniform Statewide Building Code. Energy performance shall be not less than required by the Energy Conservation Code in effect. Give preference to windows and doors that exceed the Energy Conservation Code.

Preferably, windows shall be double hung, single hung or sliding. In addition, double hung windows shall feature tilt sash operation to permit cleaning from the inside. Casement windows may be acceptable depending on the circumstance but typically should be avoided. In general, the hardware and operating motions required by most casement windows are obstacles to use by some with range of motion limitations. Windows shall achieve an overall U factor not more than 0.4 as measured by NFRC standards, shall feature double pane glazing, and include a low E coating on the third surface. Give preference to windows where the glazing airspace is filled with an inert gas such as argon or krypton. If the window faces east, west and south, the window shall provide a solar heat gain coefficient of 0.4 or better. Air leakage shall not exceed 0.3 cfm/psf per NFRC standards. Windows manufactured from aluminum clad wood are preferred. Welded vinyl, vinyl covered fiberglass, and other composites are acceptable.

Give special consideration to window accessibility. As required in ANSI A117.1, window operation must comply with operable part requirements like reach range (greater than 15 inches and less than 48 inches), operating force (not more than five pounds) and open with one hand without "tight grasping, pinching and twisting of the wrist." Frequently, standard window sash locks, when placed on the meeting rail of double hung windows are outside the accessible high reach range of 48 inches. In addition, some sash locks can require "tight grasping and twisting of the wrist." Many windows require more than five pounds of force to open. Thoroughly inspect and test windows for compliance with these requirements.

For ease of use by those in wheelchairs and others, set the window sills no higher than 36 inches above finish floor, equip double or single hung windows with sash lift handles on the bottom sash rail, keep the size of the window appropriate to the required opening force, and provide jambs locks in lieu of meeting style sash locks. Comply with code requirements and provide at least one emergency egress window in each bed room. Where practical, provide an emergency egress window in every regularly occupied room.

Doors shall be hinged leafs. Sliding doors should generally be avoided. Minimum door width is 36" but 40" is preferred. The doors shall achieve an overall U factor of 0.4 as measured by NFRC standards. Air leakage shall not exceed 0.3 cfm/psf per NFRC standards. Doors manufactured from fiberglass are preferred. Steel doors and frames are acceptable when fully shaded from the sun. For the main entry door, consider providing a side light that can be opened like a door leaf.
Provide the doors with heavy weight, ball bearing, full mortise hinges. The base metal shall be stainless steel and the size not less than 4-1/2" x 4-1/2".

Provide the doors with lever style mortise entry locks with a deadbolt or lever style cylindrical entry lock interconnected with an auxiliary deadbolt. The lock shall permit exiting with a single operation that simultaneously retracts both the latch and deadbolt. Provide a lever handle that is about 5 inches long and turns back to the door surface.

Low effort power assisted doors may be considered for some locations as required by the individual's needs.

Provide surface applied weather-stripping at the heads and jambs of doors and automatic door bottoms. Provide "pan" flashing at the sills to direct any capillary and wind blown water back to the exterior through weep holes and venting.

- **Interior Doors and Frames**

Provide industry standard interior doors and frames. Preferred material is solid wood. Molded, hollow core composites are acceptable. The doors shall provide an STC level of not less than 30.

- **Interior Ceilings, Walls and Finishes**

Unless otherwise noted, the interior walls shall be constructed of code approved materials, typically, gypsum wall board over wood or metal framing in compliance with published industry standards. Provide a level 4 finish on walls and a level 3 finish on ceilings. Provide corner protection at high traffic areas.

High impact gypsum wall board is preferred in corridors and the approach side of doors. Provide moisture resistant gypsum board in bath rooms and the laundry room. Do not use moisture resistant gypsum board as a substrate for ceramic tile. Use tile backer board.

Provide low VOC paint coatings on walls and ceilings. Avoid use of wallpaper and other coverings which may trap moisture and contribute to the development of mold. Do not use paint coatings with a gloss level less than satin on walls. Use semi-gloss on walls in rooms with high humidity levels such as the kitchen, pantry, bath and laundry room and in all closets and storage rooms. Use semi gloss on all trim, molding and finish carpentry.

Do not use acoustical ceiling panel and tile systems.

- **Stairs**

Stairs, if present, shall be not less than 48 inches clear between the handrails. They shall be provided with handrails on both sides. Preferably, they shall be straight run. "Dogleg" arrangements with code required landings are acceptable. Never provide U-turn stairs, circular stairs, spiral stairs, or winder stairs. All treads and risers shall be uniform in dimension. Contrasting visual elements shall be provided for the steps and the risers to help distinguish between the surfaces. Provide a different floor material at top and bottom landings for tactile cue.
The provision of "night lighting" systems for the stair tread surfaces is encouraged or provide supplemental ceiling or wall mounted light fixtures with low wattage lamps on a separate circuit for night time use. Also consider the use of motion detecting switches to control the activation of light fixtures illuminating the stairs.

- **Fire and Life Safety**

  Provide a residential automatic fire suppression (sprinkler) system complying with NFPA 13R.

  Provide 5 lb fire extinguishers in recessed cabinets convenient to each exterior door, in the laundry room and in the kitchen.

  Provide photo luminescent exit path markings from bedrooms to exits.

  Provide no less than one emergency egress window from each bedroom.

  Provide permanently powered dual technology smoke and fire detectors in living spaces and bedrooms. Connect the smoke and fire detection system to audible and visual notification devices located in all spaces. Comply with NFPA 72.

- **Security**

  Provide a standard residential security system with contacts on all exterior doors, exterior windows, the staff office and storage/utility rooms. The security system is for the use of the staff. Provide a lockable control panel at a location established by the staff.

- **Heating, Ventilation, and Air Conditioning**

  The HVAC shall comply with the requirements of the International Mechanical Code with VUSBC Amendments and the Behavioral Health Standards Manual. For instance, the BHSM requires HVAC to maintain temperatures above 68 and below 85 degrees in occupied space.

  When gas is available to the site, the system shall be a gas fired forced air heating system and an independent air conditioner compressor. The system shall be zoned with not less than two zones, each controlled by a programmable thermostat. All HVAC equipment shall comply with Energy Star requirements. The A/C unit shall be SEER 12 or higher and use environmentally preferred refrigeration such as Puron and not contain CFCs or HCFCs.

- **Plumbing**

  Plumbing shall comply with the requirements of the International Plumbing Code with VUSBC Amendments.
Provide separate hot water heaters for the kitchen and the bathrooms to permit the use of lower storage temperature for the bathroom hot water heater. This both saves energy and helps reduce the risk of scalding water delivered to the bathrooms.

Kitchen faucets shall be single lever type with temperature regulating water mixing valves providing a high temperature limit intended to eliminate the risk of scalding. Kitchen faucets shall include a highly arched spout with an ergonomically shaped pullout spray-head faucet. It shall feature solid construction, ceramic washers and water saving low flow aerators.

Bathroom Faucets shall be single lever type with temperature regulated water mixing valves providing a high temperature limit intended to eliminate the risk of scalding. Bathroom faucets shall include a highly arched spout. It shall feature solid construction, ceramic washers and water saving low flow aerators.

For the kitchen, provide an under counter mounted stainless steel sink. The color of the sink shall not match the color of the counter but offer visual contrast. The sink depth shall be between 6-1/2" and 7-1/2" inches with a rear mounted drain or a side mounted drain if a disposal is provided. Avoid center located drains. A drop in sink is acceptable. Mount faucet at side or upper corner. Avoid mounting faucet at rear. Sinks must be ADA approved and have garbage disposals.

For the bathrooms, provide either wall mounted or an under counter mounted composite or vitreous china sink. Select a sink that is between 6-1/2" and 7-1/2" inches deep. Mount faucet at side or upper corner. Avoid mounting faucet at rear. A drop in sink is acceptable.

For toilets, provide power assisted (air turbo) toilets complying with the height and location requirements of the Americans with Disabilities Act Accessibility Guidelines. Choose a style with an elongated bowl.

For the accessible shower, provide a standard roll-in type shower compartment at least 36 inches wide by 60 inches long equipped with 60 inch entry and roll-in curb. The shower shall include grab bars on three walls. Choose simple designs without built in seats and shelf projections. These are prone to damage. Free standing seats or shower chairs are preferred, as are separate wall mounted soap and shampoo carriers which can be removed and replaced if damaged. For the shower unit and controls, provide a unit offering a temperature limit valve, a hand held spray with a hose 59 inches, and a mounting bar so that the hand held spray can be used as a fixed unit. These requirements are specifically addressed in ANSI A117.1 and the ADA guidelines. Provide a recessed ceiling mounted light and fan in the shower enclosure.

For bathtubs, provide a therapeutic, walk in tub designed for use with a patient lift and offering a full complement of therapeutic jets.
- **Electric Lighting**

  Provide lighting from a variety of sources. The lighting shall include both direct and indirect components to reduce glare and shadows. Unless contained in a single fixture, provide separate switching for direct and indirect components. Use large surface, toggle type on off or slide type dimmer switches to control the lighting. Place the switches between 44 and 48 inches above finish floor. Choose lighted switches for bathrooms and hallways. Choose wall plates that provide visual contrast from the painted wall. Provide occupancy sensors in rooms like closets, the laundry room and pantry. Unless otherwise noted, follow IES guidelines and for uses without an IES guideline provide not less than 75 foot-candles on work surfaces, 50 foot candles at table height and 30 foot-candles at floor surfaces.

- **Power**

  Provide power service and receptacle locations in compliance with the applicable code. To increase ease of use and accessibility, locate receptacles not less than 18 inches above finish floor.

- **Communications**

  Provide each bedroom with telephone, data and cable TV receptacles. Locate one telephone/data receptacle at the bed wall and one telephone/date receptacle on the wall opposite the bed wall. Provide the cable TV receptacle on this wall near the exterior wall.

  Provide the staff office with two telephone, four data and one cable TV receptacles.

  Provide the kitchen with one telephone receptacle, data and cable TV receptacle.

  Provide the Living Room, the Sitting Room and the Activity room with cable TV, telephone and data receptacles.

  Provide a front door bell that activates both a chime and a blinking light. Also may be connected to a receptacle to activate a table lamp.

  To increase ease of use and accessibility, locate communication receptacles not less than 18 inches above finish floor.

  Intercom systems should be placed strategically throughout the house for general notification purposes. Individual bedrooms shall have a method of notifying supervising personnel of problems. Intercoms may also be used for monitoring occupants at the staff office.
**General**

This section of the guide provides basic guidance on features for the building. In general, the design of the project shall be consistent in image, features and construction of any new or remodeled home in the Falls Church-Fairfax County area and draw from the principles of Universal Design. In this sense, the design and features of the home shall not solely rely on the use of special accessibility products to facilitate the comfortable enjoyment of the home by our occupants. Instead, design skill shall be focused on the inventive deployment of materials, products and equipment found in any home to meet the day to day needs of our occupants while providing an effective work environment for our staff. The demands of certain personal care activities such as bathing will require the use of special accessibility products available in the marketplace.

Ideally, all living activities shall be located on one level elevated not more than one foot above the adjacent grade. Not all sites or homes may be suitable for this goal. Two story homes should be avoided but may be acceptable if a residential elevator is provided or planned for in the design. Storage and utility functions may be placed below grade or in attics if accessed by a stair complying with code requirements. For purposes of the Design Guide, the following text draws from the sample Program of Requirements and Model Design provided in the attachments. The text provides descriptions of the various spaces, the activities anticipated in each space and the features requested to support them.

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**A Note About Residential Elevators, Platform Lifts and Stair Climbers**

The Guidelines do not include in depth information for residential elevators, platform lifts, and stair climbers for three reasons,

1. Group homes are preferably one level homes and are adequately served by zero step entrances or ramps.
2. Residential elevators and platform lifts are typically more expensive than zero step entrances and ramps to install, operate and maintain.
3. The operations of the group home are disrupted if operation of the elevator or lift is disrupted by equipment failure or power outage.

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**The Entry Porch**

The Entry Porch provides weather protection while the individual and others make their way through the doorway, which for some, may require a bit of effort and time. At a minimum, an entry porch shall be provided at the front (primary) entry. They are also preferred at all side or rear entry doors used by individuals.

The front entry porch shall permit a gracious and smooth entry by all into the home. Its design shall
provide protection from the weather, a place to set packages and belongings, sufficient room to shake precipitation from outerwear or wipe dirt from footwear, find keys or ring the door bell. The porch shall be a minimum of six feet wide and deep to provide for wheelchair turning and positioning. It shall provide an arrangement that safely separates the door landing area from adjacent steps or ramps. The design shall never place stair treads or a ramp entrance opposite or at the hinge side of the entry door. Finally, it is preferred that the porch not exceed eight inches above adjacent grade to permit access by an accessible route not exceeding 5% slope, and it is required that the porch finish floor elevation match the interior finish floor elevation at the sill to create a "No Step Entry."

It is preferred that the porch include a ledge or shelf or space for a table near the latch side of the door, but outside the required latch clear space. This is helpful to individuals and others who need set down a package or other items to free both hands for opening the door. It is also preferred that the latch side clear space be at least thirty inches wide and seventy-two inches deep regardless of the approach direction. Provide a lighted door bell.

The front entry porch shall provide closed storage for maintenance equipment and supplies such as a trash can, broom and in the winter months, snow shovels, de-icing salts and other materials. It is preferred for all entry porches to offer similar closed storage space.

The front entry porch shall provide a weather protected open storage location for deliveries and a large mailbox, if the USPS provides "to the door" delivery. The front entry porch may provide space for seating, container plants and other decorative items. This is preferred as a gesture of community, and as a place for individuals to comfortably wait for transportation services during temperate weather.

For lighting, provide decorative surface mounted wall lanterns controlled by a daylight sensor. Supplement the decorative lanterns with recessed, ceiling mounted down lights supplying not less that 35 foot-candles controlled by a motion detector.

- **Entry Hall**

As previously stated, the front entry porch shall permit gracious and smooth entry by all into the home. The Entry Hall should continue and complete the process. As stated, a "no step" entry is essential. Therefore, a "flat sill" shall be provided at the entry door. The entry door shall be not less than 36 inches wide and feature a side light. If possible, provide a 40 inch wide door or make the side light portion operable with the release of recessed manual flush bolts. A 40 inch door eases entry by individuals with mobility aids. The operable sidelight permits a wider opening when needed for transporting furniture and equipment. The sidelight also brings natural light to the entry hall and allows people of all heights and visual capabilities to see who is at the door. If a sidelight is not provided, provide an entry door with multiple security viewers installed at various heights, but
not less than one at standing height and one at seated height.

The entry door shall open into a foyer sized for not less than three people and permitting a full turn by a wheelchair user. The entry shall include a closet for storage of guest coats and other items. Typical furniture includes a side table and a side chair.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to decorative surface mounted pendant fixture augmented by ceiling mounted recessed down lights or wall washers. Equip the circuits supplying the recessed down lights with combination sliding dimming switches and on/off toggle button. Equip the circuit supplying the decorative surface mounted fixture(s) with a combination motion detector/on-off toggle switch.

Typical finishes for the entry hall are gypsum board for walls and ceilings with natural wood baseboards and moldings. Walls shall be painted with semi-gloss latex paints and ceilings with eggshell latex paint. Use semi-gloss latex enamels on moldings and trims.

Provide durable, low maintenance flooring. For flooring, ceramic and stone tiles are preferred. Exercise care in selecting the tiles since many tiles may become slippery when wetted. Sealing the tiles and grout is preferred. Natural wood and laminate wood floorings are acceptable as is rubber and linoleum tile and sheet flooring. Avoid carpet and never use self adhesive vinyl tiles.

- **Sitting Room or Den**

Convenient to the Entry Hall, locate a Sitting Room or Den with space sufficient for one to four people engaged in private conversation, or other quiet activities such as reading. The Sitting Room may also serve as a meeting room for staff or a guest room.

Typical furniture and furnishings include arm chairs, convertible loveseats, side tables, coffee tables, floor and table lamps, bookshelves and decorative items. For furniture, leather upholstery is preferred for its durability and ease of cleaning. Stain resistant fabrics made of colorfast synthetic fibers such as nylon and olefins are acceptable. In addition, the chairs and sofas should provide firm armrests to assist with each individual's own choreography of sitting and standing.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to ceiling mounted recessed lighting augmented by a decorative table mounted fixtures. Equip all lighting circuits with combination sliding dimming switches and on/off toggle button.

Typical finishes for the Sitting Room or Den are gypsum board for walls and ceilings with natural wood baseboards and moldings. Walls shall be painted with satin or semi-gloss latex paints and ceilings with eggshell latex paint. Use semi-gloss latex enamels on moldings and trims.

Provide durable, low maintenance flooring. For flooring, natural hardwood flooring, such as red or white oak is
preferred. Wood laminate floorings are acceptable as is ceramic tile, rubber and linoleum tile and sheet flooring. Avoid carpet and never use self adhesive vinyl tiles.

- **Living Room**

Convenient to the Entry Hall, Dining Room and Kitchen, locate a Living Room. The Living Room shall provide seating groups for daily use by 6 to 8 people. The seating groups shall be arranged to support either group conservation or passive entertainment activities such as watching TV or listening to music.

Typical furniture and furnishings include an entertainment center containing a large TV screen, cable TV receiver and other media equipment like a DVD player, sofas, arm chairs, recliners, side tables, coffee tables, floor and table lamps, and decorative items. In addition, the chairs and sofas should provide firm armrests to assist with each individual's own choreography of sitting and standing. Again, leather upholstery is preferred but stain resistant fabrics made of colorfast synthetic fibers such as nylon and olefins are acceptable.

The living rooms shall include sufficient space and furniture to accommodate larger groups for holidays and special events. Appropriate strategies may include space with seating placed in adjacent circulation space or window bays that are adjacent to the living room.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to ceiling mounted recessed down light fixtures augmented by a decorative table mounted fixtures. Equip all lighting circuits with dimmer slides and on/off toggle switches. Consider circuiting the light fixtures in logical groups so that they may be controlled independently.

Typical finishes for the Living Room are gypsum board for walls and ceilings with natural wood baseboards and moldings. Walls shall be painted with satin or semi-gloss latex paints and ceilings with eggshell latex paint. Use semi-gloss latex enamels on moldings and trims.

Provide durable, low maintenance flooring. For flooring, natural hardwood flooring, such as red or white oak is preferred. Wood laminate floorings are acceptable as is ceramic tile, rubber and linoleum tile and sheet flooring. Avoid carpet.

- **Dining Room**

Adjacent to the Kitchen and convenient to the Living Room, locate a Dining Room for 8 to 12 people. On typical days, the Dining Room will be used by most of the occupants and staff for their meals. It may also be used for other activities requiring a table top like playing board games. It is preferred that the Dining Room be capable of supporting 12 people during special events.

Typical furniture and furnishings include a dining table for 8 persons. The dining table should include additional leaves which can be inserted to convert the table to seat 12 people. Provide chairs for at least 8, with at least one quarter of the chairs equipped with arm rests. Additional
seating may be supplied by sturdy, folding chairs. A small closet within or adjacent to the dining room is helpful for storage of the dining table leaves, folding chairs and other equipment that may be needed for special events and holidays. Provide a side buffet cabinet to provide space for setting out the meal. Supplement these basic furnishings with decorative items.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to ceiling mounted recessed down light fixtures augmented by a decorative pendant chandelier. Equip all lighting circuits with combination sliding dimming switches and on/off toggle switches.

Provide finishes comparable to and coordinated with the living room and sitting room.

- **Kitchen**

Convenient to the Entry, staff office, Activity Room, and adjacent to the Living Room and Dining Room, locate a Kitchen.

Equip the Kitchen with a full size refrigerator-freezer, a freezer, a dishwasher, a cook top and wall ovens. Best quality, energy star rated residential appliances are preferred. A range is an acceptable substitution for the stove top and wall ovens. In addition, provide a number of small appliances such as an electric can opener, 12 cup coffee maker, 6 to 8 slice toaster and both a mini and standard sized food processor. Consider including a "pot filler" faucet at the cook top. Additional appliances to consider include a jar opener, a counter top mixer and a blender. Equipment and appliances in kitchens should have redundant signals features such as audible alarms paired with blinking lights.

To adequately and conveniently store the food required by six adults, Group homes require a large refrigerator/freezer -- no less than 25 cubic feet of combined storage. The refrigerator / freezer should include a built in ice and water dispenser. Give preference to a refrigerator / freezer offering a "side by side" door arrangement. The reduced door swings can improve access for the physically impaired to most of the compartments. It is also important that the doors fully open (about 180 degrees) so that they do not intrude on the clear space required by wheel chair use. Despite these advantages, the lower drawers in the refrigerator section may not be fully accessible since the refrigerator door, drawer and a wheelchair compete for the same
space. Furthermore, the bottom of the lowest drawer may be outside the reach range for a wheelchair user and those with bending limitations.

Some manufacturers, such as LG, offer a side by side "french" door arrangement for the refrigerator and a lower drawer for the freezer. This arrangement deserves serious consideration since the side by side refrigerator places the bulk of the refrigerator compartment within the reach range of a wheelchair user, and eliminates low drawers. Since the freezer drawer operates within the typical reach range of the wheelchair user, it provides reasonable accessibility to most frozen items. However, the low freezer drawer may pose issues for those with limitations on bending or stooping. This issue may be addressed with the use of a chair or assistive reaching devices.

Provide a stand alone freezer. The stand alone freezer should be large -- about 20 cubic feet. Typically, the freezer is placed in the pantry but may be located in the kitchen if space permits. Generally, upright freezers are preferred over chest freezers. **Upright freezers** have many advantages in the group home over chest freezers. First, they have a smaller footprint, and thereby save space. Second, the arrangement of shelves and door compartments facilitate organization and access of the items stored. This is a time saver in preparing meals and shopping lists.

The dishwasher merits special consideration. In that the home serves six individuals and staff, it is not unreasonable to install two full size dishwashers. A full size dishwasher is usually 24 inches wide. Two dishwashers provide the capacity to adequately serve the volume of glasses, plates, pots and utensils used in a day and for special events. The dishwasher also poses a number of accessibility and ease of use issues that can be difficult to reconcile.

These two LG refrigerators illustrate the difference between a french door refrigerator over a freezer drawer (left) and a side by side (right.).

These images from the KitchenAide website illustrate the advantages of drawer style dishwashers. The image on the left shows two single drawer dishwashers on either side of a sink. The image on the right is a two drawer dishwasher.
The first is that standard dishwashers are designed to fit under a 36 inch high countertop. The height of a typical accessible counter top is 34 inches. The second is that the dishwasher door, when lowered, presents an obstacle to those with mobility impairments who may have difficulty accessing the interior racks. For users of wheelchairs, provide a parallel approach to the dishwasher racks combined with a front approach to the sink or counter. This enhances a wheelchair user's ability to adequately reach both the sink and dishwasher for loading and the dishwasher and cabinets for unloading. This arrangement may also serve those needing rolling walkers. Therefore, an under counter knee space is desirable on both sides of a dishwasher. In choosing a dishwasher, confirm that the bottom rack is higher than 9 inches above the floor, and the racks extend fully. If not, the dishwasher may be raised by the development of a higher toe or kick space, typically to a height of 8 or 9 inches from the traditional 4 inches. As an option, consider a dishwasher organized as one or two drawers. These are typically found among higher end brands. Drawer type dishwashers are typically much more expensive than standard residential units and may have less dishwashing capacity. Their selection should be carefully considered. Finally, select a dishwasher with large clear touch pad controls, a stainless steel interior and good sound insulation for quiet operation. Again, these features are more prevalent at the higher end of most brands.

Provide a cook top. Cook tops have advantages over ranges in terms of ease of use and accessibility. The smooth surface allows pans to slide on the cooking surface from the counter. This assists those with limited lifting strength as well as wheelchair users. Further, cook tops allow the development of an under counter knee space for wheelchair use. In general, an electric ceramic cook top or induction cook top is preferred over a gas cook top. This is primarily to limit the risk posed by the open flame of the gas cook top. The open flame poses a risk to the visually impaired, cognitively impaired and potentially to those with sense and motion limitations. The induction cook top offers the greatest safety in that the induction cook top does not heat up like an electric cook top. It works by heating a steel or iron pan directly through the use of a magnetic field. However, induction cook tops only work with pans containing steel or iron.

![These two GE cook tops illustrate the difference between a cook top without visually distinct burners (left) and one with visually distinct burners (right.)](image)

In selecting the cook top, choose one at least 30 inches wide offering four burners and the controls at the front. Consider a cook top at least 36 inches wide that offers five burners. If possible, look for cook tops that offer a "bridge" burner combining two smaller burners into a larger burner for oblong dutch ovens and griddles. Avoid
cook tops that do not provide visually distinct "burner" areas. Visually distinct burner areas aid proper use of the cook top by the visually and cognitively impaired. Since the ceramic surface retains heat, look for cook tops that include a "hot surface" indicator light. The electronic touch controls typically available also aid those with limited manual dexterity.

Along with their advantages, ceramic cook tops have a few negatives to be considered. They require special care and cleaning. The ceramic surface can crack or break under a point load like a dropped pot. A spill or over boil can travel over the surface into the lap of a wheel chair user. Finally, care must be exercised in protecting the underside of the cook top where a knee space is provided if the underside of the cook top heats to a level that can burn skin.

At the cook top, consider providing a "pot filler" faucet within the reach range specified by accessibility codes. Again, this is a feature typical to gourmet kitchen design that offers many benefits to all users. The primary benefit is the convenience of filling pans at the cook top instead of transporting a heavy pan of water from the sink.

Provide wall ovens. Wall ovens are preferred for a number of reasons. First, they can be placed at a convenient reach height. Second, they offer side hinged doors which makes the oven compartment easier to access. A bottom hinged door, when opened becomes an obstacle both for the wheelchair user and someone with limited lifting strength. Locate the lower rack of the wall oven not more than 34 inches and not less than 30 inches above the finish floor. Provide a pull out shelf in the cabinetry under the wall oven. Construct the pull out shelf with a heat resistant surface since the pull out shelf provides a place to set a hot dish when removing it from the oven.

The Kitchen shall feature a compact and straightforward arrangement of work areas and surfaces. The work surfaces may be countertops, free standing furniture or a combination. As a home for six individuals plus staff, many meals are served in the course of a day, and meal preparation frequently requires a "production line" approach. Therefore, it may be helpful to layout the kitchen into five basic work areas: food storage, food preparation, cooking, serving and dish cleaning. Each work area should provide a choice of work heights appropriate to tasks performed while sitting or standing. Avoid abrupt changes in countertop heights and strive to make the variety of working heights an appealing design feature. If possible, provide a means where the work height can be adjusted a few inches. The means to achieve this can be as simple as a prop like a thick "butcher block" cutting board offering a few more inches of height, or a pull out

A Note about Accessibility in the Kitchen

Accessibility in the Kitchen is well defined in the requirements of both ANSI A117.1, Standard on Accessible and Usable Buildings and Facilities and the Americans with Disability Act Architectural Accessibility Guidelines (ADAAG.) There are slight differences between the two. Typically, ANSI A117.1 must be purchased but the ADAAG is available free from the Access Board (www.access-board.gov)
work surface a few inches lower than the countertop. Each work area should provide space for people working together on a task. Connect the food preparation area and cooking area with a continuous counter top to permit sliding of prepared items between the two. In arranging the five work areas, provide each work area with counter space complying with accessibility requirements. At a minimum, provide an 18 inch wide counter area at the refrigerator/freezer, a 24 inch wide counter area on either side of the sink and cook top. The sink and cook top may share one of these counter areas. Provide an 18 wide counter area at the wall oven. Provide one 30 inch wide counter area for food preparation. This may be combined with the counter areas at the sink or cook top. In galley arrangements, provide at least 42 inches wide aisles with 48 inches wide preferred. In u-shaped kitchens, provide at least 60 inches clear between all opposing base cabinets, countertops, appliances or walls to permit a full turn by a wheelchair user.

For countertops and cabinetry, avoid wall cabinets over counters and base cabinets in work areas. Wall cabinet shelves over 54 inches high are considered inaccessible, and may be inaccessible at even 46 inches high when over a counter greater than 20 inches deep. Consider providing a simple, shallow open shelf or utensil bar at the back of the counter. This is increasingly becoming a standard feature in kitchen design since it places regularly used tools and ingredients like oils and spices within easy reach. Base cabinets can interfere with the effective use of counters by people in wheelchairs. An effective strategy is placing equipment and food storage in banks of cabinets near the work areas to form a "butler's pantry." The base cabinets should avoid fixed shelves and give preference to drawers or pull out shelves. Wall cabinets should feature adjustable shelves. For those with vision impairments, visual contrast between the walls and cabinets and the countertop surface and edge is recommended. Another strategy is use of a contrasting banding material at the countertop edge.

Two sinks are preferred, though one is acceptable. When two sinks are provided, one shall be located in the food preparation work area and one in the dishwashing area. The food preparation sink shall include a built in vegetable strainer. If possible, equip the sink with a disposal. In order to accommodate wheelchair access and the disposal, provide a sink with an offset drain. The dishwashing sink shall be a single bowl sink, sized for pot washing with a single lever control and pull out faucet. For both sinks, provide a tall "gooseneck" style faucet with single lever operation and pull out spout. Preferably, the faucet should also include these features,

- pause button that temporarily stops the flow of water
- aerated and rinse spray functions
- pivoting spout.

Where possible, consider placing the faucet and faucet control at the side of the sink and not at the back of the sink. This can improve accessibility for those with reach limitations. Finally, provide the faucet with an anti-scald temperature limiting valve.

Typical finishes for the Kitchen are gypsum board for walls and ceilings with natural wood baseboards and moldings. Walls shall be painted with semi-gloss latex enamel paints and ceilings with satin latex paint. Use gloss latex enamels on moldings and trims.

For flooring, ceramic and stone tiles are preferred. Exercise care in selecting the tiles since many tiles may become slippery when wetted. Sealing the tiles and grout is preferred. Natural wood and laminate wood floorings are acceptable as is rubber and linoleum tile and sheet flooring. Never use carpet or self adhesive vinyl tiles

- **Pantry**

Adjacent to the Kitchen, locate a walk-in Pantry. The Pantry shall be sized for use by two people and be accessible. It shall be provided pre-manufactured cabinetry offering a combination of base drawers and cabinets, some lockable and open adjustable shelving. The full size freezer shall be located in the pantry.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to ceiling mounted recessed down light fixtures augmented by decorative pendant fixtures over focus areas such as the kitchen table. Consider supplemental lighting at the counters to raise the light level at the work surface to 100 foot-candles. Equip all lighting circuits with combination sliding dimming switches and on/off toggle switches.

Provide finishes comparable to and coordinated with the kitchen.
- **Activity Room**

Adjacent to the Kitchen and convenient to the Living Room and Dining Room, locate an Activity Room. The room shall be furnished with a table and chairs for 2 to 4 persons, free standing bookshelves, and a side chair or two. The room shall serve multiple purposes such as crafts, games and as an alternate space for individuals to eat meals. It is preferred that the Activity Room offer direct access and views to the outside, and large quantities of daylight.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to simple, surface mounted ceiling fixtures. Consider providing multiple fixtures for balanced light distribution and to reduce glare and shadows. Equip all lighting circuits with an on/off toggle button. Consider providing a ceiling fan.

Provide finishes comparable to and coordinated with the kitchen.

- **Staff Office with Secure Storage Closet**

Convenient to the Kitchen and Laundry Room but in a central part of the home, locate a staff office. Ideally, it should offer direct access to the exterior and controlled access to the storage/utility areas provided in an attic or basement.

The staff office should be sized for two work areas. One work area shall be equipped for a manager and one work area shall be equipped for staff. The manager area shall be private or semi-private if possible and include a desk with return, ergonomic chair, a side chair and credenza for file and equipment storage. The staff work area shall include a desk with return. A common work area shall be provided for work surface, storage cabinets, file cabinets, and a shared printer/fax/copier machine. Provide at least 32 square feet of wall area for tack boards for the posting of employment notices, operational and other information.

Provide a lockable storage closet accessible only from the staff office. Provide space for a file cabinet, a compact refrigerator, and medical/drug storage cabinet.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at table height. Give preference to multiple, simple, surface mounted ceiling fixtures. Equip all lighting circuits with an on/off toggle button. Consider providing a ceiling fan.

Provide finishes comparable to and coordinated with the living room and sitting room.

- **Bedrooms**

Convenient to other spaces but in a segregated area or areas of the home, locate six bedrooms. In general, three types of single occupant bedrooms offering three levels of accessibility and assistance are preferred in the group homes. The types can be characterized as Standard bedrooms, Mobility Impaired bedrooms and Assistive Care bedrooms.
The Standard Bedrooms shall be sufficient in space and arrangement for individuals with a normal mobility range that care for themselves with little to no assistance. The Mobility Impaired bedrooms shall be sufficient in space and arrangement for individuals that require mobility aids like walkers and wheelchairs and little to no assistance. The Assistive Care bedrooms shall be sufficient in space and size for individuals that require mobility aids and/or assistance with mobility and their personal care. In general, the Mobility Impaired Bedrooms and Assistive Care Bedrooms are larger than the Standard Bedrooms in order to provide easy wheelchair accessibility throughout the rooms and space for the use of assistive equipment like patient lifts or hospital style beds. Please note the Standard bedrooms, in their size and arrangement, are preferred to be fully accessible but not required to be.

However, people using wheelchairs and other mobility aids shall be able to enter and exit the standard rooms. Typically, group homes will feature two to three Standard Rooms, two to three Mobility Impaired Rooms and perhaps one Assistive Care Room.

Furnishings for the bedrooms vary with the needs, activities and wants of each individual. Usually, the individual selects the furniture. At a minimum, each bedroom is furnished with a twin or queen bed, a dresser or two, a side chair, and a bookcase. In addition, most bedrooms include a chair and desk or exercise equipment or an entertainment center. Finally, the bedrooms include pictures and other decorations selected by the individual.

State Regulations govern the minimum size and features of bedrooms. At the time of printing, the size is 80 square feet with a minimum ceiling height of 7.5 feet. Experience has demonstrated that the minimum room size is rarely sufficient. Workable Standard bedrooms typically average 120 square feet with a minimum room dimension of 10 feet. Based on accessibility requirements, a Mobility Impaired bedroom should be at least 145 square feet with a minimum room dimension of 12 feet. Along the bed wall, this size assumes a minimum 36” aisle, a 48 inch wide allowance for a bed and frame, and a minimum 60 inch aisle. In the other direction, it provides an 84 inch allowance for the bed and frame, and a minimum 60 inch aisle width. Some of the 60 inch wide aisles will be reduced to 36 inch wide since furniture like dressers, bookcases and desks will be placed in parts of the aisle space. However, in both the Mobility Impaired and Assistive Care bedrooms, a 60
inch diameter turning space shall be maintained in each 60 inch aisle. The Assistive Care bedroom requires an additional 8 inch bed wall allowance for use of a hospital style bed, and an additional 12 inch allowance for one of the two 60 inch aisles for use of a patient lift. This increases the minimum area requested for an Assistive Care bedroom to 165 square feet with a minimum room dimension of twelve feet and eight inches.

- **Bathrooms**

Three bathrooms are preferred. One shall be an accessible half bath and the other two shall be accessible full baths. The Half Bath shall be located convenient to the living areas of the house. Preference shall be given to a location central to the Entry Hall and Kitchen. The full baths shall be located adjacent to the Bedrooms.

In all the bathrooms, provide conveniently located built-in, pre-manufactured cabinetry for storage. The cabinetry provides convenient storage for things like soap, toilet paper, cleaning supplies, towels and soiled laundry. Since accessibility requirements at the lavatory will preclude the use of standard sink base cabinets, the cabinetry will typically be in the form of wall mounted vanity cabinets, vanity base cabinets or tall linen cabinets. Vanity wall cabinets are available from most cabinet manufacturers and vary from about 4-1/2 inches to 8 inches deep, 12 inches to 24 inches wide and 30 inches or 36 inches high. Vanity base cabinets vary from 15 inches to 21 inches deep, and widths from 12 to 60 inches in many configurations of doors and drawers. Tall linen cabinets vary in depth from 12 inches to 21 inches and 9 to 18 inches wide. For vanity wall cabinets, select one at least 6 inches deep, more or less, so that it can hold a standard roll of toilet paper. Where possible, consider recessing the wall cabinets into the wall. This may require deeper framing studs for the wall such as 2x6 or 2x8 instead of 2x4s. For the vanity base and tall linen cabinets, consider combinations of 18 inch deep cabinets.

**A Note about Accessibility in the Bath**

Like the Kitchen, accessibility in the Bath is well defined in the requirements of ANSI A117.1, *Standard on Accessible and Usable Buildings and Facilities* and the Americans with Disability Act Architectural Accessibility Guidelines (ADAAG.)

When sensitively designed, bathrooms combining the best of accessible and universal design do not look institutional. This bathroom from the Best Bath Catalogue shows what is possible.
The half bath shall provide a lavatory, toilet, grab bars, toilet tissue dispenser, and mirror. Provide a sensible location for a trash can that is outside any clear area required for accessibility.

Provide towel rings for hand towels near the lavatory. Avoid towel bars which are inadvertently used as grab bars, potentially leading to falls and injuries. Provide two low profile robe hooks (not more than 1-1/2" projection, more or less) on the back of the door. Mount one cook hook at 46 inches above finish floor and one coat hook at 72 inches above finish floor. An example of an appropriate robe hook is **Model 7671 offered by Bobrick.**

![Robe hook and toilet tissue dispenser](image)

The robe hook (left) and single roll toilet tissue dispenser (right) both by Bobrick.

Provide two, single roll toilet tissue dispensers. Mount one below and one above the side grab bar at the toilet. To increase clearances at the toilet, consider a dispenser that is recessed in the wall such as **model B667 offered by Bobrick.** The lavatory shall be a wall hung unit made of vitreous china which offers a built-in cover over the plumbing. Select a faucet offering a single, lever style temperature control with a built-in high temperature limit device to prevent scalding. Give preference to faucets with high arched designs. The "Pinoir" wall mount lavatory paired with the "Forté" faucet, both manufactured by Kohler, offers an example of a preferred lavatory and faucet combination.

![Lavatory and faucet](image)

The “Pinoir” wall mount, lavatory by Delta (left) and the “Forté” faucet by Delta (right)

Provide a wall vanity cabinet or tall linen cabinet. Locate the cabinet outside of any required clear area for accessibility or consider recessing the cabinet within the wall.

Provide ambient lighting supplying not less than 75 foot-candles of illumination at the floor. Provide supplemental lighting to provide 100 foot-candles at the vanity. For the ambient lighting, consider a combination of ceiling mounted recessed down lights and surface mounted decorative wall fixtures including a feature fixture at the vanity mirror. Equip all lighting circuits with an on/off toggle button. Provide an exhaust fan. Consider placing a light fixture and the exhaust fan on a circuit controlled by an occupancy sensor.
Typical finishes for the Half Bath are gypsum board for walls and ceilings. Walls shall be painted with semi-gloss latex enamel paints and ceilings with satin latex paint. Use gloss latex enamels on moldings and trims. For ease of maintenance, consider providing a ceramic tile wainscot behind the lavatory, and both behind and along the side of the toilet.

For flooring and base in the half bath, ceramic tiles are preferred. Exercise care in selecting the floor tiles since many tiles may become slippery when wetted. Provide a 6 inch high ceramic base. Consider treating the floor tiles and grout with a sealing agent. Linoleum or vinyl sheet flooring is acceptable. Avoid vinyl composite tiles and never use self adhesive vinyl tiles. If these floor finishes are used, provide a single piece wood base at least 6 inches high and provide sealant at the joint between the floor finish and base.

One of the accessible full baths shall provide a lavatory, toilet and full width accessible, roll-in shower. The other accessible full bath shall provide a lavatory, toilet and an accessible bathtub, preferably a therapeutic, walk-in tub that allows for the use of a patient lift. It is preferred for both accessible full baths to provide sufficient space for staff to assist individuals with bathing and other personal needs. Therefore, it is preferred that the full bathrooms be sufficiently sized to permit the use of patient lifts to transfer patients to the tub or shower from a wheelchair.

Both full baths shall include built in pre-manufactured cabinetry for storage of toiletries, clean linen, soiled linen, and cleaning supplies. The full bath with the therapeutic tub shall include a closet for storage of the patient lift. The built in cabinetry shall include a base cabinet with hamper, a tall linen cabinet, vanity bases with drawers for storage of individual toiletries, and vanity bases with adjustable shelving for general storage. Complement the cabinetry with open shelving for towels and decorative items. Provide conveniently located towel rings and robe hooks near the bath or shower, and at the vanity.

For the full baths, provide a lavatory in a vanity counter that is comparable and coordinated with those provided in the half bath. At the vanity, provide a mirror, wall mounted decorative light fixture, under counter mounted lavatory in a solid surfaced counter, a faucet, and a sensible location for a trash can outside any required clear floor area for accessibility. The vanity lavatory shall fully comply with accessibility requirements including enclosing the below counter plumbing. Develop convenient locations around the vanity, such as small built in shelves, for placement of decorative items that convey a sense of home.
The shower enclosure and shower unit above from the Best Bath Catalogue are representative of the types described. Please note, the shower enclosure though listed as ADA compliant would not meet ANSI requirements due to slight differences between the two. Confirm that any equipment furnished and installed comply with both.

For the full baths, provide toilets with grab bars and two toilet tissue dispensers as described for the half bath. The toilets and accessories shall fully comply with accessibility requirements. For the accessible shower, provide a standard roll-in type shower compartment at least 36 inches wide by 60 inches long equipped with 60 inch entry and roll-in curb. The shower shall include grab bars on three walls. Choose simple designs without built in seats and shelf projections. These are prone to damage. Free standing seats or shower chairs are preferred, as are separate wall mounted soap and shampoo carriers which can be removed and replaced if damaged. For the shower unit and controls, provide a unit offering a temperature limit valve, a hand held spray with a hose 59 inches, and a mounting bar so that the hand held spray can be used as a fixed unit. These requirements are specifically addressed in ANSI A117.1 and the ADA guidelines. Provide a recessed ceiling mounted light and fan in the shower enclosure.

Choosing an appropriate therapeutic tub requires considerable research and care. The marketplace offers

With many different types and features, therapeutic tubs require detailed research in order to select the one that will work best for your
many different types of tubs and features. These types of tubs require periodic service and maintenance. In general, select tubs that offer ease of access and provide for the use of patient lifts. Typically, the tubs offer some kind of access door design. Avoid door designs that are complicated with many moving parts. Also avoid designs that do not provide easy access to service points for pumps and controls.

For the full baths, provide lighting and finishes comparable with and coordinated with the half bath. Give special attention to the floor and wall finishes. Many of our individuals may have poor motor skills and coordination. The outcome frequently is larger than typical quantities of water on the floor or walls adjacent to tubs, showers and lavatories. Therefore, provide ceramic tile or other impervious materials for the walls and floors in these areas. Extend concealed under-floor waterproofing membranes in the shower, bath and adjacent drying areas. In addition, provide supplemental floor drains in the areas of showers and baths.

Finally, in applying accessible requirements to the baths, avoid fixtures and equipment with an institutional character.

- **Laundry**

Convenient to the Kitchen and staff office, locate a laundry. The laundry shall provide facilities for machine washing; machine drying, ironing and folding clothes. It shall include a service sink and lockable storage cabinetry for soaps and sundries. It may also include a separate closet or cabinetry with lock for janitorial supplies such as cleaning products, brooms, mops and vacuum cleaners.

The laundry shall feature sufficient room for use by one to two persons, some of which may be using mobility aids such as walkers and wheelchairs. The washer and dryer shall be high capacity, heavy duty, front loading, with controls at the front and within the accessible reach range. Commercial quality is preferred, but consumer quality is acceptable with an enforceable extended warranty. Energy star rated equipment is preferred.

The washer and dryer shall be elevated off the floor to locate the bottom of the drum within the accessible reach range. Many manufacturers offer an optional storage drawer which elevates the front loading washer or dryer from the floor. If available, this drawer should be purchased with the washer or dryer. In locating the washer and dryer, provide a sixty inch wheelchair turning clear area between the doors, and if possible, have the washer and dryer doors open the opposite way. In addition, provide a 30 inch by 48 inch parallel approach.
clear space at the washer and dryer doors. This will create space for a 30 inch folding counter between the appliances. If possible, equip the laundry with a laundry cart.

At a minimum, provide concealed solid blocking in the wall assembly sufficient to support handrails on both sides of the hallways. The blocking shall allow the installation of the handrails anywhere within the full height range allowed in the ADAAG requirements. Where need requires or as funding allows, provide handrails on both side of the hallways. Where possible, integrate the handrail with a wainscot constructed of through colored material that resists the cuts and abrasions that may be caused by wheelchair use.

Provide additional space at turns and intersections through the use of chamfered corners or other means.

For the hallways, provide lighting and finishes coordinated with and comparable to the Entry Hall. Consider providing a night illumination of the floor surface through the use of low voltage, recessed fixtures. Finally, consider providing impact resistant wainscot materials, wall and corner protection. Most of the commercially available products include PVC as a base material which poses environmental issues related to dioxin which is a byproduct of the manufacturer of PVC. PVC, as does any plastic, may also contribute harmful gases to the smoke during a fire. However, many manufacturers, like Acrovyn, are developing PVC free materials. In selecting wall and corner protection products, be sure to understand the code testing of the materials, and the fire and smoke contributions of the products.

For the laundry, provide lighting and finishes comparable to and coordinated with the kitchen.

- **Hallways**

Hallways shall comply with the requirements of an accessible route as established in the American with Disabilities Act Architectural Guidelines (ADAAG) and the VUSBC. However, it is preferred that hallways provide not less than 64 inches clear width from face of wall to face of wall. Avoid projections, except handrails, into this clear area. When handrails are provided, increase the clear hallway width to 68 inches. Recessed fixtures and equipment are preferred.
**Closets**

The closets shall be furnished with a flexible wire shelving and rod system similar to ClosetMaid "Shelftrack."™ These systems, which are widely available from storage and building material retailers, feature support standards mounted on the rear wall which accommodates a wide array of shelving, clothes rod, and component storage options. These components can be installed in a variety of combinations and heights allowing the closets to be customized to the needs of the user.

For lighting in the closet, provide a surface mounted fixture on the wall opposite the shelving. This location is best for illuminating the stored items. Consider placing this fixture on a door jamb switch which will turn on the light when the door is opened. A lighted rocker switch near the door is acceptable.

**Storage Rooms and Cabinets**

As a home for six people and a workplace for two to three people, group homes require a surprising amount of supplies, tools and equipment to operate efficiently. It is best if the supplies and equipment is stored "at hand" and ready to use where needed. Therefore, storage closets or storage cabinets shall be conveniently located in the bathrooms, kitchen or laundry, and hallways. All storage facilities shall be provided with locking hardware.

In bathrooms, provide a storage closet or cabinetry for clean towels, soiled towels, toilet tissue, hand soap, paper towels, cleaning supplies, and cleaning equipment. If possible, locate a small cabinet near the toilet for antiseptic wipes, latex gloves, chlorinated surface wipes, a plunger, and toilet brush. In at least one of the full baths, provide a storage closet for a patient lift and other similar equipment.

In kitchen or laundry, provide a storage closet or cabinetry for cleaning supplies, laundry supplies, cleaning equipment (mops, brooms, buckets, etc.), a simple tool box and other items typical to any home.

In the hallway, provide storage closets for linens, patient equipment and supplies.

Additional storage space is needed for office records, individual belongings, seasonal decorations, and Shelter in Place supplies. This storage space may be located in a basement or other space such as an attic if accessible by a standard stair and provided with humidity and temperature control.
A Note about Sources for Specialty Products and Equipment

The internet is a great tool to find businesses that offer specialty products and equipment that might be useful in meeting the needs of our group homes and the individuals. Here are some to check out,


A Note about Choosing Products and Equipment

The internet is a great tool to find information about selecting the right products and equipment as well. Check out these sites,

Key Feature Summaries
## The Entry Porch

<table>
<thead>
<tr>
<th>Feature</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Route to Entry</strong></td>
<td>Comply with requirements for accessible route</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Not more than 5% grade in the direction of travel and 2% cross grade</td>
</tr>
<tr>
<td><strong>Acceptable</strong></td>
<td>Ramp complying with accessibility requirements not more than 20 feet long</td>
</tr>
<tr>
<td><strong>Avoid</strong></td>
<td>Mechanical chair lifts</td>
</tr>
<tr>
<td><strong>Landing</strong></td>
<td>Not less than 6 feet in any direction</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>6 feet by 9 feet providing a 30 by 48 inch clear area at the door latch</td>
</tr>
<tr>
<td><strong>Acceptable</strong></td>
<td>6 feet by 6 feet providing a 24 by 48 inch clear area at the door latch</td>
</tr>
<tr>
<td><strong>Avoid</strong></td>
<td>Stairs or ramp entrance at the hinge side or opposite the door</td>
</tr>
<tr>
<td><strong>Shelf</strong></td>
<td>Provide a shelf or table near the door latch but outside the latch clear area</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Area for a small table that provides a place for decorative items that convey a sense of home.</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Sufficient for maintenance supplies and tools</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>A small cabinet, closet or storage bench for trash container, shovel or broom and de-icing chemicals.</td>
</tr>
<tr>
<td><strong>Door Bell</strong></td>
<td>Provide a lighted door bell and chime button</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>A lighted push button at least 1 inch square or round mounted 44 to 48 inches above finish floor at the latch side of the door, which actuates a chime and flashing light at interior.</td>
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<tr>
<td><strong>Street Number</strong></td>
<td>Comply with Fairfax County Requirements</td>
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<tr>
<td><strong>Preferred</strong></td>
<td>6” high contrasting letters place over the front entry with tactile signage placed near the door bell in compliance with accessibility requirements.</td>
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<tr>
<td><strong>Floor Finishes</strong></td>
<td>Floor finishes should be durable, firm, smooth materials with tight, even joints.</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Stone pavers on a mortar bed</td>
</tr>
<tr>
<td><strong>Acceptable</strong></td>
<td>Concrete with a light broom finish or paint porch enamel with a sand finish</td>
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<tr>
<td><strong>Avoid</strong></td>
<td>Materials that become slick when wet</td>
</tr>
<tr>
<td><strong>Ceiling Finishes</strong></td>
<td>Simple, easy to maintain and clean surfaces. Color should be white for good light reflectance.</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Exterior soffit board with a three coat system with two top coats of low VOC satin or eggshell latex enamel over primer.</td>
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<tr>
<td><strong>Acceptable</strong></td>
<td>Aluminum or Vinyl soffit panels</td>
</tr>
<tr>
<td><strong>Ambient Lighting</strong></td>
<td>Not less than 10 foot candles at the walking surface.</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Decorative surface mounted wall (coach type) fixtures with diffusing lenses on a daylight sensor.</td>
</tr>
<tr>
<td><strong>Acceptable</strong></td>
<td>A simple surface mounted wall fixture with diffusing lenses on a toggle switch</td>
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<tr>
<td><strong>Avoid</strong></td>
<td>Fixtures with high contrast and glare</td>
</tr>
<tr>
<td><strong>Task Lighting</strong></td>
<td>Provide supplemental lighting at the door lock</td>
</tr>
<tr>
<td><strong>Preferred</strong></td>
<td>Supplemental recessed ceiling mounted down lights on a motion detector boosting the light levels from 10 foot candles to 35 foot candles.</td>
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<tr>
<td>Feature</td>
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<td><strong>Entry Door</strong></td>
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<td><strong>Door Viewers</strong></td>
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<td><strong>Wall Base</strong></td>
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<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Floor Finishes     | **Preferred** Hardwoods, laminates and large format ceramic tiles  
|                    | Resilient sheet flooring like linoleum and high grade vinyl or commercial grade vinyl tile products.  
|                    | **Avoid** Stone tiles and "rustic" ceramic tiles  
|                    | **Never** Self adhered products or products that require special cleaning products and procedures.  |
| Wall Base          | **Preferred** Two piece, wood base not less than 6" high -- factory primed.  
|                    | **Acceptable** Straight profile rubber base not less than 6" high  
|                    | **Avoid** Vinyl Base  
|                    | **Never** Coved vinyl base.  |
| Wall Finishes      | **Preferred** Three coat system with two top coats of low VOC semi-gloss latex enamel over primer.  
|                    | **Acceptable** Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use semi-gloss or satin gloss levels.  
|                    | **Avoid** Standard latex paints with flat and eggshell gloss levels.  
|                    | **Never** Wall paper.  |
| Ceiling Finishes   | **Preferred** Three coat system with two top coats of low VOC satin or eggshell latex enamel over primer.  
|                    | **Acceptable** Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use satin or eggshell gloss levels.  
|                    | **Avoid** Latex paints formulated for ceilings.  
|                    | **Never** Suspended acoustical panel or tile ceilings.  |
| Ambient Lighting   | **Preferred** Multiple recessed lights accepting compact fluorescent lamps  
|                    | **Acceptable** Multiple surface mounted fixtures accepting compact fluorescent lamps  
|                    | **Avoid** Single large fixtures  
|                    | **Never** Shadows and glare on work areas  |
| Task Lighting      | **Preferred** Provide over work areas like counters, at stove top, and inside ovens.  
|                    | **Acceptable** At stove top and inside ovens only  
|                    | **Avoid** Systems requiring special lamp (light bulb) sizes or types.  
<p>|                    | <strong>Never</strong> Surface mounted fixtures that plug into outlets.  |</p>
<table>
<thead>
<tr>
<th>Items</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counters</td>
<td>Finishes should be durable, firm, smooth materials with tight, even joints. Look for products suitable for healthcare applications where possible.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Solid surfacing with contrasting edge material</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Plastic laminate</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Stone countertops</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Tile countertops that make sliding items across them impossible</td>
</tr>
<tr>
<td>Base Cabinets</td>
<td>Standard base cabinets with full extension drawers and pull out shelves.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Standard Base cabinets with drawers in a variety of depths with full extension guides.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Standard base cabinets with drawers in a variety of depths with full extension guides or with pull out shelves behind doors less than 16” wide</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Corner cabinets</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Products containing formaldehydes. Cabinets with fixed shelves.</td>
</tr>
<tr>
<td>Wall Cabinets</td>
<td>Standard wall cabinets with pull down organizers and adjustable shelves.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Wall cabinets as part of a bank of cabinets in storage walls.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Wall cabinets in compliance with accessibility requirements</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Wall cabinets over full depth base cabinets</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Products containing formaldehydes. Wall cabinets with fixed shelves</td>
</tr>
<tr>
<td>Open Shelving</td>
<td><strong>Preferred</strong> Adjustable open shelving at least 8 inches but not more than 12 inches deep</td>
</tr>
<tr>
<td>Hardware</td>
<td><strong>Preferred</strong> Simple wire pulls wide enough to accept the full width of the hand</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Decorative pulls</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Knobs, even when spherical</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Knobs with flat backs that can trap and pinch finger tips as doors rotate open</td>
</tr>
<tr>
<td>Feature</td>
<td>Requirements</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Floor Finishes</strong></td>
<td><strong>Preferred</strong> Large format ceramic tiles sloped to drain on a &quot;mud slab.&quot; Provide waterproofing membranes in shower, tub and drying areas.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Resilient sheet flooring like linoleum and high grade vinyl or commercial grade vinyl tile products.</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Stone tiles and &quot;rustic&quot; ceramic tiles</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Self adhered products or products that require special cleaning products and procedures</td>
</tr>
<tr>
<td>Floor Finishes</td>
<td><strong>Preferred</strong> Ceramic base 6 inch high</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Two piece, wood base not less than 6&quot; high -- factory primed or straight profile rubber base not less than 6&quot; high</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Vinyl Base</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Coved vinyl base</td>
</tr>
<tr>
<td>Wall Base</td>
<td><strong>Preferred</strong> Three coat system with two top coats of low VOC semi-gloss latex enamel over primer.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use semi-gloss or satin gloss levels.</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Standard latex paints with flat and eggshell gloss levels.</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Wall paper.</td>
</tr>
<tr>
<td>Wall Finishes</td>
<td><strong>Preferred</strong> Three coat system with two top coats of low VOC satin or eggshell latex enamel over primer.</td>
</tr>
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<td><strong>Acceptable</strong> Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use satin or eggshell gloss levels.</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Latex paints formulated for ceilings.</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Suspended acoustical panel or tile ceilings.</td>
</tr>
<tr>
<td>Ceiling Finishes</td>
<td><strong>Preferred</strong> Three coat system with two top coats of low VOC satin or eggshell latex enamel over primer.</td>
</tr>
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<td></td>
<td><strong>Acceptable</strong> Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use satin or eggshell gloss levels.</td>
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</tr>
<tr>
<td></td>
<td><strong>Never</strong> Suspended acoustical panel or tile ceilings.</td>
</tr>
<tr>
<td>Ambient Lighting</td>
<td><strong>Preferred</strong> Multiple recessed lights accepting compact fluorescent lamps</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Multiple surface mounted fixtures accepting compact fluorescent lamps</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Single large fixtures</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Shadows and glare on work areas</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Surface mounted fixtures that plug into outlets.</td>
</tr>
<tr>
<td>Feature</td>
<td>Requirements</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Floor Finishes</td>
<td>Floor finishes should be durable, firm, smooth materials with tight, even joints. Look for products suitable for healthcare applications where possible.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Resilient sheet flooring like linoleum and high grade vinyl or commercial grade vinyl tile products.</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Self adhered products or products that require special cleaning products and procedures</td>
</tr>
<tr>
<td>Wall Base</td>
<td>Simple, durable, easy to maintain and clean surfaces.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Two piece, wood base not less than 6&quot; high -- factory primed.</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Straight profile rubber base not less than 6&quot; high</td>
</tr>
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<td></td>
<td><strong>Avoid</strong> Vinyl Base</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Coved vinyl base</td>
</tr>
<tr>
<td>Wall Finishes</td>
<td>Simple, easy to maintain and clean surfaces. Color should be a pastel for good light reflectance.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Three coat system with two top coats of low VOC semi-gloss latex enamel over primer.</td>
</tr>
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<td></td>
<td><strong>Acceptable</strong> Three coat system with two top coats of latex paint formulated for kitchen and baths over primer. Use semi-gloss or satin gloss levels.</td>
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<td><strong>Avoid</strong> Standard latex paints with flat and eggshell gloss levels.</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Wall paper.</td>
</tr>
<tr>
<td>Ceiling Finishes</td>
<td>Simple, easy to maintain and clean surfaces. Color should be white for good light reflectance.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Three coat system with two top coats of low VOC satin or eggshell latex enamel over primer.</td>
</tr>
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<td></td>
<td><strong>Avoid</strong> Latex paints formulated for ceilings.</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Suspended acoustical panel or tile ceilings.</td>
</tr>
<tr>
<td>Ambient Lighting</td>
<td>Not less than 75 foot-candles.</td>
</tr>
<tr>
<td></td>
<td><strong>Preferred</strong> Compact fluorescent lamp opposite shelving or occupancy sensor with door jamb switch</td>
</tr>
<tr>
<td></td>
<td><strong>Acceptable</strong> Compact fluorescent lamp opposite shelving on a lighted rocker switch</td>
</tr>
<tr>
<td></td>
<td><strong>Avoid</strong> Ceiling mounted fixtures</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Shadows and glare on work areas</td>
</tr>
<tr>
<td></td>
<td><strong>Never</strong> Surface mounted fixtures that plug into outlets.</td>
</tr>
<tr>
<td>Feature</td>
<td>Requirements</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hallways</td>
<td></td>
</tr>
<tr>
<td>Floor Finishes</td>
<td>Floor finishes should be durable, firm, smooth materials with tight, even joints. Look for products suitable for healthcare applications where possible.</td>
</tr>
<tr>
<td></td>
<td>Preferred</td>
</tr>
<tr>
<td></td>
<td>Acceptable</td>
</tr>
<tr>
<td></td>
<td>Avoid</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Wall Base</td>
<td>Simple, durable, easy to maintain and clean surfaces.</td>
</tr>
<tr>
<td>Wall Finishes</td>
<td>Preferred</td>
</tr>
<tr>
<td></td>
<td>Acceptable</td>
</tr>
<tr>
<td></td>
<td>Avoid</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Ceiling Finishes</td>
<td>Simple, easy to maintain and clean surfaces. Color should be a pastel for good light reflectance.</td>
</tr>
<tr>
<td></td>
<td>Preferred</td>
</tr>
<tr>
<td></td>
<td>Acceptable</td>
</tr>
<tr>
<td></td>
<td>Avoid</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Ambient Lighting</td>
<td>Not less than 75 foot-candles at table height. Provide dimmer controls.</td>
</tr>
<tr>
<td></td>
<td>Preferred</td>
</tr>
<tr>
<td></td>
<td>Acceptable</td>
</tr>
<tr>
<td></td>
<td>Avoid</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Feature</td>
<td>Requirements</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Light Switches</td>
<td>Rocker style toggles, Rocker style toggles combined with slide dimmers or motion detectors</td>
</tr>
<tr>
<td>Electrical Outlets</td>
<td>Commercial Standard</td>
</tr>
<tr>
<td>Smoke and Fire Alarms</td>
<td>Comply with NFPA 72.</td>
</tr>
</tbody>
</table>
### Model Group Home Program

<table>
<thead>
<tr>
<th>Room/Space</th>
<th>Furniture, Furnishings &amp; Equipment</th>
<th>Minimum NSF</th>
<th>Acceptable NSF</th>
<th>Preferred NSF</th>
<th>Typical Number of User and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covered Entry Porch</td>
<td>Loose chairs or bench; table or shelf</td>
<td>36</td>
<td>48</td>
<td>70</td>
<td>1 to 4. Entering/Exiting Home, Waiting for Transportation Services, Socialization with neighbors and each other.</td>
</tr>
<tr>
<td>Storage at Entry Porch</td>
<td>Shelving and hooks or tool organizer</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>Seasonal equipment storage such as de-icing chemicals, shovels and brooms in winter</td>
</tr>
<tr>
<td>Entry Hall</td>
<td>--</td>
<td>65</td>
<td>65</td>
<td>85</td>
<td>3 to 4</td>
</tr>
<tr>
<td>Guest Coat Closet at Entry</td>
<td>Adjustable shelving and closet rod</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>Temporary storage for guest coats</td>
</tr>
<tr>
<td>Guest Toilet (Powder Rm)</td>
<td>Pre-manufactured cabinetry, toilet, and lavatory</td>
<td>48</td>
<td>60</td>
<td>60</td>
<td>1. Accessible bathroom for guest</td>
</tr>
<tr>
<td>Sitting Room</td>
<td>Seating for 4 to 6 people. Provide Sleeper sofa.</td>
<td>120</td>
<td>150</td>
<td>150</td>
<td>1 to 4. Quiet activities by residents and guests; meetings by staff; convertible to a guest room or use by staff during shelter in place or other emergencies</td>
</tr>
<tr>
<td>Group Living room</td>
<td>Entertainment center, large TV, cable TV receiver, DVD player, sofas, arm chair, recliner, side tables, coffee tables, floor and table lamps, and decorative items.</td>
<td>240</td>
<td>240</td>
<td>260</td>
<td>6 to 8. Support group conversation; passive entertainment</td>
</tr>
<tr>
<td>Group Dining Room</td>
<td>Table for 8 persons with additional leaves for converting to 12 persons, buffet cabinet</td>
<td>180</td>
<td>180</td>
<td>220</td>
<td>8 to 12. For individuals and staff meals; activities requiring a table top; special events</td>
</tr>
<tr>
<td>Room/Space</td>
<td>Furniture, Furnishings &amp; Equipment</td>
<td>Minimum NSF</td>
<td>Acceptable NSF</td>
<td>Preferred NSF</td>
<td>Typical Number of User and Activities</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>---------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Activity Room</td>
<td>Table for 2 to 4 persons, bookshelves and 1 to 2 side chairs</td>
<td>120</td>
<td>150</td>
<td>150</td>
<td>4 to 6. Crafts, games and alternate space for Individuals to eat meals</td>
</tr>
<tr>
<td>Kitchen</td>
<td>Full size refrigerator-freezer, freezer, dishwasher, cooktop/wall oven or range, small appliances</td>
<td>150</td>
<td>165</td>
<td>180</td>
<td>3 to 4. Food storage, food preparation, cooking, serving and dish cleaning</td>
</tr>
<tr>
<td>Casual Eating Area</td>
<td>Table for 4 people</td>
<td>0</td>
<td>80</td>
<td>80</td>
<td>2 to 4. Additional eating area</td>
</tr>
<tr>
<td>Pantry</td>
<td>Pre-manufactured cabinetry and full size freezer</td>
<td>60</td>
<td>80</td>
<td>80</td>
<td>1 to 2. Adjacent to kitchen for food storage</td>
</tr>
<tr>
<td>Laundry</td>
<td>High capacity, heavy duty, front loading washer and dryer; service sink and lockable storage; folding table and iron/iron board</td>
<td>100</td>
<td>135</td>
<td>135</td>
<td>1 to 2. Machine washing, machine drying, ironing and folding clothes</td>
</tr>
<tr>
<td>Kitchen / Laundry Mech &amp; Elec Rm</td>
<td>Mechanical and Electrical equipment</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>Service area for mechanical and electrical equipment in basement</td>
</tr>
<tr>
<td>Staff Office</td>
<td>Desk with return, chair, credenza, equipment storage, work surface, storage cabinets, file cabinets, tack boards and printer/fax/copier machine</td>
<td>150</td>
<td>180</td>
<td>220</td>
<td>2 to 3.</td>
</tr>
<tr>
<td>Secure Storage Closet</td>
<td>Shelving</td>
<td>20</td>
<td>35</td>
<td>50</td>
<td>Access from staff office only; staff records</td>
</tr>
<tr>
<td>General Storage</td>
<td>Shelving</td>
<td>100</td>
<td>120</td>
<td>150</td>
<td>Seasonal storage, individual belongings</td>
</tr>
<tr>
<td>Shelter-in-Place Storage</td>
<td>Shelving</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>Accessible to staff</td>
</tr>
<tr>
<td>Room/Space</td>
<td>Furniture, Furnishings &amp; Equipment</td>
<td>Minimum NSF</td>
<td>Acceptable NSF</td>
<td>Preferred NSF</td>
<td>Typical Number of User and Activities</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------------------------</td>
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<td>---------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Full Bath Room, Accessible</td>
<td>Lavatory, toilet and accessible bathtub</td>
<td>105</td>
<td>115</td>
<td>115</td>
<td>1</td>
</tr>
<tr>
<td>Bath Linen and Storage 1</td>
<td>Shelving</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>Storage closet for clean towels, soiled towels, toilet tissue, hand soap, paper towel and cleaning supplies</td>
</tr>
<tr>
<td>Full Bath Room, Accessible &amp; Assisted Activities</td>
<td>Lavatory, toilet and accessible bathtub; closet for storage for patient lift</td>
<td>120</td>
<td>130</td>
<td>130</td>
<td>2 (user and helper).</td>
</tr>
<tr>
<td>Bath Linen and Storage 2</td>
<td>Shelving</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>Storage closet for clean towels, soiled towels, toilet tissue, hand soap, paper towel and cleaning supplies</td>
</tr>
<tr>
<td>Standard Bedroom 1</td>
<td>Twin or queen bed, dresser, side chair, and bookcase</td>
<td>120</td>
<td>150</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Closet 1A</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Standard Bedroom 2</td>
<td>Twin or queen bed, dresser, side chair, and bookcase</td>
<td>120</td>
<td>150</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Closet 2A</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Standard Bedroom 3</td>
<td>Twin or queen bed, dresser, side chair, and bookcase</td>
<td>120</td>
<td>150</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Closet 3A</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Accessible Bedroom</td>
<td>Twin or queen bed, dresser, side chair, and bookcase; one 60 inch aisle</td>
<td>145</td>
<td>150</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Closet</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Room/Space</td>
<td>Furniture, Furnishings &amp; Equipment</td>
<td>Minimum NSF</td>
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<td>---------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Accessible Bedroom</td>
<td>Twin or queen bed, dresser, side chair, and bookcase; one 60 inch aisle</td>
<td>145</td>
<td>150</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Closet</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Accessible Bedroom, Assisted Activities</td>
<td>Twin or queen bed, dresser, side chair, and bookcase; one 60 inch aisle</td>
<td>165</td>
<td>165</td>
<td>175</td>
<td>1 to 2 (user and helper)</td>
</tr>
<tr>
<td>Consumer Closet</td>
<td>Adjustable shelving and closet rod</td>
<td>15</td>
<td>20</td>
<td>20</td>
<td>Access from bedroom only</td>
</tr>
<tr>
<td>Bedroom Linen closet</td>
<td>Patient lift</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Bedroom &amp; Bath Mech/Elec Room</td>
<td></td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>Service area for mechanical and electrical equipment in basement</td>
</tr>
<tr>
<td>Fire Protection Room</td>
<td>--</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>Service area for sprinkler system</td>
</tr>
<tr>
<td>Yard Storage</td>
<td>Maintenance Equipment</td>
<td>80</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Seasonal/Long Term Storage</td>
<td>Shelving</td>
<td>60</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td><strong>Total Estimated Net Area</strong></td>
<td></td>
<td>2,858</td>
<td>3,347</td>
<td>3,559</td>
<td></td>
</tr>
<tr>
<td>Walls, Gen'l Circulation, Etc.</td>
<td>General Building Grossing Factor at 35%</td>
<td>1,000</td>
<td>1,170</td>
<td>1,245</td>
<td></td>
</tr>
<tr>
<td><strong>ESTIMATED GROSS BUILDING AREA</strong></td>
<td></td>
<td>3,858</td>
<td>4,517</td>
<td>4,805</td>
<td></td>
</tr>
</tbody>
</table>
- Sample Group Home Design
<table>
<thead>
<tr>
<th>Item/Product</th>
<th>Large Accessible Shower by Best Bath Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td></td>
</tr>
</tbody>
</table>

PERSPECTIVE VIEW – N.T.S.
MODEL SHOWN HERE AS:
RIGHT SEAT
RIGHT PLUMBING

Model no. varies by application

<table>
<thead>
<tr>
<th><strong>Features:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- ADA compliant roll-in shower</td>
<td>- Available in various threshold heights</td>
</tr>
<tr>
<td>- Available in various threshold heights</td>
<td>- Molded, four piece gelcoat/fiberglass Shower module</td>
</tr>
<tr>
<td>- Molded, four piece gelcoat/fiberglass Shower module</td>
<td>- “Smooth” wall finish, white (standard)</td>
</tr>
<tr>
<td>- “Smooth” wall finish, white (standard)</td>
<td>- Integral full wood backing for strength and unlimited accessory placement</td>
</tr>
<tr>
<td>- Integral full wood backing for strength and unlimited accessory placement</td>
<td>- On all threshold, heights 1-1/2” or taller, no mud set is required</td>
</tr>
<tr>
<td>- On all threshold, heights 1-1/2” or taller, no mud set is required</td>
<td>- On all threshold, heights 1-1/4” or shorter, no mud set is required, but an epoxy adhesive kit is supplied</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Codes:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed and manufactured in compliance with the following standards and codes:</td>
<td></td>
</tr>
<tr>
<td>- A.N.S.I.Z124.2 Standards for Plastic Showers</td>
<td></td>
</tr>
<tr>
<td>- I.P.C International Plumbing Code</td>
<td></td>
</tr>
<tr>
<td>- A.D.A. Accessibility Guidelines for Buildings and Facilities</td>
<td></td>
</tr>
<tr>
<td>- A.N.S.I.A117.1 Accessible and Usable Buildings and Facilities</td>
<td></td>
</tr>
<tr>
<td>- U.P.C. Uniform Plumbing Code</td>
<td></td>
</tr>
</tbody>
</table>
Item/Product | Safety Tubs model ST6032 - Walk-In tubs

Description:

**Model ST6032**
- Size: 60” long x 32” wide x 32” high
- Operating Capacity: 70 gallons

**Colors**
- White or Biscuit

**Included**
- Color matched drain & overflow
- 1 color matched safety bar
- Slip-resistant tub floor

**Whirlpool Options**

**Hydro Massage Jet System**
- Variable speed electronic control pad
- 9 performance jets individually adjustable for flow rate & direction
- Powerful variable speed pump

**Hydro Massage Air Bubble System**
- Variable speed electronic control pad
- 60 channel-fed air jets for gentle massage
- Powerful variable speed heated blower

**Dual Massage System**
- Variable speed electronic control pad (air & jets)
- 9 performance jets individually adjustable for flow rate & direction
- Powerful variable speed pump
- 60 channel-fed air jets for gentle massage
- Powerful variable speed heated blower
# Speed Queen Front Load Washer and Dryer

## Washer Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Speed Queen Front Load Washer</th>
<th>FES17/FES171</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycles</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Water Temp.</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Features</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load Type</td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>Dispenser</td>
<td>Detergent, Bleach, Softener</td>
<td></td>
</tr>
<tr>
<td>Automatic Pre-Wash</td>
<td>Available on FES17</td>
<td></td>
</tr>
<tr>
<td>Agitator</td>
<td>Push-to-Start</td>
<td></td>
</tr>
<tr>
<td>Colors</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td><strong>Operating Speeds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speeds</td>
<td>Variable</td>
<td></td>
</tr>
<tr>
<td>Spin Speeds - RPM</td>
<td>500, 650, 1000</td>
<td></td>
</tr>
<tr>
<td>Wash Time - RPM</td>
<td>41, 56</td>
<td></td>
</tr>
<tr>
<td><strong>Specifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Pressure - psi (lbf)</td>
<td>20 - 120 (1.44 to 8.12)</td>
<td></td>
</tr>
<tr>
<td>Motor HP</td>
<td>Variable Speed Induction, 3.5 HP</td>
<td></td>
</tr>
<tr>
<td>Electrical Input - W</td>
<td>120V 60Hz - 15 amp</td>
<td></td>
</tr>
<tr>
<td>Depth - in (mm)</td>
<td>26 7/8&quot; (683)</td>
<td></td>
</tr>
<tr>
<td>Height - in (mm)</td>
<td>28&quot; (711)</td>
<td></td>
</tr>
<tr>
<td>Weight - lbs</td>
<td>41 3/8&quot; (1854)</td>
<td></td>
</tr>
<tr>
<td>Shipping Weight - lbs</td>
<td>240 (100)</td>
<td></td>
</tr>
<tr>
<td>Shipping Weight - lbs (kg)</td>
<td>260 (118)</td>
<td></td>
</tr>
<tr>
<td>Agency Approval</td>
<td>UL</td>
<td></td>
</tr>
<tr>
<td>UL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Weight measurements taken at 20°C (68°F) and 95% relative humidity. Specifications are subject to change without notice. For more information, visit Speed Queen's website. *
State of Virginia, "Physical Environment Review Form"
Though it is not the role of these Guidelines to outline State Regulations and Licensing Requirements, the following "Physical Environment Review Form" is typically used by the DMHMRSAS- Office of Licensing during the site review process and is offered as helpful information. Complete Licensing Requirements can be found in Chapter 105 of the State of Virginia Code.

<table>
<thead>
<tr>
<th>Regulation</th>
<th>DESCRIPTION</th>
<th>Service Score</th>
<th>Service Score</th>
<th>Service Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>§140</td>
<td>License is Available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§150.4</td>
<td>Abbreviated Statement of Human Rights Posted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§220.1</td>
<td>Indemnity Coverage: General liability;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§220.</td>
<td>Indemnity Coverage: Professional liability;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§220.</td>
<td>Indemnity Coverage: Vehicular liability;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§220.</td>
<td>Indemnity Coverage: Property damage.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§240.C</td>
<td>Individual handling resident funds is indemnified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§260</td>
<td>Certificate of Occupancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.A</td>
<td>Physical environment appropriate to population &amp; services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.B</td>
<td>Furnishings clean, dry, free of odors, safe &amp; maintained</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.C</td>
<td>Environment design, structure, furnishings &amp; lighting appropriate to population &amp; services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.D</td>
<td>Floor surfaces &amp; coverings promote mobility, and maintaining sanitary conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.E</td>
<td>Physical Environment well ventilated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.F</td>
<td>Adequate hot/cold water between 100°-120°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.G</td>
<td>Lighting sufficient for activities &amp; all areas lighted for safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.H</td>
<td>Recycling, composting &amp; garbage shall not create nuisance, permit disease transmission or breed insects/rodents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.I</td>
<td>Smoke free areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§280.J</td>
<td>After 9/19/02 minimum room height 7½ feet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation</td>
<td>DESCRIPTION</td>
<td>Service Score</td>
<td>Service Score</td>
<td>Service Score</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>§290</td>
<td>Services that prepare food—annual food service inspection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§300.A</td>
<td>If not on public water, annual Sewer &amp; Water Inspections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§300.B</td>
<td>Locations not on public water, annual water system inspections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§310</td>
<td>Written weapons policy that requires no weapons, unless</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§310.1</td>
<td>In possession of licensed security or sworn law enforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§310.2</td>
<td>Kept securely under lock &amp; key</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§310.3</td>
<td>Used under the supervision of a responsible adult in accordance with policy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§320</td>
<td>Residential facilities over eight beds annual certification of maintenance under Virginia Statewide Fire-Safety Code</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§330.A</td>
<td>Provider not operate more beds than licensed for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§330.B</td>
<td>ICF/MR facility limited to twenty beds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§340.A.1</td>
<td>Single occupancy &gt;80 square feet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§340.A.2</td>
<td>Multiple occupancy at least &gt;60 square feet per person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§340.B</td>
<td>No more than four individual share a room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§340.C</td>
<td>Adequate storage space accessible to bedroom for each individual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§350</td>
<td>Beds shall be clean, comfortable, mattress, pillow, blanket, &amp; linens. Soiled linen changed with staff assistance if necessary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§360.A</td>
<td>Bedrooms &amp; bathrooms windows provide privacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§360.B</td>
<td>Bathrooms not intended for individual use shall provide for privacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§360.C</td>
<td>No path of travel to a bathroom through a bedroom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§370</td>
<td>After 1/13/1995, one toilet, hand basin, shower or bath for every 4 individuals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§380</td>
<td>Adequate lighting in halls &amp; bathrooms at night</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation</td>
<td>DESCRIPTION</td>
<td>Service Score</td>
<td>Service Score</td>
<td>Service Score</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>§520.C</td>
<td>At least annual safety inspections at all service locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§530.5</td>
<td>Supporting documents that may be needed in an emergency: locations of utilities, designated escape routes, list of major resources such as shelters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§530.6</td>
<td>Schedule for testing implementation of emergency plan &amp; conducting emergency preparedness drills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§540.A</td>
<td>Telephones available for emergencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§540.B</td>
<td>Posted ER telephone numbers near to telephones to include: nearest hospital, ambulance service, rescue squad, trained medical personnel, poison control &amp; police</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§550</td>
<td>First aid kit to include: thermometer, bandages, saline, band-aids, sterile gauze, tweezers, instant ice pack, adhesive tape, first aid cream, antiseptic soap, Ipecac &amp; activated charcoal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§560</td>
<td>Operable flashlights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§740.C</td>
<td>Locations for physical exams ensure privacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§750.B</td>
<td>Emergency medical information readily available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§790.A.1</td>
<td>Pharmacy/drug storage &amp; disposal in compliance with Drug Control Act</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§790.A.2</td>
<td>VA Board of pharmacy regulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§790.A.3</td>
<td>VA Board of Nursing regulations &amp; Medication Administration Curriculum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§790.A.4</td>
<td>Applicable federal laws relating to controlled substances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.A</td>
<td>Seclusion rooms meet design requirements for use for detention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.B</td>
<td>Be at least six feet wide by six feet long, minimum ceiling height 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.C</td>
<td>Free of protrusions, sharp corners, hardware or fixtures that could cause injury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.D</td>
<td>Windows constructed to minimize breakage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.E</td>
<td>Light fixtures recessed; controls outside room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.F</td>
<td>Doors 32 inches wide, open outward, observation panel not exceeding 120 square inches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.G</td>
<td>Contains only mattress &amp; pillow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation</td>
<td>DESCRIPTION</td>
<td>Service Score</td>
<td>Service Score</td>
<td>Service Score</td>
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<td>------------</td>
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<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>§840.H</td>
<td>Temperature appropriate for season</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§840.I</td>
<td>All spaces visible through locked door</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§900.A</td>
<td>When not in use active &amp; closed records stored in locked cabinet or room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§900.B</td>
<td>Physical &amp; Data security controls for electronic records</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. What vision and values should be underpinnings of barrier free housing design?

Responses:
1. A home in the community that allows consumers to utilize the home with minimal support and supervision. The architecture should be consistent in size and aesthetics with other homes in the community.
2. Design should be normalizing in appearance, affordable, simple and easy to use. Require little physical effort to operate and appropriate in size and space; safe.
3. Users: Persons with various disabilities, who will or represent those who will live in the property, should go over every square inch of the plans and recommend changes. We did this with our Coppermine I building with a focus group of disabled persons and it will produce a much better product than could be designed with ADA standards and by able bodied persons.
4. Homes that is natural, appealing, pleasant and accessible
5. The underpinnings of vision and values or barrier free housing design should be to offer an environment that will accommodate the individuals who are deaf or hard of hearing people to live their lives as normal as possible with out the additional fear of the unknowns, whether it be through an alerting system, visual smoke and carbon monoxide alarms, open space, and minimizing background noise, to name just a few of the needs.
7. Attractive housing should not look "jerry-rigged" with ugly exterior ramps, etc.; use grading rather than separate ramps.
8. Functional - related to how people use their home; future - oriented access but also adaptable over time; economical; help people be as independent/participating in residential living - able to have friends over/socializing; safety, looks "normal" not institutional, simple -able to be used in "blackout", (low tech)
9. Barrier free housing design that is incorporated seamlessly in single family housing, design that offers opportunity for aging in place demands is attractive and marketable.
10. Blend Community
11. Individual Bedrooms
2. What are the most important barrier free features in building design?

Responses:
1. Visibility, Adaptability, Accessibility, Attractiveness. Use of landscape to increase accessibility or built environment.
2. Easy access to all rooms including those that may be used by staff members. Making sinks, light switches, closet shelves etc. at recommended heights for barrier free living.
3. Route, Entrance, Bathrooms
4. Look at individual needs and how individuals interact with house. With widened doors, hallways, hand rails, lighting, large controls/easily reachable, roll under capacity, reachable environmental controls, level landings, paved driveways, covered entrances, handheld showers.
5. The most important barrier free features in building design should be additional alerting systems that will alert the occupants and protect their safety by assuring they will know when the phone is ringing, a visitor is at the door, smoke, fire or carbon monoxide has been detected, and a baby is crying. Carefully planned sight lines are also very important to create easy flow of communication for and within the building, an excellent acoustics to maximize the ability to hear are also very important to individuals who are deaf or hard of hearing.
6. Prefer no stairs. (Or elevator 2nd best). Wheelchair access to bedroom, bathroom, and all other amenities. Fire alarms for hearing impaired. Avoid institutional look to residence.
8. Allows individuals to more easily and safely engage activities of daily living, i.e. roll in showers and sinks, controls (light switches etc.) in accessible locations, and sufficient space to maneuver in a wheelchair.
9. Easy access to entrances and emergency exits. Easy independent access to all areas needed for daily living such as; the bathroom, toilet, sink, shower/tub, bedroom, general living area, laundry room, kitchen and appliances, garage, and backyard/deck.
10. Planning for options
11. Plan future elevator
12. Zero Entry (Adequate Maneuver, Adaptable)
13. Access all areas
14. Multiple entries to house safety emergency
15. Wiring – Visual, Audible
16. Room Relationship – Distance Flow
17. Controls within reach
18. Aide, nurse, staff space
19. Exceed code min. Focus on usability individual
20. Business/Service Space
21. STORAGE! Access Storage
22. Restrooms
23. Sound proofing
24. Multiple outlets
25. Parking

1. What specific features have worked well in your projects?

Responses:
1. Installing a handicapped accessible shower. Building a wheelchair ramp for the front.
2. Exterior ramps, widened door ways, roll in showers and sinks
3. Coppermine I is not yet open. We believe adjustable counter heights and automatic door openers will be important.
4. Wheelchair access; bathroom well designed; TTY access.
5. An example is the design in my office. My desk sits in an open area where sight line is incredible. I have daily contact with people, and am able to keep up with things going on in the office. A lamp sits on my desk, and when the phone
rings, the light will flash to alert me that I have a call. A strobe light device nearby alerts me when we are having weather emergencies.

6. "Toilevators" grab bars, automatic door openers, aluminum ramps, railings, not thresholds, widened doorways, swing clear hinges, flooring (low pile), heat lamps, visual alarm systems, stair glides

7. Larger bathroom with room for a staff to assist if needed. Roll in shower with a lip. Floor drain in addition to shower drain.

8. Setting washers and dryers on platforms for easy access for wheelchairs and people that have difficulty bending down. All front loaders. Stove knobs in the front so people don't have to reach over burners.

9. Adapt lower floor of home for possible one level living. One step or no step increase, 36" wide doorways with off set hinges on doors. Levered door handles instead of knobs. Easy to open or lock patio doors with screens. Light switches at 42" instead of 48"; contrast colors between floor and walls. Non-skid flooring. Peep hole at low height; adjustable controls on light switches. Easy living with Universal design _ PWC Publication.

10. Overhang Entrance

11. Adaptability, design, grab bars

12. Finish maintenance free

13. Door handle levers

14. Motion sensor plumbing

15. Site placement – Well thought-out

16. Light, open space, visibility

17. Multiple lever counter

18. Sprinkler

19. Universal Intercom Communication

20. Flush Entry and shower

21. Monitor residents in a way that is not intrusive

22. Adaptable furniture

23. Front, Access Appliances (Pictorial, Easy to read)

24. No pavers- streetscape

25. Carpet Squares easy to replace

26. Hardwood and tile floors

27. Covered decks and porches for the outside

28. Special heavy flush toilets (Power Flush)

29. Review all aspects of the house

30. Involve people with disabilities for design

31. Install Floor drains
32. Install Heat lamps for Body temperature  
33. Wall coating  
34. Strobe light for doorbell

2. What specific features would you change in your projects?

Responses:
1. Long, unattractive wooden ramps  
2. Bathrooms get very wet with showers that folks can wheel into, all floors and trim should be made with non-porous materials. More storage for adaptive equipment.  
3. Widen sidewalks to 5 feet  
4. Don't operate "group homes" would like to have lifts in addition to stairs in transitional housing  
5. My first home was built with an alerting system that was hard wired throughout the whole house to alert my family whenever the phone or doorbell would ring. When we sold the house and moved into a townhouse that was 5 years old, it didn't have the hard wire system that we had in the first house. It was far less effective, and adding this feature was cost-prohibitive.  
6. Institutional signage  
7. More use of current technology  
8. Locations of controls, height of light switches, shelving, coated hooks, etc.; additional space for storing wheelchairs, walkers, lifts etc.  
9. All of our projects are retrofitting older homes for individuals to reduce physical barriers. I would change the way we approach buildings prior to obtaining them. I would recommend having a builder that specializes in accessible spaces review sites prior to purchase to determine if it is feasible to retrofit the facility or if we should look elsewhere due to site limitations.  
10. Using better materials  
11. Appliances not to look to commercial but still heavy  
12. Improve lighting/full spectrum  
13. HVAC – more individually controlled, thermostats  
14. Elevator problems (AVOID)  
15. Window closer to floor visibility  
16. Energy efficient  
17. More insulation  
18. Deck surface – Avoid splinters  
19. Track lift very useful to prevent caregiver injury (Attic Access)
20. Add more open space  
21. Used by many people – Driveway crumbling heavy use for group homes  
22. Refrigerator storage – Multiple units – Individual units  
23. Outside lighting enhance  
24. No sliding glass doors  
25. Ample kitchen space  

3. What specific products would you recommend (i.e. paint, flooring, fixtures, etc?)

Responses:
1. I feel that this question should be answered by someone who specializes in this area. This is such an important issue that we should have someone who deals with this on a daily basis establish some expectations and guidelines. The house should be fully accessible in all areas and barrier free for people with physical limitations.
2. Product for walls that look like wallboard, but is much harder to break.
3. We do not have much experience with specific brand name products being superior to others. However, I would recommend planning open space that permits steady eye contact and to be able to carry on a conversation back and forth when depending on visual information through sign language, speech reading or gesture. Hardwood floors are great in carrying sounds/vibrations that can be felt by a person with hearing loss. Ample light in the room is also very important for speech reading, and the ability to read facial expressions and sign language. Paint should be of a neutral color so it wouldn't be so harsh on the eyes when trying to communicate with a person standing/sitting behind a wall. Go lightly with fixtures, and not make it look so busy that it becomes distracting.
4. Toilets flushing as robust as possible
5. Semi-gloss paints, no throw rugs, tile flooring works well. Mix things up, different heights and configurations for shower head heights, benches; some rooms with low commercial carpet and some without.
4. What are the biggest problems maintaining group homes?

Responses:
1. Inflationary cost of building supplies needed to maintain older single family houses- plumbing, roofing, drywall, painting, etc.
2. Adaptive equipment and some behaviors can be hard on some materials. Carpet, paint, ramps must have regular maintenance.
3. Floors, grout, caulking.
4. Disabilities of accessible features, relying on service technicians to do regular repairs, maintenance.
5. Some group homes do not have updated alerting systems for the residents who are deaf or hard of hearing, poor lighting which makes lip reading and signing difficult to read, floors either have tile or carpeting which makes it harder to feel the vibrations, and not enough open space to keep the line of communication open.
6. Day to day maintenance and cleaning
7. We have one group home and resident interaction; and the ability to live in a group/shared environment is difficult. We believe the more independent the living arrangements, the better for most persons except the most severely dependent.
8. Ongoing daily maintenance, seasonal maintenance, maintaining household fixtures and appliances. One of the largest problems is that we typically have 8 individuals in staff in a standard single family home that was built to deal with about half of that amount of people. This stress causes premature breakdowns and wear the tear on every element of the house.
9. Keep clean and fixed
10. Holes in wall
11. Built for family
12. House infrastructure
13. Clinical staff not focused on house issues i.e. furnace filter change
14. Affordability
15. Trash a lot
16. Use trash shredder
17. Alarm system update
18. Develop maintenance care program
19. No sense of care ownership by staff/resident affect care
20. Doing site work/disrupts living on home
21. Mulberry trees – track in home
22. MOLD
23. Grout prevention maintenance exhaust fans moisture management
24. Toilet
25. Outdoor/Indoor space
26. Privacy/Safety fencing
27. Visual in evening
28. Consistency in pattern (not busy pattern, simple color
29. Furniture selection
30. Reflect light countertop
31. Seizure disorders – plain soft carpet
32. High contrast signage
33. Vibrate bed
34. Transfer/Assist European Prestwick bath adaptable
35. Access Virginia

5. Please share any additional resource information that you think would be helpful in designing group homes.

Responses:
1. http://www.makoa.org/accessable-design.htm This web site has a great deal of information and links to specific components on this topic.
2. Use of full spectrum lighting in homes to help those prone to SAD. Careful placement of lighting to avoid shadows (helps elderly and sight-impaired)
3. Ambient noise is a problem with people with hearing loss, and it is important to have appliances and a HVAC system that are as quiet as possible. It's also helpful to minimize noise from washing machines and dryers by locating that room away from areas where individuals would congregate. It would be a great idea to include deaf and hard of hearing people on the Design team for group homes. They are the ones that know what is best, and they can make good recommendations. A good source for acoustics is Acoustics.org another good resource is infinitec.org
5. Toni Clemons - Porter, PWC 703-792-6403; Vince Butler, Butler Brothers Corporation, Clifton VA 703-878-3300; Richard Duncan, NCSU, Raleigh NC 919-515-8557; John Salmen, Universal Designers and Consultants, Inc. Takoma Park, MD 301-270-2470; Access Designs, Charlottesville, VA 434-295-0564; American Institute of Architects, Alexandria, VA 703-549-9747; Centex Homes, Chantilly, VA 703-592-1755; Comfort Designs Bathware - 540-484-1816; Project Mend-A-Home, Manassas VA 703-792-7663; Westminster at Lake Ridge, 703-643-9711; Mary Margaret Kelly, HR Director, Lowes Woodbridge Location
Additional Comments:

1. I strongly encourage the committee to seek consultation that specializes in this area. If the CSB is establishing a set of standards for buildings, then we need to have an expert in the room that can discuss all of the known and hidden areas of these types of facilities.

2. I will forward this survey to Steve Vander Schaaf, of Accessible Space, Inc., St Paul Minnesota. ASI owns over 100 accessible housing developments nationwide and has wide experience with housing for special needs.

3. Need to know "who's who" with expertise in notes, resources, who is good builder, (certified) funding to pay for these services must also have technicians to service systems.

4. Barrier free living has made the 6 men that live at the program I manage have a much more fulfilling life. It allows people to do simple things like using the kitchen, doing laundry, visiting each others rooms; when before it could be one small barrier that prevented these natural living skills

5. Public School Vocational Programs, Retired General Contractors and other skilled construction craftsperson’s may be additional resource persons
Resources for Additional Information
**Selected Bibliography**


John Clarkson; Roger Coleman; Simeon Keates; Cherie Lebon (editors) *Inclusive Design: Design for the whole population* – Springer – Verlag London 2003.


Universal Design New York
Mayor’s Office for People with Disabilities (MOPD), City of New York, and the Center for Inclusive Design and Environmental Access (IDEA), University at Buffalo, the State University of New York, 2003.

Velleman, Eric, Henk Snetselaar. *Site Seeing.* The development of an accessible website or web-


Winter, Steven *Homes for Everyone, Universal Design Principles in Practice*. HUD USER (Pub #007338) HUD, 1996.


Global Universal Design Educators Monthly On-line News – Produced and distributed monthly by Elaine Ostroff. In cooperation with the Adaptive Environments Center, the Center for Universal Design, and the Trace R&D Center, with support from the National Institute on Disability and Rehabilitation Research. To subscribe to the Monthly Online News, contact Elaine Ostroff, Editor, at Elaine@ostroff.org, or go to www.universaldesign.net

Universal Design Newsletter – Universal Designers and Consultants, a quarterly newsletter, featuring information on facility and design related to universal design, the ADA, and accessibility. Contact: 301-570-2470 (v/tty) or www.universaldesign.com.

Helpful Web Sites

Abledata
http://www.abledata.com/
Abledata provides information on assistive technology and rehabilitation equipment.

Academy of Neuroscience for Architecture
http://www.anfarch.org
The mission of the Academy of Neuroscience for Architecture is to be the international center for interdisciplinary activities that build intellectual bridges between research on the brain and those who design places for human use.
Adaptive Environments Center
www.AdaptiveEnvironments.org
Adaptive Environments is a 27 year old educational non-profit organization committed to advancing the role of design in expanding opportunity and enhancing experience for people of all ages and abilities. Source of news, events, opportunities, projects and publications.

Age Concern
www.ace.org.uk
Age Concern is the UK’s largest organization working with and for older people.

AGE – European Older People’s Platform
http://www.age-platform.be
Aims to voice and promote the interest of older people in the European Union and to raise awareness of the issues that concern them most.

Age Lab
http://web.mit.edu/agelab
Established in ‘99 to develop new technologies promoting healthy, independent living through the human lifespan. Research involved engineering, computer science, human factors, health and medical sciences, management, marketing, and the social and behavioral sciences.

American Association of Retired Persons (AARP)
www.aarp.org
Organization for mature adults 50 and above in the United States. Information of health, long-term care, economic security, independent living and residential design for the home.

AmRamp
http://www.americanramp.com/
Source for permanent and temporary ramping solutions.

American Society of Interior Designers (ASID)
www.asid.org/asid2/resource/icon.asp
Nonprofit professional society representing the interests of interior designers and the interior design community. ASID promotes professionalism in interior design services and products for the workplace and home.

Asociacion Pro Desarrollo de la Persona con Discapacidad (APRODDIS)
www.aproddis.org
APRODDIS is a non-profit organization based in Peru committed to improving the quality of life among people with disabilities.

Center for Accessible Environments (CAE)
http://www.cae.org.uk
CAE is an information provider and a forum for collaborative dialogue between providers and users on how the built environment can best be made or modified to achieve inclusion by design.

Center for Applied Special Technology (CAST)
www.cast.org
CAST is a nonprofit organization that works to expand learning opportunities for all individuals, especially those with disabilities, through the research and development of innovative, technology-based education resources and strategies.
**Center for Universal Design**  
[www.design.ncsu.edu/cud](http://www.design.ncsu.edu/cud)  
Center founded by Ron Mace, FAIA, father of Universal Design. Hold copyright to principles of Universal Design.

**Cornell University – College of Human Ecology**  
Department of Design and Environmental Analysis  
[www.humec.cornell.edu/units/dea](http://www.humec.cornell.edu/units/dea)  
Hub of Academic cross-disciplinary inquiry.

**Danish Center for Accessibility**  
[http://www.dcft.d](http://www.dcft.d)  
The center offers information and advice about accessibility and inclusive design.

**Design Center for Global Needs**  
[www.sfsu.edu](http://www.sfsu.edu)  
@ San Francisco State University  
Ricardo Gomes, Professor of Industrial Design created the Center for multi-disciplinary exploration of universal design, cultural identity, design for social responsibility and community design.

**Design for All Foundation**  
[www.designforall.org](http://www.designforall.org)  
Working to achieve that everyone can enjoy open spaces, products and services with equal opportunities.

**Eplans**  
[www.eplans.com](http://www.eplans.com)  
Eplans.com offers a collection of designer house plans, home plans, floor plans, and garage plans. Plans of your choice can be customized to your liking.

**European Institute for Design and Disability (EIDD) / Design for All European Network**  
[www.design-for-all.org](http://www.design-for-all.org)  
Premier EU-wide organization Non-Governmental Organization dedicated to inclusive design. Annual product design competition.

**The EQUAL Research Network**  
[www.fp.rdg.ac.uk/equal/](http://www.fp.rdg.ac.uk/equal/)  
A UK-wide EPSRC funded Network for Extending Quality Life of Older People and Disabled People.

**The Helen Hamlyn Research Centre**  
[www.hhrc.rca.ac.uk](http://www.hhrc.rca.ac.uk)  
The Helen Hamlyn Research Centre works to advance a socially inclusive approach to design through practical research and projects with industry.

**Industrial Design Society of America (IDSA) Universal Design Committee**  
[http://www.idsa.org/whatsnew/sections/udidsal/noframes.htm](http://www.idsa.org/whatsnew/sections/udidsal/noframes.htm)  
Network with about 600 members.

**Inclusive Design and Environmental Access (IDEA)**  
[http://www.ap.buffalo.edu/~idea/](http://www.ap.buffalo.edu/~idea/)  
School of Architecture, State University of New York at Buffalo.

**International Association of Universal Design (AIUD)**  
[www.aiud.net](http://www.aiud.net)  
Promotes practical researches on and the realization of universal design with the members from various fields, the advisors, and others.
**National Center for Accessible Media [NCAM]**
www.wgbh.org/wgbh/index.html
NCAM is a research and development facility dedicated to expand access to present and future media for people with disabilities, to explore how existing access technologies may benefit other populations, and to provide access to educational and media technologies for special needs students.

**Lighthouse International**
www.lighthouse.org
U.S. hub of research and advocacy, including design, related to vision impairments.

**Royal National Institute for the Blind**
www.rnib.org.uk
Important resource for research and product information relative to vision limitations including excellent telecommunications information.

**Sensory Trust**
http://www.sensorytrust
Raises awareness of good practice in urban and extra-urban green space design and management.

**Trace Center**
www.trace.wisc.edu
University of Wisconsin, Madison
Unparalleled US hub of information technology and telecommunications research, policy development, education.

**Travel guides for Tourists with Disabilities**
http://europa.eu.int/
Provide information on the existing tourism facilities for tourists with disabilities.

**Universal Design Magazine** (Japan)
www.universal-design.co.jp
English and Japanese, occasional publication.

**Floor Plans & Home Design**

AARP Home Design
http://www.aarp.org/families/home_design/

Architectural Designs
http://www.architecturaldesigns.com/

B 4 You Build
http://www.b4ubuild.com/

Charles Schwab Universal Design Smart Homes
http://www.universaldesignonline.com/pages/764806/index.htm

Design Basics
http://www.designbasics.com/home/index.asp

Housing Zone
http://www.housingzone.com/

Southern Living-House Plans
http://www.housingzone.com/

Universal Design.com
http://www.universaldesign.com/
**Housing Checklists**

AARP Housing Checklists  
http://www.aarp.org/families/home_design/rate_home

American Federation for the Blind, Environment Safety Checklist  
http://www.afb.org/section.asp?SectionID=26&TopicID=144&DocumentID=191

Canadian Safety Council, Home Adaptation Checklist  
http://www.safety-council.org/info/seniors/adapt.html

Kansas State University, Creating Accessible Homes  

**Organizations**

Advanced Design Institute  
http://www.advanceddesign.org/

American Institutes of Architects  
http://www.aia.org/

American Society of Interior Designers  
http://www.asid.org/

HomeSight  
www.homesight.org

National Association of Home Builders  
http://www.nahb.org/

**Research**

The Aware Home  
http://www.awarehome.gatech.edu/

Center for the Built Environment  
http://www.cbe.berkeley.edu/

MIT Age Lab  
http://web.mit.edu/agelab/

NAHB Research Center  
http://www.nahbrc.org/

**UD & Home Modifications**

Adaptive Environments  
http://www.adaptenv.org/

Center for Inclusive Design and Environmental Access  
http://www.ap.buffalo.edu/idea/
Concrete Change – Visitability  

Nat. Research Center on Supportive Housing & Home Modifications  
[www.homemods.org/](http://www.homemods.org/)

Remodeling Online  

Whole Building Design Guide  
[http://www.wbdg.org/design/accessibility.php](http://www.wbdg.org/design/accessibility.php)

**Universal Designed Smart Homes for the 21st Century**

Charles Schwab  

A catalog of home plans that incorporate Green Building practice and some solar features as well as being universal.

Available from:  
Schwab Publishers  
1820 Grant Street  
PMB 5015  
Bettendorf, IA  52722-4927  
563-359-7524  
[www.universaldesignonline.com](http://www.universaldesignonline.com)

**Items Out of Print**

**Beautiful Universal Design – A Visual Guide**

Cynthia Leibrock and James Evan Terry  

An idea resource that combines coverage of full design installations with an in-depth examination of exterior landscaping and approach

Published by: John Wiley & Sons, Consumer Accounts  
10475 Crosspoint, Indianapolis, IN 46256  
1-877-762-2974, [www.wiley.com](http://www.wiley.com)

**Residential Remodeling and Universal Design: Making Homes More Comfortable and Accessible**

U.S. Department of Housing and Urban Development  
1996, $15.00

Provides technical guidance on selecting and installing universal features during home remodeling or renovation.

Available from:  
HUD User  
P.O. Box 6091  
Rockville, MD  20849  
1-800-245-2691  
1-800-483-2209 (TDD)  
Free download at:  
The Healthy Home

John Bower

An encyclopedic reference guide for all building Components, from foundations to roofing, for homeowners, builders, and designers who are concerned about indoor air quality and occupant health. New release contains three times as much information as the 1989 edition.

Published by:
The Healthy House Institute
430 N. Sewell Rd., Bloomington, IN 47408
Phone/fax 812-332-5073
www.hhinst.com/booksvideos.html

Universal Kitchen and Bathroom Planning

Mary Jo Peterson

A practical guide to designing accessible kitchens and bathrooms for single and multi-family residences as well as planned communities.

Out of print. -- Available used from: www.amazon.com

A House for All Children: Planning a Supportive Home Environment for Children With Disabilities

Richard Olsen, B. Lynn Hutchings, Ezra Ehrenkrantz
112 pages, 2000, Out of print

Provides guidelines for the physical environment, the social and emotional needs of the child and the family, and experiences of 68 parents and 12 children who were interviewed.

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New Jersey Institute of Technology
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973-586-3097, 973-596-8443 fax

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1-800-722-4726; Books.mcgraw-hill.com