



Design Guidelines for *Aging in Community*

2Life Communities
December 2018



2Life
COMMUNITIES

Age affordably. Live well.

Formerly Jewish Community Housing for the Elderly (JCHE)

December 2018

This document would not have been possible without vast input from 2Life Communities staff, residents, and our design partners. Many thanks to:

Alexis Smith, our Enterprise Rose Fellow, who led our design guideline team. Also special thanks to Gaye Freed; Michele Sdougas; Lucy Tsitlenko; and Rachel Belanger, our Kuehn Fellow. They each shared their own knowledge and expertise; gathered, synthesized, reviewed and edited materials; and served as liaisons to the amazing 2Life staff members and residents who contributed their time, energy, and enthusiasm to make these guidelines truly reflect 2Life Communities. We also appreciate all of the support we received from the Design Initiatives team at Enterprise Community Partners. Finally, we thank the many designers of 2Life's recent renovation and new construction projects: Abacus Architects + Planners; Bechtel Frank Erickson Architects; Dietz & Company Architects; Kessler McGuinness & Associates; New Ecology, Inc.; Prellwitz Chilinski Associates; Stantec; and Stefura Associates.

These Guidelines could not have happened without all of you. Thank you!



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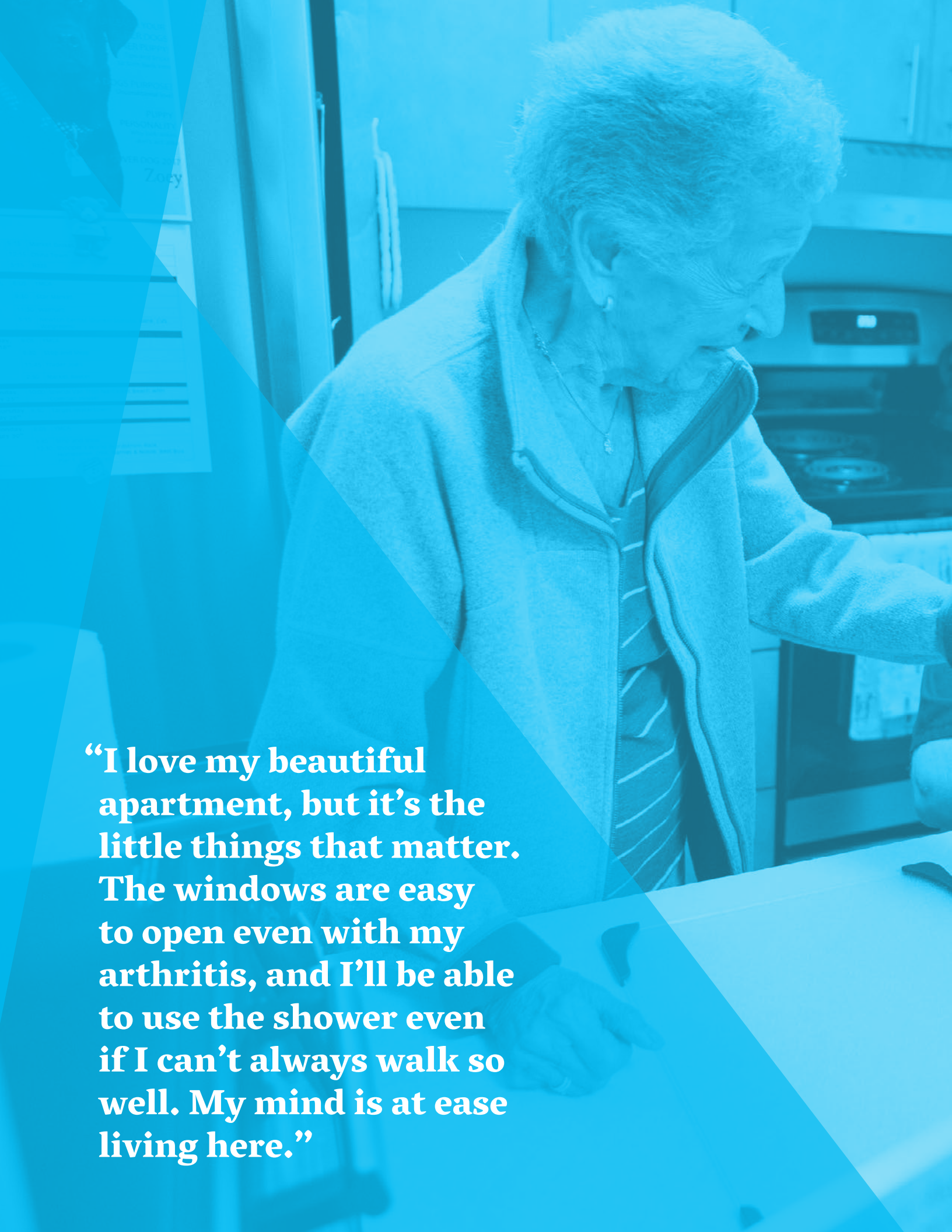
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“I love my beautiful apartment, but it’s the little things that matter. The windows are easy to open even with my arthritis, and I’ll be able to use the shower even if I can’t always walk so well. My mind is at ease living here.”





1 Overview

- 1.1 INTRODUCTION
- 1.2 DESIGN PRINCIPLES

1.1 Introduction

2LIFE COMMUNITIES

Our Vision

2Life Communities' vision is for all older adults to have the opportunity to age in community – to live a full life of connection and purpose in a dynamic, supportive environment. We believe community is an antidote to the bitter loneliness that can result from the isolation that too often accompanies aging. By providing well-designed, well-managed affordable housing with opportunities and resources for exploration, learning, and connection, we support our residents to not just live, but to thrive.

Our Impact

Founded in 1965 as Jewish Community Housing for the Elderly, we have provided safe, affordable and supportive independent living for a diverse population of older adults throughout Greater Boston for over 50 years. Roughly 1,500 residents representing 26 different countries and 22 primary languages currently live in our 1,200 fully equipped apartments on four campuses in Brighton, Newton and Framingham, MA. The median household income of our residents living in subsidized units (which comprise 93% of 2Life's apartments) is \$10,100 a year.

Now 2Life Communities, our new name affirms our belief that all seniors should have the opportunity to age in community and comes at a momentous time in our growth. We are about to finish the modernization of its Golda Meir House campus in Newton, will complete construction on the new Harry and Jeanette Weinberg House on its Brighton campus by the end of 2018, and are preparing for a spring groundbreaking on a project on Harvard Street in Coolidge Corner in Brookline in partnership

with Congregation Kehillah Israel. Each campus features a robust fitness and wellness program, intergenerational activities, and lifelong learning opportunities as well as 24/7/365 maintenance and emergency response. In addition, 2Life Communities is at the forefront of efforts to integrate housing and healthcare and to promote senior housing communities as hubs of activities for neighbors with residents—our Village Center model.

Our Perspective

One of the goals of our 2014 Strategic Plan is to meet the growing need for senior housing by expanding our portfolio. This includes developing new housing that is affordable to low-income seniors, as well as developing new models for supportive independent housing that is affordable to moderate-income seniors.

As a developer, owner, and property manager, 2Life Communities looks at our buildings through multiple lenses. Because we own and operate our buildings, we take a long-term view and invest up-front in systems and finishes that will save on operating and replacement costs over the life of our buildings. And because we experience firsthand how our residents function within our buildings, we understand our residents' needs and work to ensure that our buildings are designed and maintained in a manner that can serve those needs.

We strive to make our buildings a reflection of our values, from common spaces that foster vibrant community interaction to age-friendly details in each of our apartments. Our buildings demonstrate best practices in senior design as well as integrate what we have learned about the specific needs of our residents.

1.1 INTRODUCTION

ABOUT THE GUIDELINES

Intended Use and Audience

These guidelines outline how our physical spaces exemplify our values and support *aging in community*. They memorialize decisions that we have made as part of recent new construction and modernization projects. They also document staff knowledge gathered from discussions with staff across 2Life Communities' sites and departments about what works (and does not work) for our residents and for our organization. The goal of these guidelines is to provide architects of future 2Life projects a design baseline that will streamline the design process and avoid "reinventing the wheel" with each new project. We also hope that it can also serve as a resource for other developers of senior housing.

Designing affordable housing for seniors involves tradeoffs between cost, space, and quality. A design strategy that is a priority for one project may be less important for another project given its location and anticipated resident needs. This document contains measures we aspire to include in our buildings, but we recognize that it may not be possible or necessary to implement every single recommendation included here in each building. Aspirational items are noted throughout the document; each design team should make thoughtful and informed choices about which of these measures to include based on a building's specific location and cost constraints.

This document is intended as a guide, not a set of fixed rules, and is *not* intended to stifle creativity or new ideas. We are continually refining our knowledge and best practices, and designers are encouraged to bring new products and innovations to the table for consideration. Likewise, we understand that our resident population is continually changing, and that the needs and preferences of our current residents may be very different from the needs of future residents.

New Construction vs. Rehab

This document is primarily focused on new construction. However, 2Life Communities also has many existing buildings that have undergone or will undergo renovations. In these renovations, particularly in our older concrete buildings, many of the recommendations in this guide will be either cost- or space-prohibitive. Renovations also need to take into account the preferences and habits of existing residents, and the complexity of working in an occupied building. When working on a renovation project, many of the recommendations included here will need to be revisited and should be incorporated only to the extent that it makes sense for the building's existing conditions.

ADAPTABILITY AND UNIVERSAL DESIGN

2Life Communities believes that residents should not have to leave their apartment because of the physical constraints of their unit, as they age and their space needs change. Adaptability is our approach to universal design, which holds that environments should be usable by all people regardless of age or ability. Many of our residents need little or no assistance when they move in, but may eventually use a wheelchair or need a home health aide to help with daily tasks. Our goal is that apartments be equipped to accommodate changing needs. For the purposes of this document, an "accessible" unit is one that fully meets MAAB (Massachusetts Architectural Access Board)/ Section 504 (Section 504 of the Rehabilitation Act of 1973, as amended) criteria, while an "adaptable" unit is one that can be easily modified to meet a resident's changing needs but does not meet all MAAB standards. Typical Buildings include 5-10% MAAB accessible units with all other units designed to be adaptable.

Of course, we recognize that there is a wide variety and continuum of needs within our population. Our goal is that the design of our units anticipates this wide variety and includes

options to make incremental changes to the units as needed: One resident may need space changes to accommodate their use of a walker, while another resident may need visual cues or safety modifications to address the onset of dementia. We will regularly update these recommendations based on our experience and as new products become available. We also welcome new ideas and innovations to ensure that our units respond to the needs of our residents.

Dementia-Specific Adaptability

Many techniques and design choices can make a physical environment easier to navigate for those with dementia. Some of these measures are subtle or are universally beneficial regardless of cognitive ability (for example, avoiding high-contrast patterns or providing clear wayfinding); these measures can, and should, be included throughout a building. Measures that might be perceived as institutional (for example, the use of bright primary colors or exit-detecting technology) should be considered on an as-needed basis in a resident's unit. Throughout this document we have noted examples of both and whether they should be universally applied. Our goal is to provide a comfortable environment for all residents that strikes a balance for those with dementia.

Reasonable Accommodations

A reasonable accommodation is a legal requirement that a change be made to ensure that a resident with disabilities has equal access to their dwelling, including both their apartment and the building's common spaces and programs, as required by Section 504. To receive a reasonable accommodation, a resident makes a request to 2Life, and our staff evaluates whether the requested change is feasible and whether it appropriately addresses the resident's disability.

Some reasonable accommodation requests can be preemptively addressed through building design. For example, if all doors within the building are lightweight with accessible hardware, there will be fewer requests for doors that are easier to open. Providing reasonable accommodations goes hand in hand with 2Life's concept of adaptable units. Throughout this document, we have noted common reasonable accommodation requests and design suggestions to address the requests.

Falls Prevention

Preventing or reducing falls among seniors is a critical intervention in the effort to increase the ability to *age in community* and continue to have vibrant and active lives. More than 30% of seniors fall each year in the U.S. (Hausdorff, 2001). Of those who experience a fall, 25% never return to their homes. Given our desire to avoid our residents needing to move to a nursing home, this topic warrants special consideration.

The built environment is one of many factors that can contribute to a resident's likelihood of experiencing a fall. Designers should proactively incorporate measures to minimize risk: specify slip-resistant floor surfaces, minimize uneven ground surfaces and transitions, minimize opportunities for clutter and trip hazards, and provide adequate illumination. Specific recommendations are included throughout this document.

SUSTAINABILITY AND "GREY-GREEN" STRATEGIES

2Life Communities takes pride in our pursuit of sustainability. In 2017, we hit our target of reducing our portfolio-wide energy usage by 20%, the first multi-family participant in HUD's Better Buildings Challenge to do so. We're extremely proud of this accomplishment!

As an organization on the cutting edge of senior housing policy, we want to take advantage of innovation in building technology that leads to

1.1 INTRODUCTION

greater sustainability. Our desire to push the green envelope comes from many different directions. First and foremost is resident comfort. Seniors are particularly sensitive to drafts and small fluctuations in temperature; a solid building envelope and a reliable HVAC system mean a more consistent and comfortable environment for our residents. Secondly, we have a vested interest in reducing our operating costs. 2Life currently pays for all resident utilities to minimize the number of bills residents need to handle and prevent residents from choosing between heat and other necessities such as food and medicine (this policy may be revisited for moderate income buildings). In addition, we feel it is important to be a good steward of the environment regardless of who is paying the bills.

We have found that seniors have a particular set of needs, and we have found that some green technologies work particularly well – or don't work so well – for our population. We call this particular subset of green building “gray green.” One of our biggest “grey green” lessons is that, no matter how fantastic a technology, it only has an impact if it is used correctly. This means that, as developers of senior housing, we need to pay close attention to user experience. Throughout this document, we have called out lessons learned and areas where seniors' needs may differ from the general population.

Generally, 2Life aims to achieve Enterprise Green Communities certification, a green building standard developed specifically for affordable housing. However, designers should be aware that funding sources or local regulations may require compliance with other sustainability standards, such as Energy Star or LEED. If that is the case, the project team should evaluate which green building rating systems to comply with – we have found that trying to comply with too many standards at once can distract from our primary goal of resident comfort and efficient buildings.

UNIFORMITY ACROSS BUILDINGS

There are areas where 2Life seeks consistency across buildings to streamline operations, and uniformity is especially encouraged within apartments. Uniformity across projects allows attic stock for items like faucets or door hardware to be shared across buildings, minimizing the need for storage and allowing for bulk purchases. It is also beneficial to provide consistency in what we mean by a “2Life apartment.” Over the long term it will be impossible to provide total product uniformity; for example, carpet styles change and are discontinued. However, it is important that general character and quality be consistent across buildings.

There are also aspects of design where each building should have its own individual identity. In general, a building's common spaces, such as the lobby and program areas, are places for design creativity. These areas should express the building's unique character.

Our recommended products list in Chapter 5 details products we have used and have been happy with. This list notes products for which standardization is recommended.

1.2 Design Principles

Our design principles are an articulation of how 2Life's values and mission should be reflected in our buildings. These principles should be what drives decision-making and inspires the project team.



1. AGING IN COMMUNITY

2Life's vision is for our residents to *age in community* – to live a full life of connection and purpose in a dynamic, supportive environment. Our buildings should reflect of this vision. When someone walks into a 2Life building, whether it is in a downtown neighborhood or the suburbs, they should instantly understand that they are not simply entering an apartment building, but that they are entering a community in the fullest sense of the word, where our residents form meaningful connections and live full and engaged lives.



2. INDEPENDENCE

2Life strives to build deeply supportive housing in which our residents can live independently, even as they age and frailty increases.

- Spaces should be **maneuverable** for people of all mobility levels, including those using a walker or a wheelchair and those with balance difficulties.
- Fixtures and appliances should be **usable** for people with limited dexterity, limited visual ability, and/or limited hearing ability.
- Apartments should be **adaptable**, able to transition to accommodate the changing needs of our residents.
- **Safe.** Building should reduce the incidence of falls or other preventable injuries and provide signaling for residents with dementia.

1.2 DESIGN PRINCIPLES



3. VILLAGE CENTERS

One of 2Life's primary objectives is building connections and community within our walls and in our surrounding neighborhoods. While the components of what makes a great Village Center will change based on project location, we want all our buildings to be hubs of activity that enrich, and are enriched by, our residents and our neighbors.

- **Connections.** Public spaces foster interaction of all different kinds, from formal get-togethers to impromptu chats to simply observing passersby.
- **Activity Hubs.** Common spaces provide an effective and engaging home for the wide variety of activities that our residents engage in and that our staff plan. Commercial spaces or neighborhood amenities act as a bridge between our residents and our neighbors.
- **Welcoming.** When residents enter a common space, it should feel like a place where they'd like to linger, socialize, and spend time.



4. SUPPORTIVE

Our buildings must accommodate the continually evolving support services to meet the needs of our diverse residents as they age. Apartments should facilitate the supports that many residents will need as they age, while the common spaces should accommodate the wide variety of well-being and social programs that are offered on campus. Resident services staff are centrally located near common spaces to be readily available to residents.



5. QUALITY

2Life builds and operates superior senior housing that is broadly affordable. Our housing should be:

- **Attractive, pleasant, and comfortable.** Apartments should be places that residents are proud to call home. Supports and features that create adaptability should not detract from the feeling that our buildings are our residents' homes.
- **Maintainable.** 2Life is highly responsive to resident service requests. Finishes and equipment that is easily serviced, maintained, and replaced benefits both staff and residents.
- **Durable.** Materials and systems that last are more cost-efficient over the life of the building, in addition to creating fewer issues for residents and staff.



6. AFFORDABLE

2Life is a mission-driven housing provider, and all our housing – from deeply affordable to moderate income – must be affordable to the people we serve. Throughout the design process, it's important to have an understanding of both the up-front and long-term costs of systems and materials and to make educated decisions based on the tradeoffs involved.

1.2 DESIGN PRINCIPLES



7. SUSTAINABLE

2Life strives to be a good steward of natural resources. Our buildings should exemplify best practices in green building.

- **Comfortable.** For seniors, who are particularly sensitive to drafts and fluctuations in temperature, a solid building envelope and reliable conditioning systems are critical.
- **Efficient.** 2Life pays for all our residents' utilities; less money spent on utilities means more funds available to support resident programming, in addition to the broader benefits of resource conservation.
- **Healthy.** 2Life is a national innovator when it comes to rethinking how housing and health care integrate. Well-ventilated buildings that use non-toxic materials directly support our mission of promoting well-being and health among residents.
- **Resilient.** Seniors are some of the more vulnerable members of society, and our buildings should be a safe place for residents even when the unforeseen happens.
- **Grey-Green.** Technologies designed to save resources are only effective if used correctly, and we must think about the user experience for older residents.



8. EMERGING TECH

We want our buildings to be ready for the next level of technology, both in common areas and in apartments. We anticipate that our use of technology will grow as more and more supportive technology for seniors is developed and as it becomes a more critical component of enabling seniors to live independently. Technology is being developed far faster than our buildings will be renovated, and so to the greatest extent possible, building design should anticipate ways to adapt to future technologies.



2 Common Areas

- 2.1 ENTRANCE**
- 2.2 CORRIDORS & ELEVATORS**
- 2.3 PROGRAM SPACES**
- 2.4 STAFF SPACES**
- 2.5 OUTDOORS**

2.1 Entrance

2Life entrances should feel like a welcoming village center. The entrance should be a warm and inviting place where people can meet with friends or make happenstance connections. The lobby is where residents access rides and transport, learn about events and activities, and congregate for informal gatherings. It provides a springboard for connection to 2Life’s internal program life as well as to the surrounding neighborhood.

ENTRY AND LOBBY

- The location of the building entrance should be immediately apparent when viewed from the outside. A covered entrance is preferred. The pick-up and drop-off area should be curbless and fully accessible.
- There should be seating both outside the building and inside the lobby, with clear views to the pick-up area so that residents have a place to sit while waiting for rides.
 - The lobby is an excellent location to double as a social seating area; see section 2.3 for more details.
 - Include wall space for bulletin boards to notify residents of activities and events. Currently we use a combination of digital screens and traditional bulletin boards, though in the future we expect to shift towards more digital boards.



Top and upper middle: Prominent entries with curbless pick-up.
Lower middle: Social seating inside the lobby.
Bottom: Seating outside the entrance.

RECEPTION

- The reception desk should be large enough to seat two people, typically one resident volunteer and one staff. The desk should be equipped with phone and computer hookups, and lockable drawers for storing laptops and electronic equipment overnight.
 - The desk should be positioned to easily view the building entrance.
 - Our reception desks are often the location for activity sign-up sheets, so include counter space accessible from the front of the desk.
- Include a sizeable storage room with direct access from the reception desk for packages or storage lockers. Currently most 2Life buildings receive packages at the front desk and hold them there for residents to pick up.
 - As residents rely more and more on online shopping services, the number of packages delivered to our front desks has increased substantially. In the future, we will consider alternatives such as digital package lockers, provided that they are user-friendly.
 - Some of our buildings have shopping carts or wheelchairs that can be checked out from the front desk; if space is available, the package room should be large enough for these as well.

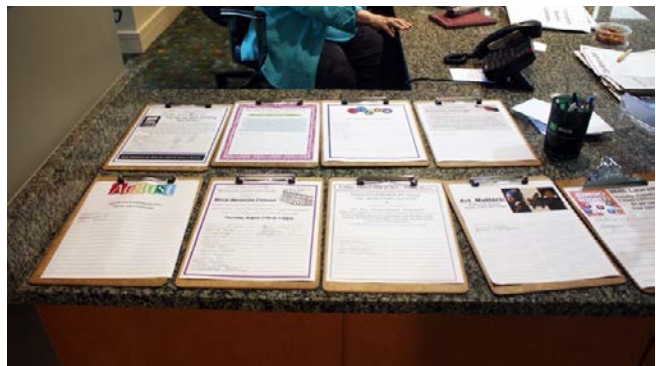
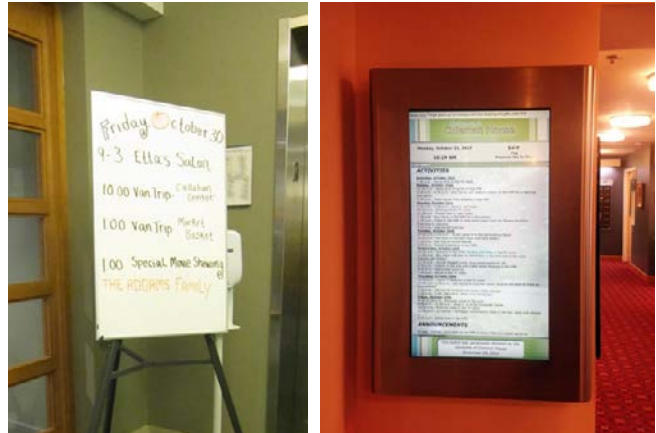
MAIL

- Mailboxes can be located in the lobby, but do not need to be. It is far more important that they be in a central, visible location with seating and Resident Services staff nearby. Given that most residents check their mail daily, mailboxes are a great way to activate a social space and are a popular place for residents to people watch.
- Include built-in space for paper recycling near the mailboxes.

Top: Signs announcing resident activities.

Middle: Spacious reception desk and activity sign-up sheets.

Bottom: Mailboxes co-located with social seating.



2.2 Corridors & Elevators

Residents should feel like their floor or wing is their own neighborhood “block.” Ideally each corridor will function as an intimate community within the building. Corridors should be a manageable size; residents should not feel discouraged from participating in the life of the building because the distance to the elevator is too far. Subtle wayfinding cues should be included in all corridors, with consideration for how to facilitate wayfinding for residents with dementia without appearing institutional.



OVERALL LAYOUT

- Building and corridor layouts are often constrained by site-specific conditions. However, architects should be aware of how corridor design can affect residents.
 - Corridors with 15-18 units are ideal to create a strong sense of community identity on each wing or floor. This number of units is large enough to provide variety but small enough that residents generally know each person.
 - Long corridors are difficult to traverse for residents with limited mobility, and can be perceived as intimidating or confusing. If long corridors are unavoidable, provide offsets for visual relief, and provide landing zones for residents who need to rest along the way.
 - Avoid multiple dead end corridors, such as those in an H-shaped building; these can be difficult for residents with



Linden Ponds, Hingham, MA



*Top: Lighting before and after the Kurlat House renovation.
Middle: Resting area in a long corridor.
Bottom: Distinctive artwork helps with wayfinding and enlivens long corridors.*

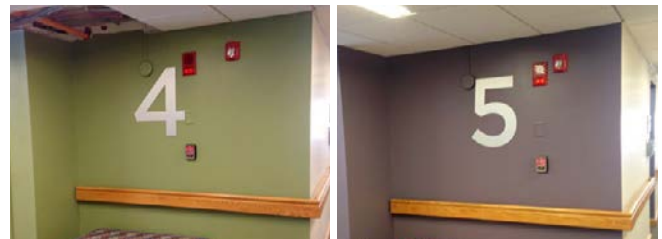
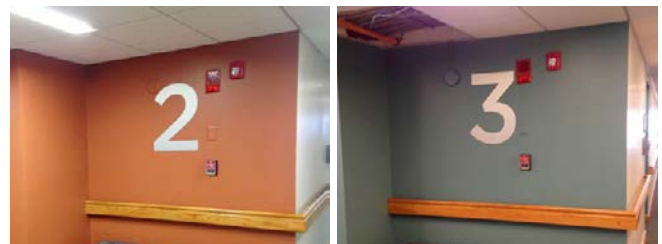
2.2 CORRIDORS & ELEVATORS

dementia. A square plan allows residents to continue in a loop if they get lost, and has the added advantage of allowing residents to walk the building in a circuit for fitness. Square floor plates tend to be larger, so designers should think about how to create the intimate sense of a neighborhood described above.

- Corridors should be wide enough for two wheelchairs to pass, preferably six feet wide.
- Corridors should be bright, and if possible should have natural light sources.
- All corridors should have handrails on both sides. Handrails should look ornamental and not institutional.

ELEVATORS & LOBBIES

- Buildings must have at least two elevators to provide redundancy in the event that one elevator needs to be serviced. One elevator must be large enough to accommodate a stretcher.
- Elevators should be centrally located and a reasonable distance from all units. Accessible units should be located close to elevators.
- Elevator lobbies should, at a minimum, be large enough for a bench so that residents can sit while waiting for the elevator, though preferably be large enough for some informal social uses.
 - Consider ways that elevator lobbies can be activated or include an amenity. In some 2Life buildings the elevator lobbies include a small table for playing cards; in other buildings we have installed waterproof flooring and shelves for residents' plants. These activities largely depend on a building's character, and the building should be flexible enough for activities to change with residents' interests.
- Signage and wayfinding is key; see Chapter 4 for specific recommendations.



Top and upper middle: Amenities in the corridor lobbies.
Lower middle: Include handrails in corridors.
Bottom: Color schemes by floor help with wayfinding.

2.3 Program & Service Spaces

Program spaces are the heart of all 2Life buildings. They are how we create our “village centers,” and are a tremendous part of what makes our buildings special places. They should be designed in close coordination with the 2Life operating team ultimately responsible for ensuring that the spaces are well-used and loved.

Nearly all the spaces listed below should be located in areas of high foot traffic with plenty of transparency, so that passing residents can easily see the activity happening within. Although program uses are discussed individually below, they should not be designed as separate spaces in a vacuum; the sequence of experiences and the way that each space flows into the next should work as a cohesive whole.

In buildings where there is not enough space to accommodate all the functions listed below, designers should think about how to most efficiently use the space available. This will likely require designing spaces to accommodate more than one use. It may mean relying on nearby amenities or partnerships for certain program spaces; this is especially true in cases where we are developing a new building adjacent to an existing 2Life campus or in a dense urban area where space is limited.



*Top and middle: Programming is part of what makes 2Life a special place.
Bottom: Transparency allows views into a room and its activities.*

MULTIPURPOSE ROOM

A multipurpose room is one of the most important spaces in a 2Life building. It hosts a wide variety of activities, including fitness classes, discussion groups, movie nights, celebration dinners, lectures or concerts, crafts classes, and more. The room should be as flexible as possible, allowing for multiple configurations and unexpected uses.

- The size of the room will depend on the number of units in the building, the potential use by partner programs, and availability of overall program space within the building. The minimum size for a 60-unit building should be approximately 600 sq ft.
- The room should be centrally located. Walls and doors should be at least partially transparent so activity within is visible.
- Include ways to expand the room for large events. Ideally, multi-purpose rooms should have doors or partitions that open to an adjacent space, where additional tables or chairs can be set up. For special events such as an annual Thanksgiving dinner or Seder, we aim to have enough room for all residents to participate, even if some of the activity spills into adjacent spaces. If budget allows, an accordion/nanowall-type partition is preferred so that the space can be fully opened.
- If the room is large enough to accommodate more than one activity at once, there should be foldable partitions within the room itself. Although accommodating large programs is important, on a day-to-day basis the room will be used for smaller programs, and the ability to accommodate multiple programs at once is important.
 - Partitions must be soundproof so two or more programs can happen at once.
- If not provided elsewhere, the multi-purpose room should include a sink, counter, and some cabinets.

Multipurpose rooms host a wide variety of activities, including celebration dinners, dance parties, fitness classes, art shows, and demonstrations.



2.3 PROGRAM SPACES

- Storage space near the multi-purpose room is critical.
 - There must be a place to put away tables and chairs when they aren't in use.
 - If designated space for programs such as art or fitness is not included elsewhere in the building, there must be space to store art supplies, weights and fitness accessories, etc.
- Excellent acoustics are critical. When a large number of people are gathered, the room's acoustics should be sufficient to dampen background noise so that residents with hearing loss are still able to participate in activities. Avoid drywall ceilings and other hard surfaces.
- The flooring should be a hard-surface, durable product that is easy to clean, comfortable for fitness activities, and sturdy enough to be able to withstand tables and chairs being continually moved and rearranged.
- Furniture should be sturdy enough for seniors to lean on, but light enough to easily move into different configurations.
 - Chairs should have arms, stain-resistant seats, and should be stackable.
 - Tables should have a flip top so that they can be pushed to the side of the room or stored without taking up much space. All tables should be on casters with lockable wheels.
 - When considering furniture layout, remember that many residents will have walkers. Allow space for residents to leave their walkers at the edge of the room or in a designated walker storage area.
- Include a built-in projector and sound system; see chapter four for AV requirements.



*Top: Multipurpose Rooms for discussion groups and lectures.
Middle: Transparent doors fold open to allow the multipurpose room to expand into adjacent space.
Lower middle: Multipurpose rooms need plenty of storage.
Bottom: Chairs should be stackable and tables should have a flip top.*

SOCIAL/LOUNGE AREAS

Residents need social gathering places. These spaces should be bright and comfortable and should feel like living rooms.

- Central, well-traveled locations that are not be walled off from the corridor are best.
- A variety of seating options, including comfortable lounge chairs and tables with upright chairs for reading or games, should be provided.
 - Allow for some moveable seating; at several 2Life buildings residents have rearranged chairs in a way that we never would have imagined but that works for them.
 - Keep in mind that “social” doesn’t necessarily mean a group of people; many residents will spend time in a social space to be near others even if they don’t wish to have direct interactions.
- Residents appreciate a focal point, such as a fireplace or a fish tank.
- Although smaller buildings may only have one social area, larger buildings should have several such spaces. These can have different ancillary features to provide variety, such as newspaper racks or a pool table.
- Any social space with lots of activity must include acoustic mitigation that will dampen background noise.



*Top and upper middle: Comfortable social spaces.
Lower middle: Activities incorporated into social spaces.
Bottom: Fishtanks and fireplaces provide a focal point.*

2.3 PROGRAM SPACES

FITNESS AND WELLNESS

Health and wellness programs are critical for enabling residents to live independently. Fitness offerings typically include a gym with senior-friendly equipment and classes ranging from chair yoga to arthritis therapy to tai chi. Equally important are informal opportunities to be active, like walking circuits, game areas, or space for recumbent cross trainers.

Gym and Fitness Classes

- Include space for “nustep” recumbent cross trainers in well-traveled corridors or common areas. These senior-friendly machines are extremely popular and safe to use unsupervised. Placing them in prominent locations, preferably in pairs, makes them more accessible, more visible, and more integrated into the daily life of the building.
- We find that more residents participate in our fitness classes than use the gym – classes are more social and less intimidating to some than fitness equipment. If floor area is limited, an area for fitness classes can be prioritized over gym space. In smaller buildings, fitness class space can be combined with a multi-purpose room; see above.
- Fitness class space should be large enough to accommodate 10-20 people, with each participant using up to two chairs as props.
- If there is no gym in the building, the exercise room should have storage for weights and other fitness accessories.
- If the exercise room will only be used for exercise, the inclusion of wall mirrors and barres is helpful for many fitness exercises. However, these features might only be appropriate if the room will be used exclusively for fitness; otherwise they can be distracting and limit flexibility.

Top: Gym with senior-friendly equipment.

Middle: Fitness classroom with mirror, barre, and accessory storage.

Bottom: Fitness classrooms should include space for chairs.



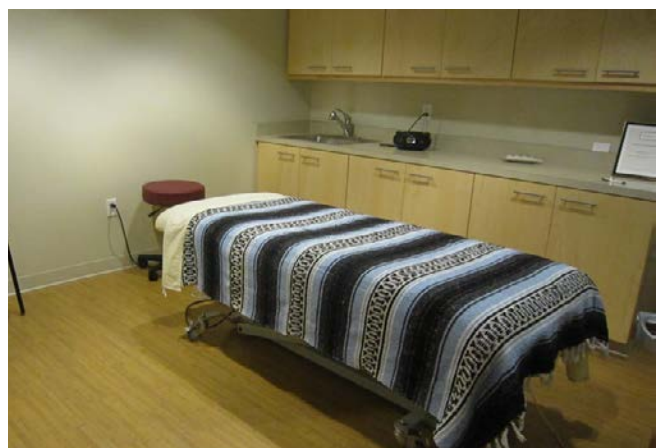
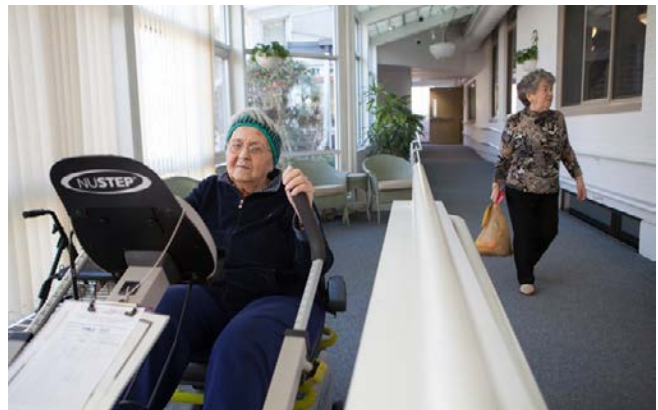
Bowdoin Health Center, Boston



- If a gym is included in the building, it should be large enough for 6-10 pieces of fitness equipment, depending on the building size. It should also include space for a fitness instructor's desk, shelves for fitness accessories, a mirrored wall, and a barre.
- The gym should be wired for a TV and speakers, and should have extra outlets to accommodate the machines.
- Several of our gyms include excess space that was designed to accommodate a small class; however, this space is rarely if ever used for classes. If the gym and exercise room are combined, the space must be truly large enough to accommodate a full class.
- Fitness rooms should have a restroom located in close proximity.
- The gym or fitness room should have operable windows for passive conditioning. Any room used for exercise should be on a separate heating/cooling zone.
- Flooring in all fitness areas should have a subfloor for extra cushioning. Avoid carpet in all areas that may be used for fitness; when exercising, shoes dragging on carpet can be a trip hazard. Rubber flooring is preferred for a gym; for a multi-purpose exercise space use LVT or similar.

Wellness

- Most 2Life sites host a visiting wellness nurse a few times a month. If space allows, provide an exam room for this function.
- In smaller buildings, a dedicated space for a nurse is unlikely, but designers should think about where occasional visits could be accommodated.



*Top: Being active doesn't have to happen in a class or gym.
Middle: Nusteps in common areas make fitness a part of the building social life.
Bottom: Wellness office.*

2.3 PROGRAM SPACES

LIBRARY

Currently, all 2Life buildings have a library. In addition to their book-lending function, these spaces are used as a quiet place to read or work, and can be used for discussion groups or small activities. However, we recognize that the role of libraries is evolving, and look forward to working with designers as we re-envision this function in future buildings.

- A designated library space is a lower priority for smaller buildings or new buildings adjacent to existing campuses; in these cases consider simply adding bookshelves to one of the social areas.
- As with other social areas, include a mix of comfortable lounge seating and upright seating with tables for reading newspapers.
- As public libraries evolve to become media and education centers as well as places to borrow books, we're excited to think about how 2Life's libraries can follow suit. Designers should look to recent examples – comfortable seating interspersed with bookshelves, computers, work stations and tablet charging stations – to think about how these concepts could be applied at 2Life or be part of a “village” component where non-residents, students or others could use the space alongside residents.



Jewish Federation Apartments, Buffalo NY

*All: Libraries should include a variety of seating.
Top and upper middle: Windows into the library allow view of what's happening inside.
Lower middle and bottom: Bookshelves incorporated into social seating areas.*

COMPUTERS

All of 2Life's buildings currently include computer areas, which are used for internet access, printing, and classes. The classes in particular are a way to help residents stay connected with their loved ones and the world around them. Like libraries, we anticipate that the role of our computer rooms will change as the way we use technology evolves.

- We anticipate that more and more new residents will own a laptop or tablet and may have less need for a designated computer space. Designers should think about how to more seamlessly integrate computing and media into 2Life's social spaces. However:
 - We expect that classes will remain an important part of our offerings, even if the specific subjects change with technology.
 - We anticipate that there will still be demand for certain functions that are less likely to be accommodated through personal devices, such as printing or scanning.
 - Because our buildings are predominantly affordable, a few public computer stations should be provided, so that even residents without their own devices have access to the internet.
- We'd like to think about future computing spaces as places where residents are enticed to use their own technology in a more social setting, rather than by themselves in their apartments. Perhaps all lounges or libraries will be equipped to double as computer spaces by providing plenty of outlets and USB connections. We look forward to working with our designers to think about how to progressively integrate technology into the life of our buildings.



Jewish Federation Apartments, Buffalo, NY



Boston Public Library, Boston, MA



Top: Computer area inside the library.

Upper middle: Public computers within social areas.

Lower middle: Public libraries offer a glimpse as to how technology may be integrated into social spaces.

Bottom: Computer classes are an important part of keeping seniors connected.

2.3 PROGRAM SPACES

RETAIL

- All of our campuses include a small convenience store, usually staffed by resident volunteers, where residents can purchase sandwiches, snacks, toilet paper, and other staples. This amenity is important for residents, especially for residents who no longer drive or have difficulty getting around in winter. This use may be less critical at urban sites where amenities are easily accessible nearby, but should be included in buildings where access to small necessities requires a car ride.
- We are willing to be creative with regard to store format; designers should work with 2Life to identify what arrangement will best serve residents.
- We have included a publicly-accessible retail space in the plans for some of our new buildings. These spaces enhance our village center goals by enabling residents and neighbors to come together and interact around a common amenity, similar to a hotel lobby or neighborhood café.
- Security needs to be considered in these situations. If a retail space is included in the project program, architects need to help determine how to restrict access to resident-only spaces while emphasizing connections between residents and the community.
- Currently, we are providing mechanical systems and food prep equipment stub-ins for retail spaces. Details will vary depending on project specifics.
- Our retail spaces are an experiment in progress, and we expect that, as our first retail spaces are built and occupied, we'll have many more lessons learned.



Credit: Abacus Architects + Planners

OTHER SPACES

In larger buildings, there are more options for additional program spaces. Flexibility is key given the changing interests of residents over time: rather than specifically designating an art room or a game room, it may be most useful to design rooms that can be used in different ways at different times.

- Larger buildings should include several smaller flexible rooms in addition to a main multi-purpose room that can be sectioned off. These spaces can serve as a staff conference room during the day, and a more intimate space for residents to play cards or conduct classes in the evening.
- Arts and crafts: If providing smaller multi-purpose rooms, one should be equipped to serve as an art room, and should include natural light, a large sink and counter space, and storage for supplies.
- Games: In our larger buildings, social spaces include areas for pool tables, ping pong, or shuffleboard. When sizing these areas, keep in mind that many residents will want to watch the activity; allow for generous seating nearby. Because of this, these activities are usually more successful in a lounge-like social space rather than in their own designated room.
- TV lounge: Some buildings may include a TV lounge for watching sports events or movies in a more intimate setting than the main multi-purpose room.
- Salon: In the future we may only include a dedicated salon space in larger buildings, since this space is difficult to combine with other functions and utilize daily.
- Bathrooms: provide at least two public ADA restrooms in or near the common areas.



Adjacent page: Small convenience stores at 2Life properties; rendering of social areas open to retail at Weinberg House.

Top: Art room with storage.

Middle: Small multi-use space/game room.

Bottom: Wood-acoustic tiles to mitigate background noise.

2.3 PROGRAM SPACES

- Kitchen: The type of kitchen or kitchens will depend on a food program for the building and how it will be implemented.
 - Larger buildings may include a commercial kitchen. The kitchen should either have an adjacent dining area or be adjacent to the multi-purpose room, which can double as a dining room. Be sure that the two rooms are acoustically separated; if meals are being prepared while a program is going on in the multi-purpose room, the noise from the kitchen can be distracting.
 - Smaller buildings will likely not have a full commercial kitchen, though a kitchenette is useful if space and budget allows.
 - Cooking classes and demonstrations are a popular type of programming, so flexible seating and views should be considered.

LAUNDRY

- 2Life prefers a small laundry room on each floor, rather than one central laundry room, if cost and space allow.
- We typically provide roughly one washer/dryer for every twelve units. If providing a laundry room on every floor, each floor should have at least two washer/dryers.
 - Building plans should include washer and dryer hookups, but do not need to specify the equipment itself; 2Life leases laundry machines from an independent vendor.
 - There must be accessible machines in each laundry room; this may preclude some stacking configurations.
- Include a slop sink, a folding table, and space for a few chairs.
- If cost allows, consider an automated door so that residents can easily open the door while carrying laundry and pushing a walker or wheelchair.
- Include a central drain in the laundry room.
- Include appropriate soundproofing if the laundry room is located next to apartments or program space.



Episcopal Homes, St. Paul MN



2.4 Staff Spaces

2Life staff, regardless of their role, connect with residents and are the eyes and ears of the organization to ensure that residents can live independently. Operations staff are responsible for far more than traditional property management: they are available 24/7 for resident emergencies and respond to pull cord calls. Resident Services staff connect residents to third party service providers, help residents with mail or personal issues, and provide programming to keep residents engaged and active. Every staff member contributes to enabling residents to live independently.

OFFICES

- Staff offices should be easily accessible to residents. All site staff, from maintenance technician to executive director, interact regularly with residents and should be centrally located.
- At a minimum, each building should include an office for an Executive Director, a Resident Service Coordinator, and a Maintenance Supervisor.
- Larger buildings will have proportionally more staff. The exact number of offices will depend on the size of the building and the extent to which it can share staff with nearby 2Life properties.
- Wherever possible, include extra offices or swing desk space for potential



Top: Staff conference room doubles as a resident game room in the evening.

Middle: Resident service coordinator offices located adjacent to social areas.

Bottom: 2Life staff interact regularly with residents.

2.4 STAFF SPACES

future growth. Flex work areas can also accommodate program staff who work across 2Life sites.

- Include at least one conference room that can accommodate 8 people; larger buildings will need more conference rooms of varying sizes. As discussed above, these spaces can double as resident activity spaces outside of business hours.
- The staff area should include a refrigerator, sink, counter and cabinets, and space for a large copier. The staff refrigerator should be tied to the emergency generator to hold resident medication in the event of a power shutdown. The staff area should also have a dedicated restroom and file storage room for records that are required to be stored on-site.
- In larger buildings, consider a space for a home health aide break room. Home health aides are independent contractors and are not part of 2Life staff, but they are an important part of why many of our residents are able to live independently, and they appreciate a place to work or rest between client appointments.

MAINTENANCE AND STORAGE

- A maintenance closet and slop sink is preferred on every floor; at a minimum provide one on the first floor and on every third floor above that.
- Every building should include a maintenance storage area. The size requirements will vary depending on the building's overall size and its proximity to other 2Life sites.
- Include extra storage for program materials. Space-specific storage needs are discussed above, but in general there is always use for whatever additional storage can be provided.

TRASH AND RECYCLING

- Provide a trash room on each floor with two vertical chutes, one for trash and one for recycling.
 - The door to the trash room and the chute doors should be lightweight and intuitive to use. If cost allows, consider an automated door so that residents can easily open the door while carrying trash and pushing a walker or wheelchair.
- Compactors should be selected for both trash and recycling.
- The size of the ground floor trash room depends on the building size and trash collection plan.
- The trash room should have a central drain and an H/W hose bib for cleaning.
- Include appropriate soundproofing of the vertical chutes and the trash room.

2.5 Outdoors

The primary goal for any outdoor space is to provide a comfortable area for residents to spend time outside, whether sitting or walking. Larger outdoor spaces may include specific program elements such as exercise areas and equipment, gardening plots, or games.

ENTRY AND LOBBY

- Outdoor spaces should be flexible and accommodate multiple activities, from outdoor concerts to informal socializing.
- A variety of seating options is preferred, including fixed benches with arms, movable patio tables and chairs, and seating in both sun and shade.
- Residents appreciate walking paths, even if the path is a simple short loop within a small courtyard. Paths should meet all accessibility standards, and should include plenty of shaded seating.
- Include items of visual interest, most importantly plantings, flowers, and trees. Plants should be native, drought tolerant, and low-maintenance.
- Consider the best ways to incorporate wayfinding, signage and cues on all exterior pathways and spaces. Clearly delineate all pedestrian routes through parking lots or access drives.
- If providing an area for resident gardening, include both raised beds and ground-level beds. Resident garden areas should be located near a water source so residents can water plants easily.

Outdoor spaces should be flexible enough to host a variety of activities, which may include concerts, fitness classes, gardening, or even construction of a Sukkah.



2.5 OUTDOORS

- Include exterior power sources and lighting.
- Paths must be clear of snow throughout the winter.
 - Walkways should be 6' wide, to accommodate snow clearing equipment.
 - Avoid 90 degree corners where possible, which are difficult to maneuver with snow equipment.
 - On large sites, include a place to store snow clearing equipment, salt, and sand. On smaller sites, these may need to be stored in the maintenance storage area or off-site.

Parking

- The number of parking spaces needed at each project will vary depending on the location. On our most urban campus, less than 15% of residents request a parking permit, while at suburban locations the number is higher, approximately 25%.
- We are open to providing car sharing spaces and other methods of demand management to reduce the number of parking spaces needed and anticipate exploring this further as technology changes.



*Upper: Residents enjoy a variety of seating configurations. Provide opportunities for shaded seating.
Lower: Accessible walking paths.*



3 Unit Goals And Layout

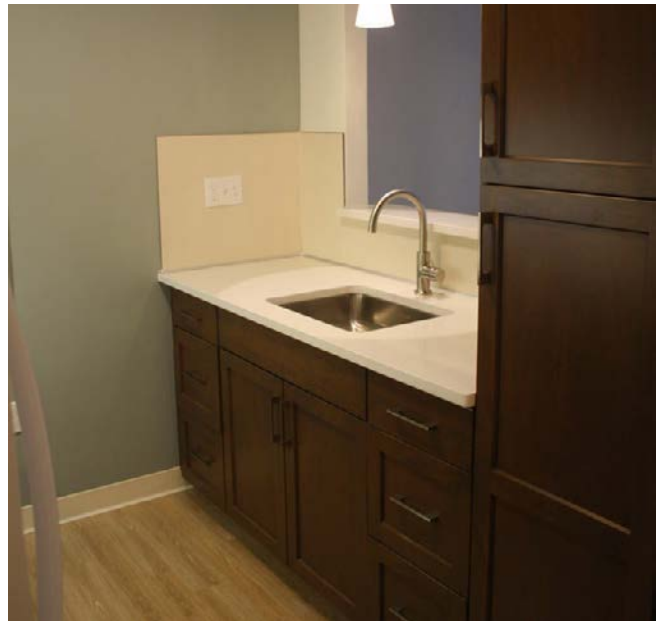
- 3.1 THROUGHOUT THE UNIT
- 3.2 UNIT ENTRY
- 3.3 LIVING/DINING
- 3.4 KITCHEN
- 3.5 BATHROOM
- 3.6 BEDROOM

3.1 Throughout the Unit

2Life Communities apartments are our residents' homes. Each apartment should look and feel like a home and incorporate creative approaches to durability and universal design to avoid an institutional look and feel. Every unit should be designed to support aging in community, with a range of adaptable features that enable residents to live comfortably in their unit even as their physical space needs change.

DESIGN CONSIDERATIONS

- 2Life generally builds one-bedroom units, though some projects may include a small number of two-bedroom units. The typical unit size for a one-bedroom affordable unit is 600-650 square feet. Moderate income units may be larger depending on program goals and affordability targets.
- Accessible MAAB/504-compliant units should be located close to an elevator to reduce travel distances for those with impaired mobility. In general, avoid excessively long corridors.
- Provide the minimum number of MAAB/ Section 504 accessible units as required by code or other project criteria. Our goal is for our adaptable units to accommodate most residents' needs. However, in renovation projects or other projects that do not include many adaptable features, it may be desirable to include more accessible units than the minimum required.



3.1 THROUGHOUT THE UNIT

- The amount of space devoted to hallways within the unit should be minimized. Some hall space is likely necessary to avoid having bedroom and bathroom doors open directly onto the living room, but long runs of hallway should be avoided. Minimize the number of 90-degree turns within a unit as these can be difficult for residents with walkers and wheelchairs.
- Consider furniture arrangements from the earliest stages of unit design. Keep in mind that many seniors are downsizing from larger homes and may have more furniture or larger furniture than might be expected in a one-bedroom unit.
- Do not place vents over the likely location for a bed or a couch. Seniors are particularly sensitive to drafts, and ventilation blowing directly on the skin – even when it's conditioned air – can be uncomfortable.
- Avoid placing items that need to be accessed, such as an operable window or a thermostat, behind obvious furniture locations. Leaning over cords or furniture poses an increased risk of falls.
- Maximize opportunities for natural light. Daylight, or light that imitates daylight, helps seniors stay alert and oriented and avoid depression.
- Maximize storage within the unit. Many residents have downsized from a larger home, so storage space is a priority. More storage generally means less clutter in the unit, which means fewer trip hazards.
- Doors should be 36" wide with clear space on the swing side of each door to allow for easier maneuvering of a walker or wheelchair.
- Closet doors should be bifolds, which take up much less space within the unit.



*Top and middle: Maximize storage opportunities.
Bottom: Maximize natural light.*

3.1 THROUGHOUT THE UNIT

- Pocket doors are desirable inside the unit, provided that they're easy to access for repair, that the hardware is user-friendly, and that they're light enough for frail residents to operate. Swing doors can often block closet access or circulation, and can be difficult to maneuver with a walker. Pocket doors are also easier to open in the event that a resident has fallen behind the door and needs assistance.
 - Pocket doors should have a clear opening of 36", taking into account that surface-mounted pocket door hardware will prevent the door from recessing completely into the wall (see Section 08 10 00).
 - When not feasible for the whole apartment, pocket doors can be prioritized for bathrooms.
- Windows must be operable with minimal effort (5 lb of force). We have found that awning or casement windows, which can be opened with minimal force using just the palm of your hand on a crank, are great for those with limited strength or dexterity. The amount of operable versus fixed window area is a matter of ongoing discussion.
- It is critical to provide adequate lighting so that seniors can comfortably perform everyday tasks and avoid tripping. Seniors need two to three times the amount of light to see at the same level as a younger person, and someone with dementia needs 100% more light to see at the same level as someone the same age. At the same time, it's important to maximize residents' control over light levels.



Top: Pocket doors are preferred, especially at the bathroom. The pocket door hardware will prevent the door from recessing entirely.

Middle: Bi-fold closet doors.

Bottom: Diffuse overhead lighting and task lighting.

3.1 THROUGHOUT THE UNIT

- Provide a high level of acoustic separation between units. Seniors with hearing loss often listen to television or radio at loud volumes, and acoustic isolation is critical in senior housing.
- Use floor materials of matching thickness to eliminate the need for thresholds between floor transitions. Where thresholds are required, their profile should be kept to a minimum to reduce the risk of tripping.
- Use contrasting tones for different planes (floor, wall, cabinet, counter) and for hardware. These contrasts help those with low vision differentiate between planes. This can be done subtly, within a neutral residential palette, and does not need to be overly bold.
- Avoid high contrasts within the same surface, such as a light carpet with a dark pattern, as this can be particularly disorienting to those with dementia.
- For renovation projects, many of these recommendations will be difficult or impossible; incorporate recommendations to the extent that makes sense given the constraints of the existing space and systems and the scope of the renovation.



*Top: Windows should be operable with minimal force.
Upper middle: Zero-threshold floor transitions minimize tripping risk.
Lower middle: Use contrasting tones for different planes.
Bottom: Use low-contrast floor patterns (left); avoid high contrasts within the same surface plane (right).*

3.2 Unit Entry

Unique personal touches make a unit feel more like a resident's home, aid with wayfinding and recognition, and provide visual relief in long corridors. Provide means for personalization at the unit entry within the building corridor.

DESIGN CONSIDERATIONS

- The door alcove should be recessed from the building corridor to provide visual relief.
- Provide a shelf in the door alcove for setting down an item or for personalization. Consider other ways to allow for personalization or recognition.
- Within the unit, a small entry area provides a transition from the public corridor to the privacy of a residents' home. From the entry area, it's helpful to have a clear line of sight to other spaces within the unit to help with orientation.
- Residents prefer separate coat and linen closets. Many residents have downsized from a larger home, so adequate storage space is a priority.



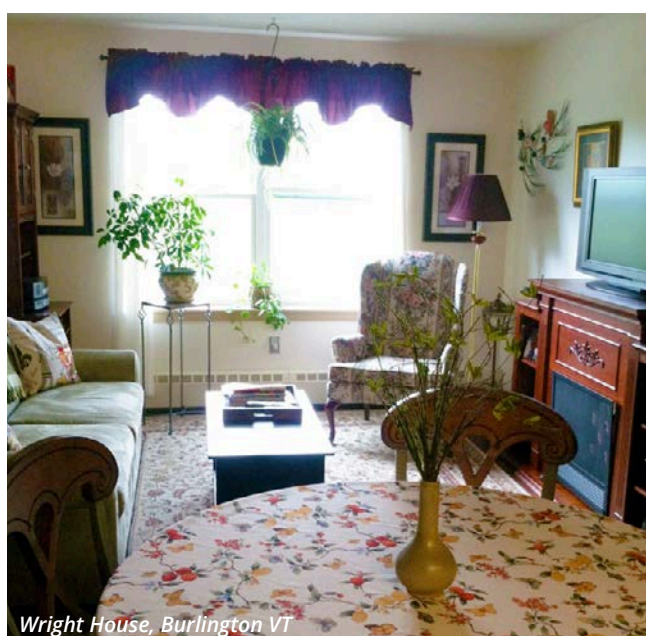
*Top: Recessed entry alcove.
Middle: Shelves provide opportunities for personalization.
Bottom: Name plate and mail basket.*

3.3 Living & Dining Rooms

The living room is where residents entertain family and neighbors, as well as spend much of their free time. It should be bright and full of natural light, and flexible enough to accommodate a variety of furniture.

DESIGN CONSIDERATIONS

- Units should be designed in an open manner with a combined living/dining area. The room should include space for typical living room furniture as well as a small dining table near the kitchen.
- In the living room it's particularly important to consider furniture layout, understanding that many seniors have large pieces of furniture that many will need additional maneuvering room for walkers or wheelchairs.
- A typical 2Life unit includes a wall with a pass-through opening between the kitchen and the living/dining area. Some of our current residents prefer this separation. However, we suspect that given current trends, future residents may prefer a more open kitchen.
- The thermostat should be placed in a central location where residents can access it without leaning over furniture and cords. The thermostat display should be easy to read and operate.



*Top: Living rooms should be bright and flexible.
Middle: Half wall between kitchen and living room.
Bottom: Space for a small dining table in the living/dining room.*

3.4 Kitchens

The kitchen is a functional, hard-working room, so appliances, materials, and finishes should be durable enough to withstand rigorous use. Cooking is important to many residents, and their ability to continue to use their kitchen as they age is important to foster their independence and maintain ties to their past. Other residents use the kitchen primarily for storing and reheating home delivered meals, though in many cases aides continue to use a resident's kitchen to prepare meals. The kitchen should accommodate all these uses.

DESIGN CONSIDERATIONS

- At a minimum, the kitchen should be large enough to maneuver with a walker. This is best accomplished by providing enough space for a wheelchair turn radius when the base cabinet underneath the sink is removed.
- Generally, a galley or U-shaped kitchen is preferred over an L-shaped kitchen. A self-contained U-shaped kitchen provides a clearer differentiation of spaces (with or without a pass-through wall), which is helpful for residents with dementia. A U-shaped kitchen also enables those with balance difficulties to “counter surf” by holding onto countertops as they move throughout the kitchen, and those with limited strength to slide heavy items along the countertops. If cost or space is an issue, a galley kitchen is also an option.

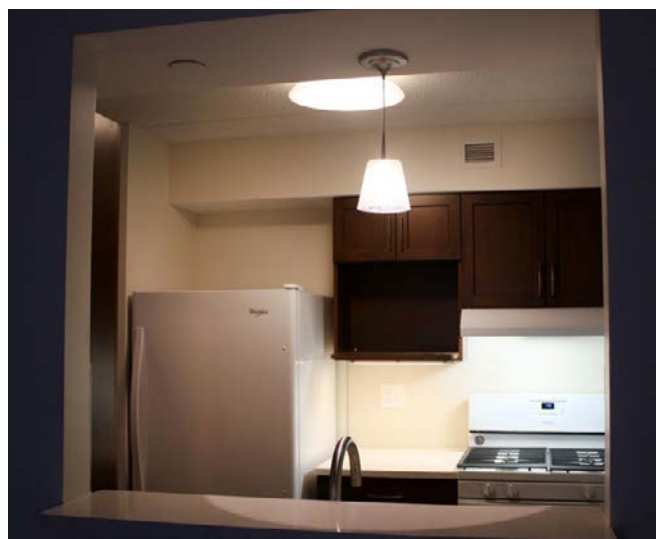
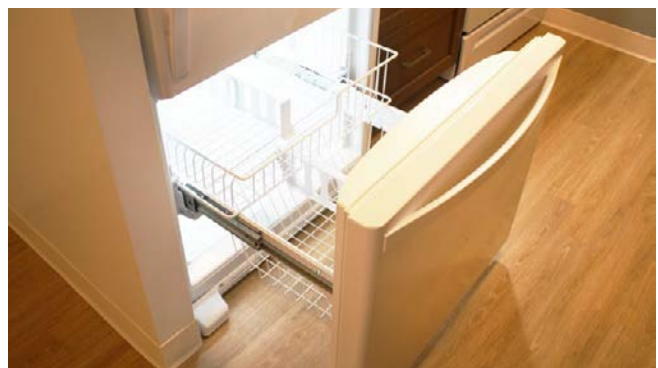
Top and upper middle: U-shaped kitchen.

Lower middle: Drawers in base cabinets.

Bottom: Stove and sink on same counter length in galley kitchen.



- Provide a half-height wall between the kitchen and the living room, which provides a visual connection between the two spaces. The wall should extend roughly a foot above the finished surface of the countertop. If a half wall makes it impossible to include a pantry, install a full-height wall with a pass-through opening.
- Wherever possible, and particularly in a galley kitchen, the sink and the stove should be on the same length of counter. This allows residents with limited strength to slide a heavy pot of water from the sink to the stove without needing to lift it.
- Provide a full-height pantry cabinet in the kitchen. Residents have expressed a strong preference for a pantry rather than additional counter space, and the extra storage helps reduce kitchen clutter.
- Try to limit the number of small (15" or less) stretches of counter, especially to either side of the sink and stove.
- The base cabinet underneath the sink should be removable in all units.
- Good lighting is particularly critical in the kitchen, where residents need to perform detailed tasks (see lighting section for more).
- Appliances should include:
 - A refrigerator with a pull-out bottom freezer, which ensures access for residents in wheelchairs or for those who have difficulty lifting items. This will typically require a MAAB variance, but we have found that the bottom freezer is best for our residents.
 - Stoves should be electric.
 - All units should have range hoods vented to the exterior.
 - All units should have a garbage disposal.
 - Dishwashers (18") are desirable when the budget allows; if not included, sinks and counters should be designed to accommodate washing by hand.



*Top left: Full-height kitchen pantry.
 Top right and upper middle: Pull-out freezer under refrigerator.
 Lower middle: Removable base cabinet under sink.
 Bottom: Overhead light and task lighting in multiple locations.*

3.5 Bathrooms

Good bathroom design is a foundation of independent living. If a resident is unable to use their bathroom, either independently or with assistance, it will be difficult for them to remain in their home. Unit bathrooms should be equipped with the supports to enable seniors of varying abilities to use the bathroom independently for as long as they are able, and should be organized so that an aide can comfortably assist a resident as needed.

Bathrooms are the location of a particularly high number of falls, so minimizing the potential for tripping and slipping – through lighting, flooring, and handholds – is of vital importance. While safety and adaptability are primary concerns, these should not come at the expense of ensuring that the bathroom looks residential.

DESIGN CONSIDERATIONS

- Access to the bathroom should be as close to the bedroom as possible. Where possible, dual access from both the hallway and directly from the bedroom is preferred. Otherwise, the bathroom door should be accessed from the hallway, but should be as close to the bedroom door as possible.

*Top and middle left: Toilet paper holder and towel bar double as grab bars; see chapter 4.
Middle right: Integral night LED light in outlet; see chapter 4.
Bottom: Zero-threshold shower with infinity drain.*



3.5 BATHROOMS

- The bathroom should be large enough to accommodate a wheelchair turn radius when the vanity cabinet under the sink is removed. This benefits the many residents using walkers as well as those using a wheelchair.
- The room should be large enough for an aide to be present alongside the resident to assist in bathing or other tasks. If the room can accommodate a turn radius it is likely also large enough to accommodate an aide, but it's still important to remember that there may be two people and a mobility device in the room at once.
- If space within the unit is at a premium, prioritize extra space in the bathroom rather than in the kitchen. If a resident has difficulties using their kitchen, there are several ways they can continue to live successfully in their apartment: home-delivered meals, cooking with a microwave, enlisting the assistance of an aide for meal preparation. However, if a resident is unable to use their bathroom independently and it's too small to accommodate an aide, then the resident will have difficulty remaining in their unit.
- Install showers in all units. The risk of falls when stepping in and out of a bathtub is so great that we believe the benefits of showers outweigh any drawbacks.
- Showers should be a minimum of 36" wide, preferably 39" wide, to accommodate an aide and a shower seat and to minimize splashing.



*Top: Bathroom large enough to accommodate an aide.
Bottom: Install showers in all units; task lighting in shower and over vanity.*

3.5 BATHROOMS

- In non-accessible units, install the shower controls on the short shower wall, as this is the location that is most familiar to residents. In accessible units, install controls per MAAB/504 code.
- The toilet should be placed in a corner so that there can be grab bars both behind and next to the toilet. There should be enough side wall next to the toilet so that there's a grab bar that comes out at least alongside the entire toilet, preferably extending past the toilet.
- Where possible, provide at least a 30" wide vanity. This allows for more surface area on which to place items such as a toothbrush or soap. Keeping items in plain sight is helpful for residents with dementia, who sometimes have difficulties finding items inside cabinets. This is especially true for sinks in ADA/MAAB units, where storage space is at a premium.
- Avoid placing the vanity too close to the shower. If a resident forgets to close the shower curtain, moisture and mold can easily build up at the vanity base.
- If space and cost allow, residents appreciate additional storage, such as a cabinet, linen closet, or shelves, within the bathroom. This is especially true in the event that the vanity is removed for accessibility.
- Good lighting is particularly critical in the bathroom, where a high number of falls occur (see lighting section for more details).



Top: Toilet located in corner with grab bars behind and adjacent; shelving over toilet.

Middle: Wide vanity allows for placement of personal items.

Bottom: Linen closet in bathroom.

3.6 Bedrooms

The bedroom should be a refuge for residents, a place for privacy and for restful sleep.

DESIGN CONSIDERATIONS

- The bedroom should have easy and direct access to the bathroom. Many falls occur in the middle of the night when residents wake to use the bathroom, and a clear and well-lit route between the two rooms helps to minimize this risk.
- Many seniors, especially those with dementia, operate on circadian rhythms that differ from a typical adult, and it's important for residents to be able to control light levels – both natural and artificial light – so that they can sleep and wake when they need to.
- Allow enough space to maneuver a walker around furniture and closet doors. Bedrooms do not need to be overly large, but should be able to accommodate a queen size bed, which is what most residents own, especially couples.



Laseh Village, Newton MA



Linden Ponds, Hingham MA



*Top: Bedrooms should be big enough to accommodate furniture.
Middle: Room to maneuver a walker or wheelchair around the bed.
Bottom: Bedrooms should be located as near as possible to the bathroom.*



4 Materials Specifics

- 4.1 DIVISION 06 / WOOD, PLASTICS, COMPOSITES
- 4.2 DIVISION 08 / OPENINGS
- 4.3 DIVISION 09 / FINISHES
- 4.4 DIVISION 10 / SPECIALTIES
- 4.5 DIVISION 11 / EQUIPMENT
- 4.6 DIVISION 12 / FURNISHINGS
- 4.7 DIVISION 22 / PLUMBING
- 4.8 DIVISION 23 / HVAC
- 4.9 DIVISION 26 / ELECTRICAL
- 4.10 DIVISION 27 / TELECOMMUNICATIONS
- 4.11 DIVISION 28 / SECURITY
- 4.12 DIVISION 32 / EXTERIOR

4.1 Division 06 / Wood, Plastics, Composites

BLOCKING

In all unit bathrooms, provide blocking for the following:

- Wall-mounted sink. This ensures that we can replace the sink vanity with a wall-mounted fixture to provide under-sink clearance if the resident has need for a wheelchair.
- Horizontal grab bars at 30"-42" AFF around the toilet.
- Vertical grab bar next to the shower.
- Toilet accessories, including towel bar and toilet paper holder.
- Continuous plywood blocking throughout the entire shower enclosure. This allows for the future installation of grab bars or a shower seat in whatever locations may be needed by the resident.

Throughout each apartment unit, provide blocking for the following:

- Curtain rods at all windows.
- Closet shelving and hanger rods at 42-48."
- An access panel at any valve or other piece of equipment that may require maintenance.

4.2 Division 08 / Openings

DOORS & DOOR HARDWARE

Throughout the Building

- Doors should be 36" wide with clear space on the pull side of each door, to allow for easier maneuvering of a walker or wheelchair.
- All doors must be operable with minimal effort (5 lb of force or less).
- Exterior doors should have accessible push buttons to open.
- All hardware should be ADA-compliant with lever handles. Lever handles are easier for residents who have difficulty grasping, pinching, or twisting the wrist. Longer lever handles are preferred for ease of use.

Unit Entry Door

- The unit entry door should be light enough to be easily operable by someone using a walker or with limited strength. Use spring hinges to facilitate ease of use. If the door is too difficult to open, residents sometimes request an automatic door as a reasonable accommodation, which is a disruptive and costly change.
- Doors should be panelized, which is more residential in appearance than a flush door.
- The unit entry door should be well-sealed to block drafts and smells from the corridor.
- Provide the following hardware:
 - Lever door handle, no thumb lock
 - Door knocker
 - Two peepholes, one at standard height and one at MAAB-recommended height.
 - Deadbolt. The deadbolt must automatically disengage when the door handle is pulled from the inside for ease of exiting in an emergency.

- In a project in design, we plan to install wireless door locks at each unit entry door instead of a deadbolt. If this system works well, we will consider standardizing its use in future buildings.

Interior Unit Doors

- Solid core doors are preferred because they are durable enough to withstand repeated dings from walkers and wheelchairs and will not de-laminate in a humid bathroom. However, hollow core doors are also acceptable.
- Doors should be panelized.
- Pocket doors are desirable, especially at bedrooms and bathrooms, to support mobility and emergency access.
- Pocket door hardware should be surface-mounted U-shaped handles. This means that the door will not recess entirely into the wall; keep this in mind when sizing the door, and enlarge the opening as needed to ensure a clear opening that is wide enough for walker and wheelchair users (minimum 32"; 36" preferred).
- Door hardware in bathrooms should be passage (not privacy). If a resident pulls their emergency cord, staff must be able to access the room quickly.

Closet Doors

- Closet doors should be high-quality bifolds with a top-only track. Unlike swing doors, bifolds do not block circulation or furniture and take up less space, making them easier to open if the resident uses a walker or wheelchair.
- Bifold door hardware should be large U-shaped handles. Bifold hardware can be the same as kitchen cabinet pulls, provided they are large enough to easily use.

WINDOWS

- All windows must be operable with minimal effort (5 lb of force or less). We have found that casement or awning windows, whose crank mechanism can be operated with minimal force using just the palm of your hand, are a good fit for residents with limited strength or dexterity. Avoid double hung windows, which are generally difficult for seniors to operate.
 - Make sure that the crank is appropriately sized so that it doesn't hit the wall or window sill.
 - Window mechanisms should be simple and intuitive to operate and sturdy enough to not easily snap or break.
- Provide one mid-size operable window pane per room.
 - In renovation projects, the amount of operable window area will require additional discussion. Residents typically prefer a large amount of operable window. However, many of our residents leave windows open while the heat or air conditioning is running, so from an operations and energy perspective, a smaller amount of operable window is preferred. The specific needs of each building and its occupants will need to be taken into consideration.
- Fiberglass windows are preferred for quality and environmental reasons. However, vinyl windows are acceptable if the project budget is constrained.
- In all unit windows install a contact strip that automatically shuts off the air conditioning if the window is open, provided that it's compatible with the cooling system and that it doesn't void the window warranty.

4.3 Division 09 / Finishes

GENERAL

- In general, use contrasting tones for different planes (floor, wall) and for hardware (cabinet pulls, light switches, etc). These contrasts help those with low vision differentiate between planes. This can be done subtly, within a neutral residential palette, and does not need to be overly bold.
- Colors, when used, should be clear and crisp. Muted colors can appear gray to older eyes.
- Avoid high contrasts within the same surface, such as a light carpet with dark pattern, which can be disorienting. High contrasts are particularly problematic for residents with dementia, who can perceive large dark areas as holes, and who can perceive contrasting patterns as objects, writing, or instructions.
- Finishes should be durable and high quality, but not excessively high-end. Avoid specialty finishes that have custom elements.
- Finishes should be selected with a cost-effective and timely unit turnover in mind. Many funding sources require a turnover time of less than a week, so simple finishes that can be quickly replaced are important for ease of maintenance.
- Common area finishes should be commercial-grade rather than high-end residential or custom.

DRYWALL

- Install abuse-resistant drywall around elevators, ramps, and entry doors. These areas receive a fair amount of damage from carts and mobility assistance devices.

FLOORING

2Life selects flooring based on cost, durability, and resident preference. Considerations include:

- All hard-surface floors should be slip resistant and, in the bathroom and kitchen, water resistant. Resilient flooring is preferred because it is less hard and cold than other hard-surface options. An acoustic backer is needed to reduce sound transition between floors.
- All carpets should have low pile and be comfortable for use with a walker or wheelchair. We prefer carpet tiles, which allow for piece-by-piece replacement of damaged tiles.
- Carpet colors should be neutral, with some subtle color strands. Carpet should not have bold patterns or contrasting elements; be too dark, which is difficult for residents with low vision; or be too light, which easily shows wear.
- Whenever possible, floor materials of matching thickness should be used to eliminate threshold transitions and minimize seams. Where thresholds are required, their profile should be kept to a minimum to reduce the risk of tripping.
- Vinyl baseboard should be installed throughout the unit. It should match the color of the wall as closely as possible, which helps residents with low vision to distinguish between surface planes.

Kitchen

- Current preference is wood-look luxury vinyl tile (LVT).
- If any base cabinets are removable, the finish floor should extend underneath the cabinets to the walls.

Unit Entry

- Current preference is wood-look LVT.
- The unit entry is a high-traffic area where flooring should not show wear easily; avoid carpet. Our preference is to extend the kitchen flooring to the entry area to minimize transitions.

Bedroom

- Current preference is carpet.

Living Room

- Current preference is wood-look LVT or carpet.
- If costs allows, we prefer LVT in the living room because of allergy reduction benefits, durability, and resident preference.
- If LVT is cost-prohibitive, the same carpet should be installed in the living room and bedrooms.

Bathroom

- Current preference is resilient sheet flooring.
- Flooring with a slight texture is preferred.
- Sheet goods should be used to minimize joints and locations of potential water seepage.

Corridors

- Corridor carpet, particularly that used in high-traffic areas such as elevator lobbies, should hide stains.
- Be sensitive to how carpet pattern repeats might look; some patterns can be disorienting when repeated over long stretches of corridor.

TRIPPING HAZARDS

One of the biggest tripping hazards that we see in residents' apartments is area rugs and entry mats. This is common on both resilient flooring and on carpet. Bath mats, entry mats, or area rugs placed in front of the kitchen sink, tend to pose the greatest risk. Latex-backed rugs can also discolor flooring or void flooring warranties. Though we haven't yet found a clear architectural solution, designers should be aware of the issue.

504 ACCOMMODATIONS

Some residents require solid surface flooring throughout their apartment due to allergic sensitivities or ease of maneuvering a walker or wheelchair. For residents who require such an accommodation, 2Life will typically install coordinated vinyl composition tile instead of carpet. Vinyl composition tile should be selected that works with the unit palette, and stock of selected flooring should be ordered.

ACOUSTICS

- Acoustic separation of units is critical in senior housing. Seniors with hearing loss often listen to television or radio at loud volumes, and unidentified noise sources are particularly disorienting for those with dementia.
- Provide a high level of acoustic separation in walls between units and along the corridor. If the insulation in standard fire rated walls is not adequate in terms of acoustics, provide additional insulation.
- Wherever possible, include noise-dampening materials rather than hard drywall on common area ceilings or even walls. In past projects, such as a wood finish acoustic ceiling tile. Remember that seniors with low hearing are particularly sensitive to background noise.

INTERIOR PAINTING

Within Units

- Unit wall color should be a warm, bright off-white.
- An accent wall in the kitchen and bathroom can make the unit feel less institutional, and in the bathroom an accent color behind plumbing fixtures can help with differentiation for low vision residents. Accent colors should be subtle, acknowledging that all residents will have different color preferences.
- Limit the number of paint colors within the unit to three: ceiling, general walls, and accent walls. Minimizing the number of paints within the unit facilitates an easier and faster unit turnover as well as ongoing maintenance stocking.
- A possible adaptability feature for residents with dementia is to paint the bathroom wall behind the plumbing fixtures a primary color. Primary colors are most easily recognizable for those with dementia, and

the color could help with wayfinding and differentiating the toilet. The paint could easily be changed back on unit turnover. Though we have not yet tried this, we're interested in surface level changes such as this that are not permanent but that can make a difference for residents.

Common Areas

- Color is a subtle but effective wayfinding tool. Each residential floor should have a different color theme to facilitate recognition; differentiation by floor is preferred to differentiation by corridor wing.
- When the elevator door opens, it should be clear which floor you're on. In addition to color, prominent artwork or large floor numbers at each elevator lobby can be helpful cues. Cues should be distinctive and elegant.
- Paint doors to non-resident facing uses, such as storage or maintenance, a color similar to that of the wall so that the door is less prominent.

4.4 Division 10 / Specialties

SIGNAGE

- Wayfinding signage should be frequently located, large enough to be easily read by residents with low vision, coordinated with building color schemes, and should have high-contrast lettering.
 - Many 2Life buildings are multi-lingual, so signage should be pictorial as well as language-based.
 - In addition to residents, signage should provide guidance for visitors, delivery persons, home health aides and emergency services personnel.
- Each apartment should have a name plate with the apartment number and a place for the resident's name that can be easily updated at unit turnover.

WALL AND DOOR PROTECTION

- Install corner guards at every corner in common areas and in accessible units. The walls in common areas see a fair amount of wear from wheelchairs and walkers, particularly electric wheelchairs and scooters
- Use a paintable corner guard and paint to match the surrounding walls.

BATHROOM ACCESSORIES

Storage

- Provide a mirrored medicine cabinet over the bathroom sink. We prefer a recessed medicine cabinet where possible, which reduces the shadow cast from the vanity light. A surface-mounted mirror is also acceptable provided that other storage is provided near the sink.

- Provide shelving over the toilet in the form of either a small cabinet or, if a closed cabinet appears too bulky, open shelves or a recessed cabinet. Alternatively, if space allows, provide a linen cabinet. Residents appreciate the additional storage, especially if the vanity cabinet is removed for accessibility reasons. Installing additional storage is one of the most common resident-made improvements, and including it in the project can reduce the likelihood of improperly installed fixtures.

Toilet Paper Holder and Towel Bars

- 2Life prefers toilet paper holders and towel bars that are designed to double as grab bars. Residents often use these fixtures as handholds, and the dual purpose fixtures provide residents with a secure handhold without the institutional appearance of grab bars.
- Note that a grab bar toilet paper holder can sometimes project further from the wall than a standard toilet paper holder, so if space is tight be sure to select a product that protrudes minimally.
- The location of the toilet paper holder is important. Residents shouldn't have to twist or lean too far backwards or forwards to reach it. Keep in mind that some residents may have mobility impairments, and the holder should be reachable using either hand, not just the hand closest to the holder.
- If the towel bar is not located near the sink, consider a towel ring or a smaller towel bar next to the sink.

4.4 DIVISION 10 / SPECIALTIES

Grab Bars

- Grab bars come in a wide variety of styles, colors, and finishes. They should be selected with care so that they complement the bathroom design and fixtures.
- Install two horizontal grab bars in every shower, one on the long wall and one on the short wall.
- Elsewhere in the each bathroom, grab bars are typically installed by 2Life when and where they are needed by residents (see Division 6 for locations that should be blocked for potential future grab bar installation).
- In accessible units, install grab bars per ADA/MAAB requirements.

Robe Hooks

- Install a robe hook on the back of the bathroom door, or elsewhere in the room if using pocket doors or hollow core doors.
- If the bathroom door opens out, locate the hook on a wall, so that the hook doesn't hit the resident if the door closes as they're leaving the room.

Shower Accessories

- Provide a curtain rod and shower curtain mounted at a height such that the bottom of a standard shower curtain touches the shower floor. The curtain rod should be securely installed; do not use spring-loaded rods. If a resident begins to fall, they may grab at the shower curtain, and injury and confusion can be compounded if the shower rod and curtain come down from the wall.
- A shower curtain and rings should be included as part of the project. 2Life provides these to prevent flooding in the bathroom, since residents don't always purchase these on their own.
- A flip-down shower seat should be selected as part of the project, though not installed. 2Life will install the shower seats as

requested by residents, to ensure that it is placed at a height and location that best suits the resident's needs. A flip-down seat is preferred over a molded seat that's integral to the shower, because it offers flexibility regarding where and when it's installed, and can be flipped up if it's in the way. Note that many shower seats are designed for large shower enclosures; make sure to select one that is the right size for our showers.

- The shower should have a small shelf for toiletries, which can be integral to the shower enclosure. Products are available that double as a shower shelf and grab bar; we'd be interested in using this in future projects.
- Consider installing hooks or a wall-mounted retractable clothesline within the shower. Residents often rig their own clotheslines or drill hooks into the shower, causing damage and maintenance issues. We have some questions about the long-term durability of such a product, but are interested in testing it in future projects.

STORAGE AND SHELVING

- Maximize shelving and storage within apartment units. One of the most common fixes that residents make in their units is building their own shelving, which may not be secure or safe.
- Provide a solid, sturdy shelf with a hanger rod in bedroom closets and coat closets.
- Provide multiple shelves in linen and other closets. Avoid thin wire shelves with integrated closet rods, which our residents tend to overload.

4.5 Division 11 / Equipment

RESIDENTIAL APPLIANCES

- Specify Energy Star rated appliances when they are available.

Ranges

- Install electric ranges. Electric ranges are considered safer because there is not an open flame and because there is no chance of gas accidentally leaving the gas open. Electric stoves also reduce costs by substantially reducing the number of gas lines that run through the building. Note that gas ranges may need to be considered in projects that include market-rate units.
- Controls must be located at the front of the stove to avoid residents reaching over a hot burner.
- The broiler function should be within the oven, not in a drawer, so that residents don't have to bend down to access the drawer.
- Adaptability for those with dementia: For residents whose dementia is advanced enough to make their use of the stove unsafe, 2Life staff typically removes the knobs or installs a stove guard, a device that attaches to the stove and automatically turns it off if no motion is detected after a set amount of time.

Cooktops and Wall Ovens

- Install a cooktop and wall oven in accessible units as required by MAAB. Above notes on ranges should apply to cooktops and wall ovens as applicable.
- In the future we may consider installing a wall oven and cooktop with removable base cabinets underneath, for more universal adaptability in units. However, that option is currently cost prohibitive.

Range Hood

- Range hoods should be vented to the exterior in all new construction projects. This is an indoor air quality issue, and many of our residents are particularly sensitive to lingering cooking smells.
- The hood should include a light.

Refrigerator/Freezer

- Install a single-door refrigerator with a bottom freezer in all units. The freezer should be a pull-out drawer. Although this type of refrigerator does not meet MAAB requirements, 2Life has received an administrative variance to use these refrigerators in previous projects on the basis that it's vastly preferred by our residents for ease of access.
- Refrigerators should not include an ice maker.

Garbage Disposal

- Include a garbage disposal in all units. Residents often wash food down their kitchen sink, and a disposal is necessary to prevent clogged pipes.
- If installing removable sink base cabinets, use a disposal model that works with a back corner or rear sink drain to meet under-counter clearance.

Dishwasher

- Unless the cost is prohibitive, include a dishwasher in all units. The dishwasher should be a studio-size 18" model, which is most appropriate for one or two occupants.

4.6 Division 12 / Furnishings

WINDOW TREATMENTS

- Provide heavy duty curtain rods at each window.
- Adaptability: Many seniors, particularly those with dementia, have sleep patterns that do not follow a standard 24-hour cycle. The ability to install black-out curtains is important to enable residents to sleep when their body needs it, even if the sun is out.
- Provide horizontal blinds for all windows. 2Life prefers horizontal blinds, which offer more control over both glare and light levels.
- Avoid vertical blinds as these can break easily.

RESIDENTIAL CASEWORK

Kitchen Cabinets

- Cabinets should be a standard 36" height.
- The base cabinet underneath the sink should be removable in all units.
- Base cabinets should have primarily drawers rather than doors. Drawers make it easier for residents to access items at the back of the cabinet. However, one base cabinet within the kitchen should have a door to accommodate a tall pot or other large item.
- Provide a microwave shelf with an 18" upper cabinet. This opens up additional counter space in small kitchens. Note: Do not provide a built-in microwave; they are difficult to maintain, and the ability to remove the microwave is important to make the apartment safe for residents with advanced dementia.
- Provide a wall cabinet over the refrigerator. The cabinet should be a standard 12" depth, pulled forward to be flush with the front of the refrigerator and hung on side panels.
- Cabinets must be durable, so 2Life generally prefers that base cabinets be severe-use grade and made from $\frac{3}{4}$ " plywood. A plywood box is less prone to warping with exposure to moisture, which is important given that flooding is a common issue in our apartments.
 - Upper cabinets and base cabinets not located near wet areas can be made of particle board, provided it is formaldehyde-free.
 - Relationships with suppliers are an important consideration, since parts must be easy to replace as needed.
- Door and drawer fronts should be thermo-sealed, wood-look plastic laminate. Most previous 2Life buildings have used wood door fronts, but we're finding these are too easily damaged and are difficult to repair.
- Drawers should be soft-close and should have full extension glides.
- 2Life has selected shaker-style cabinet doors rather than slab doors in recent projects, for a more residential look, but is open to alternatives.
- Install doors on all upper cabinets. However, the door fronts should be easily removable so that they can be taken off if a resident begins to experience dementia and needs to be able to see what's in the cabinet without opening the door.
- If cost allows, provide pull-out shelves in the pantry cabinet and lazy susans in corner base cabinets.
- The cabinets should be in a contrasting tone with the floor and the countertop to help residents with low vision differentiate between planes.
- Cabinets should be matte finish, which hides scratches more effectively than a high-gloss finish and reduces glare.

- The cabinets should be medium to light tone; dark colors can be difficult for residents with low vision. Avoid wood veneers that are highly figured, as the level of contrast in these woods can be confusing for residents with low vision or dementia.
- We recommend ordering extra door and drawer fronts to replace damaged fronts at turnover.

Vanity Cabinet

- The vanity cabinet should be high-quality plywood construction with high-pressure plastic laminate door fronts (see kitchen cabinet notes above).
- The sink and vanity should be demountable. This ensures that we can replace it with a wall-mounted fixture to provide under-sink clearance if the resident has need for a wheelchair.
- 2Life is currently installing a bathroom sink with a removable vanity base in one of our new projects. We're excited about this product and the easy level of adaptability that it affords, but are waiting for feedback before recommending it for future projects.

Cabinet Hardware

- Provide pulls for all cabinet doors and drawers. Pulls should be "D"-shaped handles, which are easily operable with one hand without grasping, turning, or pinching.
- Avoid extensions on the pull, which can catch on loose clothing.
- Pulls should be a contrasting tone from the cabinets.

COUNTERTOPS

- Install a solid surface countertop in the kitchen. Although solid surface counters have a higher up-front cost, it saves money over the long term: in our experience, laminate countertops deteriorate quickly and need to be frequently replaced. We have had success with quartz countertops, which don't scratch, don't burn if a hot pot is set directly on it, don't stain, and can be re-finished if chipped.
- Deep window sills should be finished with engineered PVC board or a solid surface material. Residents often place plants on sills, and a solid surface sill helps mitigate water damage from overflowing pots.
- The countertop should be in a contrasting tone with the cabinets and the backsplash to help residents with low vision differentiate between planes.
- The countertop should not be overly patterned, which can be confusing for residents with low vision or dementia. It should be a matte finish to reduce glare.
- The backsplash must be durable and easy to clean. We are currently using subway tile in a larger format to minimize grout joints, with epoxy-based grout, which is easier to clean
- Tile should have a beveled edge to eliminate the need for edge detailing.

4.6 DIVISION 12 / FURNISHINGS

COMMON AREA FURNISHINGS

- Provide a mail tray with sides at each unit entry door.
- Provide a shelf at unit entry doors for setting down an item or for personalization.

Seating

- Seating should be firm; soft or squishy chairs are difficult to stand up from. While a range of seating options is acceptable, most seating should have backs and armrests, which makes it easier to stand up.
- For furniture fabrics with patterns, low contrast and subtle patterns are preferable, as they can be easier for residents with dementia to navigate.
- Like carpet, fabrics should be neither too dark, which is difficult for residents with low vision, nor too light, which easily shows wear.
- All furniture fabric should be stain treated, water resistant, and easily cleanable.
- See Chapter 3 for room-specific furniture recommendations.

4.7 Division 22 / Plumbing

PLUMBING FIXTURES

General

- Overflowing sinks, misdirected showerheads, or clogged toilets are issues we encounter at all our buildings. While these guidelines offer suggestions to address flow, it should be given further consideration, and we're always looking for new and innovative solutions.
- If flow rates are not specified below, refer to the current Enterprise Green Communities Criteria for recommended flow rates.
- Any low-flow mechanism should be integral to the plumbing device and tamper-proof, to avoid removal by residents.
- All plumbing levers and hardware in all units should be ADA compliant.
- Plumbing hardware, cabinet hardware, and room accessories should be a consistent finish.
- In public restrooms, all fixtures (toilets, faucets, hand dryers) should be automatic and energy efficient.

Sinks and Faucets

- In the kitchen, install a single bowl sink in the kitchen. The sink should be as deep as possible while still accommodating a garbage disposal. Many of our residents use large pots and pans and appreciate a deeper sink.
- In the bathroom, install a cultured marble vanity top with integral sink. 2Life prefers a sink bowl that maximizes the horizontal surface area around the bowl, to give residents a place to set items in plain view.
- Faucets should be single lever, with the hot and cold directions clearly marked.
- The kitchen faucet should be gooseneck shaped. It should not feature a detachable spray head, as this can contribute to flooding.

- The bathroom faucet should be long enough for residents to reach the water flow without having to lean too far into the sink.
- If a resident with dementia is prone to leaving the faucet on for an extended period of time, the faucet may be replaced with a motion-activated faucet to reduce the risk of flooding. This will depend on the resident, as some may not understand how to activate it.

Toilet

- All toilets should be comfort height (minimum 17" high) with an elongated bowl. The higher and longer bowls make it easier for seniors to sit down and stand up.
- 2Life prefers toilets that are at least 1.2 gallons per flush (gpf) with pressure assist, but are willing to consider other options as new technologies become available (see sidebar).
- Toilets should have a flat tank cover to allow for placement of a tissue box or other item.
- The flush lever should be made of a sturdy material and should be located on the open side of the toilet.
- If using a rear discharge toilet (renovations only), use a rubber gasket, not a wax gasket.

Shower Enclosure

- Install showers in all units. The risk of falls when stepping in and out of a bathtub is so great that we believe the benefits of showers outweigh any drawbacks.
- 2Life prefers a 4" curb rather than a rubber gasket threshold. Although it is not as barrier-free as a rubber gasket threshold, the curb reduces flooding and the spread of water on the floor, which is a slipping hazard for residents as well as a headache for maintenance. Residents also tend to find

4.7 DIVISION 22 / PLUMBING

a 4" curb more traditional, and accordingly more attractive. However, the tradeoffs of greater accessibility versus flooding risk are ongoing, and we welcome suggestions.

- An infinity-style drain could be considered to reduce the spread of water to the floor.
- In accessible units, install a curbless fiberglass enclosure with a rubber gasket.
- 2Life shower enclosures are typically fiberglass inserts. Regardless of enclosure material, a plywood backer should be included throughout the entire shower enclosure. This allows for the future installation of grab bars and/or a fold-down seat in whatever location best suits the resident.
- 2Life typically provides a shower curtain and rod in unit showers. A glazed enclosure should only be installed if the shower is large enough that when the slider is fully open, an aide could easily access the shower (note this would only in the case if the shower were larger than the standard 5').
- Provide two shelves within the shower, either as integral to the enclosure or as a separate shelf, preferably one that doubles as a grab bar.

Showerhead

- Showerheads should be adjustable height and hand-held with a 6' hose and wand, which allows for the showerhead to reach anywhere in the shower, facilitating use by an aide.
- In non-accessible units, install the shower controls on the short shower wall, which is preferred by residents. In accessible units, install controls per ADA/MAAB code.
- The showerhead components and hose should be high-quality.

Washer/Dryer

- Typically 2Life does not provide a hookup for an in-unit washer and dryer; running the stacks and venting are usually cost

prohibitive, and in-unit laundry could present additional maintenance issues. However, as we expand to serve more moderate income levels, this may be considered on a project by project basis.

"GREY-GREEN" LESSONS LEARNED: TOILETS

2Life takes water conservation very seriously, and in two recent renovation projects we have tried new water-saving strategies that have resulted in some unexpected lessons about what works best for our residents.

In a recent renovation, we installed very low flow toilets (~0.8 gpf). However, many of our residents use adult diapers or wipes that are often flushed, despite our best efforts at resident education. This extra load was too much for the low flow fixtures, and resulted in flooding, clogging, and repeated flushing that negated any water savings, as well as some serious headaches for our maintenance department.

In a different project, we installed dual-flush toilets in each apartment. What we didn't consider is that life-long habits are hard to break. Despite resident outreach and education, our residents always pushed the flush lever in the same direction, and we saw virtually no water savings. For our current generation of residents, a simple and intuitive user interface is most appropriate.

We recognize that technologies are continuously improving and don't want to discourage innovation and the use of new products; these new products – and really all products – just need to be considered with an understanding of the unique needs of different resident populations.

4.8 Division 23 / Hvac

HVAC SYSTEM

- The most important criteria for our HVAC systems is the ability to switch quickly between heating and air conditioning, as well as the ability to run heating and air conditioning simultaneously in different units. Seniors are sensitive to fluctuations in temperature, and in swing seasons, it is ideal for residents have access to whatever conditioning makes them comfortable.
- The system must be easy to maintain so repairs can be performed quickly with minimal disturbance to residents.
- Most of 2Life's current buildings use a central heating system. However, this type of system is typically only cost efficient for larger buildings; for future smaller buildings (approximately 60 units) we expect to move towards distributed systems.
- We provide air conditioning at all of our buildings. Going forward, central air conditioning must be included as part of the overall HVAC system.
- Our most recent project at 370 Harvard Street is using a Variable Refrigerant Flow (VRF) heat pump system consisting of an indoor fan coil unit and outdoor condensing unit. This system was selected for its overall efficiency and the substantial rebates currently available. Additionally, the electric system obviates the need to run gas lines to each unit, providing a substantial cost savings.
 - Many HVAC units are oversized for our small apartment units. The VRF system allowed us to group multiple apartments to a single VRF unit, providing additional cost savings.
 - We analyzed the pros and cons of this and other systems and expect to continue using similar systems in future buildings.
- At 370 Harvard Street we are installing a solar hot water system consisting of flat plate collectors, and a gas-fired tankless water heater as backup for the solar system. Again, provided that this system works well and the availability of rebates, we anticipate installing similar systems in future buildings.
- Building engineers should pay close attention to balancing building pressure, especially if the building lobby includes resident social spaces. It's important that residents sitting in the lobby not be hit with a blast of cold air each time the lobby door opens.
- Where possible, roof penetrations and equipment should be grouped to leave a larger expanse of roof open for the potential future addition of solar panels.
- Consider noise when selecting an HVAC system, and install sound isolation for roof equipment. For seniors with low hearing, the background noise can make it particularly difficult to hear.
- If the HVAC system is compatible, install an AC shutoff sensor in resident windows; see Section 08 for more information.

METERING AND MONITORING

- 2Life pays for all resident utilities. Fewer statements to track and bills to pay can make a huge difference for our residents' ability to live independently. However, we recognize that individual metering can contribute to energy savings because when a resident is aware of their energy usage, they are more likely to make positive changes in their behavior. We are investigating non-utility grade metering that will allow 2Life to monitor energy and water usage by unit without submetering the units with the utility company. If we see a usage spike, that will alert us that there's an issue that a resident might not be aware of, such as a leaky toilet. It can also alert us to a resident's behavior that may require an intervention, such as unintentionally leaving a faucet running or leaving windows open while the heat is on.
- 2Life currently uses a proprietary platform called WegoWise to monitor our buildings' utility usage and have been happy with this system. In more than one instance it has given us an early notice when there is a systems issue that we need to troubleshoot.
- Smaller buildings without 24-hour staffing should include an energy management system that allows for remote check-in on equipment.

DUCTWORK

- Consider furniture placement when laying out ducts, and do not place vents over the likely location for a bed or a couch. Seniors are particularly sensitive to drafts, and direct exposure to an air supply – even when the air is conditioned – can be uncomfortable.
- Combine exterior wall vents wherever possible.

THERMOSTAT

- The thermostat must have simple, user-friendly controls with a display that is large and easy to read. When residents are able to adjust their thermostat easily, they will be more comfortable, they will be less likely to resort to an inefficient fix such as opening a window while the heat is on, and they will be less likely to call maintenance.
- Consider furniture and outlet layout when placing the thermostat, and do not place it in any location where a resident would likely need to lean over cords or a piece of furniture to access it.

4.9 Division 26 / Electrical

GENERAL

Generator Power

- For our senior residents, the ability to continue certain functions in a blackout can be a life safety issue. The following building components must be connected to the emergency generator: fire pumps, common area lighting, one elevator, domestic water pump, lobby VRF unit, two “command centers” (in small buildings, likely the staff room kitchenette and the multi-purpose room), refrigerator outlet in the staff kitchen/kitchenette, lifeline wireless receivers, one outlet in each accessible unit, one common area outlet per floor, and wireless routers for the door lock system. Note that this list may not be exhaustive, and designers should work with 2Life staff to determine which building functions must be on generator power.

Outlets

- All outlets and phone jacks should be at a height of 24” to be more easily reached by residents in wheelchairs or those who have difficulty bending.
- Provide outlets on long walls per code, and consider outlets relative to furniture placement avoid excessive cord runs, which can be a trip hazard.

Water Sensor

- In the bathroom, install a water sensor next to the toilet that will send an alert if there is more than a certain amount of water on the floor. Select a device capable of sending a wireless signal to 2Life’s maintenance department, rather than one that will simply beep or flash a light.

INTERIOR LIGHTING

General

- Seniors need two to three times the amount of light to see at the same level as a younger person, and those with dementia need twice as much light as other seniors.
- Although the light output need varies by room and fixture, it is critical to provide adequate lighting so that seniors can comfortably perform everyday tasks and avoid tripping. Our preference is for overhead fixtures with a light output of at least 2000 lumens.
 - At present it’s difficult to find fixtures this bright that are also decorative enough for our resident’s tastes. If a light fixture is too utilitarian, our residents often replace it on their own; these self-installed fixtures are operations headaches and potentially hazardous.
- Our current preference for locations like the living room, where residents spend the most time and where it’s easy to supplement an overhead fixture with additional table or floor lamps, is to install more decorative fixtures, even if they don’t necessarily meet our light output goals.
- In locations that are mainly task-oriented or where it’s more difficult to add lighting, such as the bathroom or kitchen, we prefer a simpler fixture with a high lumen output, even if its appearance is more utilitarian.
- In all cases, we will consider other options as lighting technology advances and as more decorative high-output fixtures become available.

4.9 DIVISION 26 / ELECTRICAL

- Choose fixtures that cast a diffuse light, seniors are more sensitive to glare. This is particularly important in long corridors. For residents with dementia, avoiding dark shadows is also critical.
- Select fixtures that cast a cool white light (greater than 3500K). Eye lenses tend to become more yellow with age, and a cooler color temperature helps seniors perceive a greater range of colors than the warm white light that is traditionally used in residential fixtures. The cooler color temperature is also closer to that of natural daylight, which helps seniors retain their natural circadian rhythm. This is particularly important for residents with dementia, whose sleep patterns often do not follow a standard 24-hour cycle.
- All lighting should be LED, which saves energy while also requiring fewer changes from our maintenance department. We prefer energy star rated lighting, but understand that sometimes the newest fixtures may not yet be energy star rated; in these cases prioritize lumen output and efficiency over an actual rating.
- All fixtures should accommodate a screw-in, mogul-based bulb. These LED bulbs are far more affordable and easier to change than a plug-in socket bulb.
- In rooms with more than one light fixture, each should be on its own switch to allow residents maximum control over light levels.
- 2Life prefers two-way switches; three-way switches can be confusing to residents with dementia.
- Place light switches in an intuitive location. Switches should be on the swing side of the door, not on the hinge side or behind the open door.

Bathroom Lighting

- Lighting is particularly important here given the number of falls that occur in the middle of the night when residents wake to use the bathroom.
- Provide an overhead light with at least 2000 lumens. The bathroom is a location where a brighter fixture, even if it is less decorative in appearance, is preferred.
- Provide a vanity light at the medicine cabinet. This provides task lighting at the sink and mirror.
- Provide a waterproof, recessed overhead light within the shower enclosure. Shower curtains can block light from other sources, so it's important to provide a light source within the enclosure itself.
- Provide a night light. 2Life has been happy with a small LED night light integrated into an electric outlet. The night light is on a light sensor and comes on when other lights in the room are off. This provides a base level of illumination to guide residents when they need to use the bathroom in the night. This light should have the ability to be disabled.
- 2Life has considered installing a heat lamp on a timer in the bathroom, which could help aides to coax residents with dementia into the shower. However, there are concerns about cost and operating expense. This should be considered only if the project's budget can afford it.

Kitchen Lighting

- The kitchen is a task-oriented area, so a variety of bright lighting is important.
- Provide an overhead fixture capable of providing at least 2000 lumens. The kitchen is a location where a brighter fixture, even if less decorative in appearance, is preferred.
- Include a light in the range hood.
- Include strip LED task lighting beneath the wall cabinets over counter prep areas.
- Install a pendant light over the sink. This allows for direct lighting of the sink area and provides visual interest.

Unit Entry and Unit Hall Lighting

- Provide an overhead light in the entry within the unit.
- One or more overhead lights may also be needed in the hallway depending on the unit layout. Give special consideration to how a resident will get from the bedroom to the bathroom in the middle of the night, and place fixtures and/or switches to accommodate a well-lit path.
- The unit entry and hall is a location where a brighter fixture, even if less decorative in appearance, is preferred.

Living/Dining Room Lighting

- There should be at least one light in the living/dining area. This could be above the anticipated dining area or centered on the living room area, whatever makes the most sense given the size and proportions of the room.
- The living room is a location where the lighting fixture should have a residential appearance, even if it not the brightest fixture available.

Bedroom Lighting

- Install one overhead light. Use a lit toggle switch to make it easier for residents to find the switch in the dark. Consider three-way switching with a second switch near the likely bed location, so residents can turn the light on before leaving the bed.
- Install a light in all bedroom closets. The light should turn on automatically, either through a motion sensor or a switch on the door track that activates the light when the door opens.
- The bedroom is a location where the lighting fixture should have a residential appearance, even if it not the brightest fixture available.

Common Area Lighting

- Adequate light in common areas is particularly important because residents will be unable to supplement with table or floor lamps if they need it.
- Do not include occupancy sensors in any of the resident common areas. A dark, unoccupied room is uninviting to those with low vision, and is disorienting for those with dementia.
- Corridor lighting should be bright and diffuse. Avoid fixtures that will create dark spots along the corridor.
 - If there are alcoves at each unit entry, include an overhead light within the alcove in addition to the general corridor lighting.
- Lighting in multi-purpose rooms should be flexible. Given the variety of activities that will occur in the space, the lighting should be able to transition from high-level for hands-on activities to low-level for movies.

4.10 Division 27 / Telecommunications

INFORMATION TECHNOLOGY

- The details provided here are based on our most recent experience with the design of 370 Harvard Street; however, IT requirements will need to be continually updated as technology changes.
 - We aim to provide wifi throughout the common areas for residents and throughout the building for staff. We have planned for three separate wifi networks:
 - On the ground floor common areas, we will install a router for public wifi that will be available to residents and guests.
 - Throughout the building, we will install routers for an admin network. This network will be used by staff in their offices and when performing work in residents' apartments.
 - On all upper floors, we will install routers to provide wifi for the apartment unit wireless door locks.
 - Within apartment units, 2Life will not provide public wifi, but each unit should be wired for an internet connection. Residents will be responsible for hooking up their own private router within their unit.
 - Each unit should have a phone line and cable TV connection in both the living room and the bedroom. Note that internet, phone, and cable lines are currently a requirement for state-funded affordable housing projects.
 - Each building needs an IT room and a separate tel/data room. The specific room requirements will vary based on building size and current technology; for example, for a current project IT room is 40 square feet and the tel/data room is 55 square feet.
- The IT room ceiling should have waterproofing to protect from potential water damage from flooding.
 - The IT room needs to be cooled year round.
 - In addition to the main room on the ground floor, a small (~10 square feet) tel/data/IT closet is needed on every floor.
 - Renovations in non-wood frame buildings may need to include a repeater system to ensure adequate cell phone and wifi coverage throughout the building.

AUDIO/VISUAL SYSTEMS

- The multipurpose room should include a drop down projector screen, a ceiling-mounted projector, and TV/audio/visual ports.
- A mounted TV screen with TV/audio/visual ports should be included in at least one meeting room, in the gym if there is one, and in the resident TV lounge if there is one.
- Include a connection for a digital screen on the ground floor for announcements.
- Multipurpose rooms can have a built-in or portable sound system depending on the room size and project budget. For a recent project, we determined that the speakers included in the projector and screen system would be adequate for a small multipurpose room. Hearing assistance systems will also be available so that residents with hearing loss can fully participate in activities.

EMERGENCY NOTIFICATION

- All of our buildings include a pull cord-based emergency notification system for residents that need assistance. Pull-cord calls are routed to 2Life dispatch, which is covered 24/7 at each site by the maintenance office and/or site reps. At future smaller buildings that don't have 24/7 coverage, calls may be routed to other 2Life sites.
 - All units should have an emergency pull cord in the bathroom and each bedroom. We are currently installing pull cords with a low-voltage, wired connection.
 - Where possible the pull cord should be located close to both the shower and the toilet. Pull cords should be placed so as to minimize false alarm pulls: for example, do not place the pull cord near the toilet paper holder where it could get tangled, or low enough that it could get caught in a vacuum cleaner.
 - 2Life is interested in exploring pull cords that will alert residents if they've accidentally pulled the cord without knowing it to further reduce the occurrence of false alarms (for example, with a small blinking light).
- Some residents supplement the pull cords with newer, more mobile systems. These systems, usually pendant- or bracelet-based, have the advantage of being accessible if the resident is not near a pull cord. In the future, 2Life may consider incorporating these into our operations; the project team should confirm policy with 2Life operations to ensure that the correct infrastructure is in place.

4.11 Division 28 / Security

GENERAL

- 2Life would like to move towards standardizing our security vendors across sites; consistency is important if a new building's system or operations will interface with that of an existing 2Life campus.
- The main building entrance should be accessed by fob that is compatible with all 2Life buildings.
 - Install a wireless intercom system with video capabilities within the entry vestibule, with bells for the reception desk, office suite, site rep apartment, and retail tenant as applicable.
 - The reception desk should be wired to open the main entry door.
- All other exterior doors used by residents should all have fob.
- Additional fob access may be required within the building if the ground floor is connected to a retail space or is generally open to the public. Specific locations may include points of access to residential floors, such as elevators and stairwells, as well as semi-private ground floor spaces such as conference rooms. Designers will need to work with 2Life operations staff to determine the appropriate locations to limit public access.
- If the building includes an office suite, this should be accessed by fob. Individual offices within the suite should have physical keyed access, though in the future we may consider using fobs for each office if cost allows.
- The package room should have fob access by staff only.
- The mechanical rooms and other back-of-house spaces should have physical keyed entry.
- Unit entry: In a current project, we are installing wireless door locks at each unit entry door instead of a deadbolt. If this system works well, we will consider standardizing its use in future buildings.
- Any doors on a fob system must connect to the backup generator.
- The number and placement of security cameras will vary. In general, security cameras should cover each building entrance, elevator interiors, and general views of any publicly accessible ground floor spaces and exterior spaces.
- The CCTV feed will be monitored on-site, most likely in the maintenance office. Depending on the building's size and staffing levels, it may also be monitored remotely from one of our nearby campuses.

4.12 Division 32 / Exterior

GENERAL

- Landscaped areas should have built-in irrigation.
- Objects such as benches or in-ground sprinkler heads should be set back from walkways to avoid damage from snow removal equipment.
- Perpendicular parking spaces adjacent to walkways should have bumpers.
- Plantings should be low-maintenance, drought-tolerant native species. Plants near walkways or roadways should be hardy enough to withstand road salting during the winter.
- Benches should always have a back and arms. Movable seating should be upright with arms to facilitate standing up.
- Avoid unit pavers prone to heaving after several freeze/thaw cycles.

Remove this label after final inspection; SAVE for future reference



National Fenestration Rating Council ©

Pella Corporation



Sliding Window
Annealed
OX Fixed/Vent
AdvancedComfort Low - E
Argon Gas
PEL - N - 103 - 00668 - 00003

CERTIFIED

ENERGY PERFORMANCE RATINGS

U - Factor 0.24 <small>(U.S./I-P)</small>	1.36 <small>(Metric/SI)</small>	Solar Heat Gain Coefficient 0.28
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ADDITIONAL PERFORMANCE RATINGS

Visible Transmittance 0.52	---
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Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any products and does not warrant the suitability of any product for any specific use. For more information, call (641)621-3114 or visit the Pella web site at www.pella.com or visit the NFRC web site at www.nfrc.org

Wind Load
Design Pressure (DP)
+30/-30 psf
+1.40/-1.40 psf
Per ASTM E330

+1.1/-1.1 psf
Per Test Procedure
4 psf
220 psf

ENERGY STAR® Qualified in Highlighted Regions



WDMA
License: 411-H-1121
Impervia - Sliding Window
Manufacturer Stipulates: Marking Certification as indicated below
LC - PCB Size (dated 1819x1511mm/72x60in) - Type HS

5 Specification

5.1 SAMPLE PRODUCTS

5.1 Sample Products

GENERAL

This section lists products and techniques that have worked, or not worked, for 2Life in the past. The list included here is a snapshot from a single moment. 2Life intends to keep a live spreadsheet that is continually updated with each new project, which designers should consult for the most current information. The spreadsheet is intended to be a working, evolving document; no designer should feel constrained by what is listed (or not listed) here. We look forward to working with our designers to continually refine this list.

*If product is desired to be standard across JCHE (see column G), the product listed here should be specified. If it doesn't need to be standard across all sites, the product listed here is provided as an example of

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
General	Closet shelving	06 20 23	see shop drawings	Genesis	yes?	yes		These shelves are sturdy and a good standard.
General	Closet shelving	06 20 23	see shop drawings	Golda	no	no	Genesis-style shelving instead of these extra shelves	These work well when extra shelving is needed.
General	Interior doors	08 11 13	include product info?	132 CHA	no	no	hollow core doors instead of solid	Should be panelized. Need both hollow core and solid example?
General	Pocket door frame	08 14 00	Johnson Hardware 1500 Series Pocket Door Frame	Golda	yes	yes		
General	Bi-fold closet doors	08 14 16	L&S Magiglide	Genesis	yes	yes		
General	Windows	08 53 13	Marvin Integrity All Ultrex Casements	Golda	no	yes	vinyl instead of fiberglass	
General	Windows	08 53 13	Pella Impervia Awning, Color: Morning Sky Grey	Genesis	no	yes	vinyl instead of fiberglass	
General	AC shutoff sensor	08 53 13	n/a - see shop drawings	Golda	no	yes		Inclusion of shutoff sensor must not void window warranty. Exact setup will depend on windows.
General	Interior door hardware	08 71 00	see submittal	Genesis	no?	yes		
General	Interior door hardware	08 71 00	see submittal	Golda	yes?	yes		
Unit entry	Unit entry door hardware	08 71 00		370 Harvard	TBD	no		See how it works at 370 Harvard; if we like it, switch to this system for future buildings.
Unit entry	Unit entry door	08 11 00		132 CHA	no	no		
Common areas	Accoustical Ceiling Panels	09 51 00	Panels: Armstrong Ultima Create Square Lay-in, Z1935UC1-BA Wood Look Bamboo. Track: Armstrong Suprafine XL 7500 9/16 Exposed Tee System, color Adobe.	Golda	no	yes		Acoustic tile that looks much nicer than standard white
Bath	Flooring	09 65 00	Armstrong Rejuvenation, Ambigu, Color: 38062 Alchemy Golden	Genesis, 132 CHA	yes	yes	sheet vinyl	
Bath	Flooring	09 65 00	Patcraft Resilient 12x24 tile, style 1700V stratified, color 00200 sand	Golda	no - prefer sheet goods?	yes (LVT-2)		
Common areas	Gym flooring	09 65 00	Johnsonite Commotion Sports Flooring, Color 526 Party	Golda	no	yes (RES-4)		In gyms only, not in multi-purpose rooms
Common areas	Multipurpose room floor	09 65 00	Luxury vinyl tile,	132 and 370 Harvard		yes		
Kitchen	Flooring	09 65 00	Luxury Vinyl Tile, JOHNSONITE I.D. FREEDOM 6" PLANK; FRE-P; COLOR Seasoned Oak BRINED #4692	Genesis, 132 CHA	yes?	yes (LVT-1)		
Kitchen	Flooring	09 65 00	Luxury Vinyl Tile, Altro Lavencia Plus Farmhouse Whiskey - LAFP13066R	Golda	no	yes (LVT-1)		

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
Living Room	Flooring	09 65 00	either same as kitchen (if using LVT) or same as bedroom (if using carpet)		no	yes	carpet instead of LVT	
Unit entry	Flooring	09 65 00	same as kitchen			yes		
Bedroom	Flooring - 504 request	09 65 00	ARMSTRONG IMPERIAL TEXTURE STANDARD EXCELON - 51809 DESERT BEIGE	Genesis	yes	yes		VCT for 504 non-carpet requests only
General	Baseboard	09 65 13	Johnsonite traditional wall base, 22 Pearl CB	Golda	no. select closest match to paint	yes (RWB-1)		
General	Baseboard	09 65 13	Johnsonite traditional wall base, DCT-XX toeless, 4" tall	Genesis	yes	yes		Match baseboard color to wall paint
Bedroom	Flooring	09 68 13	J+J Patina II Modular, Color: 936-482418-004-01	132 CHA	yes?	no		Select something similar if colorway is no longer manufactured
Bedroom	Flooring	09 68 13	J&J Invision, style 7901 rusted modular, color 1398 observe, ultron color nylon face yarn, 24x24 tiles, Nexus modular backing	Golda	no	yes		Select something similar if colorway is no longer manufactured
Bedroom	Flooring	09 68 13	J+J INVISION; PATINA MODULAR 999; COLOR: 1562 RIBBING	Genesis	no	yes		Select something similar if colorway is no longer manufactured
General	Paint - ceiling	09 91 00	Super White Custom-1	Golda	no	yes (PT-5)		
General	Paint - walls	09 91 00	Benjamin Moore Simply White OC-117	Golda	no	yes (PT-2)		
General	Paint - accent walls	09 91 23	Benjamin Moore, 549-Regal Select, Interior Eggshell Finish, Pleasant Valley 696 (Bath)/Silver Mink 1586 (Kitchen)	Genesis	yes	yes		
General	Paint - ceiling	09 91 23	Benjamin Moore, Waterborne Ceiling 508, Interior Primer Sealer Finish, Moonlight White OC-125	Genesis	yes?	yes		
General	Paint - Doors and trim	09 91 23	Benjamin Moore, Ultra Spec 500, Interior Semi-Gloss Finish, Moonlight White OC-125	Genesis	yes	yes		
General	Paint - walls	09 91 23	Benjamin Moore, 357-Super Hide Zero VOC, Interior Eggshell Finish, Moonlight White OC-125	Genesis	yes	yes		
General	Corner guards	10 00 00						
Unit entry	Mail tray	10 00 00		Genesis				
Common areas	Interior Signage	10 14 00	see shop drawings	Genesis	yes?	yes		
Common areas	Interior Signage	10 14 00	see shop drawings	Golda	no?	yes		
Bath	Grab bars (multiple lengths)	10 28 13	Bobrick 1.25" dia stainless steel grab bars with snap flange, Satin finish with peened gripping surface, B-5806 series	Geneis, Golda	yes	yes		
Bath	Medicine Cabinet	10 28 13	Kohler Mirrored cabinet K-CB-CLC2026FS	Genesis	yes	yes		prefer recessed installation
Bath	Medicine Cabinet	10 28 13	Kohler Mirrored cabinet K-CB-CLC2526FS	Golda	no	yes		this is the two-door version of what's spec'ed for Genesis

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
Bath	Robe hook	10 28 13	Delta Accessories Trinsic Bath Collection Robe Hook, 75935-SS Stainless	Golda	yes	yes		verify finish matches rest of bathroom
Bath	Robe hook	10 28 13	American Accessories Inc Double Robe Hook 7345-S satin stainless steel	Genesis	no	yes		
Bath	Shelving	10 28 13	Bobrick Surface-mounted stainless steel shelf B-683	Genesis	no	yes		two per bathroom, as needed if there's not space or budget for a wall cabinet
Bath	Shower curtain rod	10 28 13	Bobrick heavy duty shower curtain rod with concealed mounting, B-207	Golda	yes	yes		
Bath	Toilet paper holder	10 28 13	Delta Accessories décor assist contemporary toilet paper holder with assist bar, 41550-SS stainless	Golda	yes	yes		verify finish matches rest of bathroom
Bath	Toilet paper holder	10 28 13	Grabcessories Grab Bar Toilet Paper Holder 61028 BN	Genesis	no	yes		this is the original submittal - we changed to something that sticks out less
Bath	Towel bar	10 28 13	Delta Accessories Décor Assist Contemporary Towel bar with assist bar, 41519-SS stainless	Golda	yes	yes		verify finish matches rest of bathroom
Bath	Towel bar	10 28 13	Grabcessories Grab Bar Towel Bar 61030 BN		no	yes		
Kitchen	Cooktop	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no		
Kitchen	Cooktop	11 31 00	Whirlpool® 30-inch Electric Ceramic Glass Cooktop, W5CE3024XW white	Genesis	no	yes		are we ok with the side knobs?
Kitchen	Cooktop	11 31 00	GE Profile Series 30" Built in knob control electric cooktop, PP7030SJ	Gold	no	yes		use this instead of Genesis if we what front knobs not side knobs (but specify white instead of stainless)
Kitchen	Dishwasher	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no	Can use 24" if 18" is too expensive	
Kitchen	Range	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no		
Kitchen	Range	11 31 00	Whirlpool® 30" 5.0 Cu. Ft. Freestanding Gas Range, WFG515S0EW White	Genesis	no	yes		should be electric
Kitchen	Range	11 31 00	GE 30" Free-Standing Electric Range JB450RK	Golda	no	yes		should be white instead
Kitchen	Range hood	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no		
Kitchen	Refrigerator	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no		
Kitchen	Refrigerator	11 31 00	Whirlpool® 30-inches wide Bottom-Freezer Refrigerator with SpillGuard™ Glass Shelves - 18.7 cu. Ft, WRB329DMBW White	Genesis	no	yes		
Kitchen	Wall oven	11 31 00	Get 132 CHA appliance package - use as standard for all appliances	132 CHA	yes	no		
Kitchen	Wall oven	11 31 00	Whirlpool® 27-inch 4.3 cu. ft. Single Wall Oven with SteamClean Option, WOS51EC7AW white	Genesis	no	yes		

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
General	Blinds	12 20 00	In Living/dining: Altex texlucent Eco 1699-01 White, .5% average openness; in bedroom: Altex TexOpaque Eco 6100-02 Coconut	Golda	yes?	yes	horizontal blinds instead of shades?	More opaque blinds in the bedroom allows for more control over light levels for those whose circadian rhythms are disrupted
General	Blinds	12 20 00	SWF Contract Bali 2" aluminum school blinds with wand tilt and deluxd valance, 112 Alabaster	Genesis	no?	yes		Did we end up doing 1" instead?
General	Curtain rod	12 20 00	SWF Contract Graber 9-200 Series heavy duty	Genesis	yes?	yes		
Bath	Cabinet pulls	12 35 30	Same as kitchen					
Bath	Vanity cabinet	12 35 30	Metropolitan Cabinets, plywood box with thermofoil doors and sides, snow white #0120. See Shop drawings for more details.	Genesis	no	yes	different manufacturer	
Kitchen	Cabinet pulls	12 35 30	Hafele #111.04.115	Genesis	yes?	yes		
Kitchen	Cabinets	12 35 30	Metropolitan Cabinets, Laminate Color: SO 764/"Daybreak" with a 2-mil "Ice Blue" edge band.	132 CHA	TBD	no	different manufacturer	see how it works out at 132. If we like it, make it standard
Kitchen	Cabinets	12 35 30	S&W Cabinets, see shop drawings for details	Golda	no	yes		We're getting away from wood, since it damages so easily. Also note we will use 36" moving forward, not 34" as shown here.
Kitchen	Cabinets	12 35 30	Metropolitan Cabinets, see shop drawings for details	Genesis	no	yes	different manufacturer	We're getting away from wood, since it damages so easily.
Bath	Vanity cabinet	12 35 30	Rynone Flexline, Laminate Color: D327-60 Pepperdust	132 CHA	TBD	no		see how it works out at 132. If we like it, make it standard
Bath	Sink top	12 36 61	Swan Ellipse 22" Swanstone Solid Surface Single Bowl Vanity Top, model VT1B2225 (25")/VT1B2231 (31", in accessible units), White 010	Genesis	yes?	yes		
General	Window sills	12 36 61	LivingStone solid surface sill, L206 Key West	Genesis	no	yes	use Azek instead	
Kitchen	Backsplash tile	12 36 61	Daltile Largo 3"x6" in White LR94	132 CHA	TBD	no		see how it works out at 132. If we like it, make it standard
Kitchen	Countertop	12 36 61	Wilsonart Quartz, Color: Arashi Q4011	132 CHA, Genesis	yes	yes		
Bath	Faucet	22 00 00	Delta Trinsic Collection High Arc Swivel Spout 559HA-SS-DST	Genesis	no	yes		
Bath	Faucet	22 00 00	Symmons Dia SLS-3512 with 1.0 gpm flow restrictor	Golda	yes?	yes		
Bath	Shower curtain and rings	22 00 00	Best Bath Systems Shower Curtain White KACXCURT0004	Genesis	yes	yes		
Bath	Shower curtain rod	22 00 00	Best Bath Systems ROD: 20 gauge satin stainless steel, 1" diameter	Genesis		yes		
Bath	Shower enclosure	22 00 00	get from 132 CHA or 370 Harvard		yes	no		

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
Bath	Shower enclosure	22 00 00	Best bath five-piece enclosure 4LSS06337A75BD PROP (accessible with rubber waterstopper)/4LSS6033D PROP (with curb)	Golda	no	yes		
Bath	Shower enclosure	22 00 00	Best Bath Systems five-piece fiberglass "Remodeler" 5LDS6030BSD45T / "Barrier Free" 5LBS6036R75B	Genesis	no	yes		
Bath	Shower seat	22 00 00	should we include this?					
Bath	Showerhead	22 00 00	Symmons Dia Shower/Hand Shower system, 3505-H321-V-CYL-B with 1.5 gpm flow rate restrictor	Golda	no	yes		This has both handheld and stationary shower (so handheld is low enough to be accessible, and stationary is high enough)
Bath	Showerhead	22 00 00	get 132 spec	132 CHA	yes	no		
Bath	Toilet	22 00 00	get 132 spec	132 CHA	yes	no		
Kitchen	Faucet	22 00 00	Symmons Sereno Kitchen Faucet S-2302-PD with 1.5 gpm flow restrictor and stainless steel finish	Golda	yes?	yes		
kitchen	Faucet	22 00 00	Elkay Allure Kitchen Faucet LK7921SSS	Genesis	no	yes		
Kitchen	Garbage disposal	22 00 00	insinkerator badger 5	Genesis, Golda	yes	yes		
Kitchen	Sink	22 00 00	Elkay Gourmet undermount sink ELUHAD211545PD	Golda	no	yes		
Kitchen	Sink	22 00 00	Elkay single bowl undermount sink ELUHAD211555	Genesis	no	yes		
Bath	Vent fan	23 00 00		132 CHA				
Systems	Thermostat	23 00 00	Honeywell FocusPRO® 5000 Non-Programmable Thermostat	370 Harvard				used this instead of Golda model b/c it works with VRF
Systems	Thermostat	23 00 00	Honeywell T8775	Golda		no		cannot be used with VRF
Systems	Water heater	23 00 00		370 Harvard	yes	no		new construction only
Systems	Heating/cooling	23 00 00		370 Harvard	no			See how it works out at 370 Harvard. If we like it, make it standard.
Bath	Night light	26 00 00		Genesis	yes	no		
Bath	Overhead light	26 00 00	Get 132 info. same as living room?	132 CHA	yes?	no	no overhead light, rely on vanity light and shower light	
Bath	Overhead light	26 00 00	NUVO S9339 - 18.5 watt; 9" Flush Mount LED Fixture; 3000K; Round Shape; White Finish; 120 volts	Golda	no	yes - type C		
Bath	Overhead light	26 00 00	Sonneman Pi 16" LED Surface Mount 2747.16	Genesis	no	yes		is this what we ultimately decided on, and isn't this too expensive?
Bath	Shower light	26 00 00	Eaton Halo Commercial PD615ED010 PDM6A830 61VC	Genesis	yes	yes		
Bath	Vanity light	26 00 00	Get 132 info	132 CHA	yes?	no		
Bath	Vanity light	26 00 00	Eaton Shaper 605-25"-W-L3/830-UNV-ALP	Genesis	yes?	yes		
Bath	Vanity light	26 00 00	Royal contract lighting	Golda	no	yes - type D		was this fixture custom? Sub'ed for Hinkley lighting fixture Portia 52112BN

Room	Product	Spec Section	Make and model	Used in	Standard across JCHE?*	Cut sheet?	VE ability	Notes
Bath	Water sensor at floor	26 00 00	get info from 370 Harvard		yes	no		
Bedroom	Overhead light	26 00 00	Get 132 info. same as living room?					
Bedroom	Overhead light	26 00 00	Access lighting 20661LEDD	Golda	no	yes - type B		
Bedroom	Overhead light	26 00 00	Rezek - Lunex 17, #RD502411 LED	Genesis	no	yes		is this the one we switched to that's dimmer but more decorative?
Common areas	Corridor lighting	26 00 00	Aron Duo T-Bar DUOT1-2FA-3000-B2-3000K-80-UNV (corridors)/DUOT1-4FA-6000-B2-3000K-80-UNV (elevator lobbies)	Genesis	yes	yes		
Exterior	Benches	32 00 00		Golda	no	yes		
Kitchen	Overhead light	26 00 00	Get 132 lighting package	132 CHA	yes?	no		
Kitchen	Overhead light	26 00 00	Access lighting 20672LEDD	Golda	no	yes - type A		this had to be surface mounted but we wont' have same constraints in new construction
Kitchen	Overhead light	26 00 00	Sonneman Pi 16" LED Surface Mount 2747.16	Genesis	no	yes		is this what we ultimately decided on, and isn't this too expensive?
Kitchen	Pendant over sink	26 00 00	Bruck Bling 1, #222-178-mc	Genesis	no	yes	LED strip lighting under cab?	too expensive to standardize?
Kitchen	Under-counter lighting	26 00 00	Feelux Flex Array Pearl LED Tape light FAT24-3.4-3K-20/CH-02-1-CL	Genesis	yes	yes		
Living Room	Overhead light	26 00 00	Get 132 lighting package	132 CHA	yes?	no		
Living room	Overhead light	26 00 00	Access lighting 20672LEDD	Golda	no	yes - type A		this had to be surface mounted but we wont' have same constraints in new construction
Living Room	Overhead light	26 00 00	Rezek - Lunex 17, #RD502411 LED	Genesis	no	yes		is this the one we switched to that's dimmer but more decorative?
Unit entry	Overhead light	26 00 00	Same as kitchen		yes			
Unit entry	Overhead light	26 00 00	Access lighting 20672LEDD	Golda	no	yes - type A		this had to be surface mounted but we wont' have same constraints in new construction
Common areas	Hearing loop	27 00 00	Williams Sound PPA T45	Golda		yes		
Systems	Security	28 00 00	Pull from 370 Harvard					For buildings on existing campuses, integrate into existing system