



**757 Frederick Rd Suite 202
Catonsville, MD 21228**

**www.withseniorsinmind.org
withseniorsinmind@gmail.com**

Senior Living Sustainability Guide® (SLSG)

Preface

The Senior Living Sustainability Guide® is the result of on-going meetings, communication, and cooperation of a dedicated, multi-disciplinary team of volunteers that believe guidelines are needed to assist with sustainable planning of senior living settings.

The core values of the Senior Living Sustainability Guide® volunteer committee include:

- 1) Creating an environment that supports resident-centered care.
- 2) Creating an environment that supports operational function.
- 3) Maintain a balance between improvement of residents' quality of life and the sustainable utilization of resources.
- 4) Sustainability to be regularly evaluated based upon the four dimensions.

On behalf of the committed volunteers that provided content, editing, and information for this Guide, it is our sincere hope that this Guide will assist those desiring to create a truly sustainable community for residents, staff, and families.

Copyright

The Senior Living Sustainability Guide® is copyright © 2011 by With Seniors in Mind. All rights reserved. With Seniors in Mind authorizes individual use of the Senior Living Sustainability Guide® (SLSG) without modifications and users agree to not violate copyright of the SLSG and related proprietary documents provided on the With Seniors in Mind website: www.withseniorsinmind.org. The SLSG is available for free download and users of the guide are not authorized to sell or modify the SLSG, reproduce or distribute the SLSG for any public or commercial purpose. Misuse of the SLSG violating copyright and trademark is prohibited.

Disclaimer

None of the volunteer parties involved in the creation of content for the Senior Living Sustainability Guide® (SLSG) assume any liability or responsibility to the user or any third parties for the accuracy, completeness, or use of or reliance on any information contained in the SLSG or for any injuries, losses, or damages (including, without limitation, equitable relief) arising from use or reliance. There are no expressed warranties of accuracy or completeness of information. As a condition of use of the SLSG, the user agrees not to sue and to waive and release With Seniors in Mind, Inc. and all volunteers from any and all claims, demands, and causes of action of any injuries, losses, or damages that the user may now or thereafter have a right to assert against With Seniors in Mind, Inc. or any volunteers related to the development and usage of the Senior Living Sustainability Guide®.

Trademarks

Senior Living Sustainability Guide® is a registered trademark of With Seniors in Mind.

Forward

The SLSG includes a Pre-development Analysis Process that defines a project and decision making framework and describes the means for a senior living community to increase the potential for sustainability in four dimensions within a Social-Cultural Context through establishment of a Continuous Improvement Process:

- 1) Resident
- 2) Organization
- 3) Operations
- 4) Physical Setting

Introduction

Sustainability is a frequent topic in present society as we strive to provide future generations the same benefits that we have enjoyed or even better. Applying this concept to senior living communities is appropriate to achieve the highest quality of life possible by sustaining it over time through changes in governing and operating leadership. Sustainability is particularly important to the residents of such communities who may live in one for several decades; potentially with several changes in leadership.

While the concept of sustainability has been rather well developed in relation to the physical environment, a larger perspective as applicable to senior living settings is provided. Our volunteer committee has identified four dimensions of a senior living community to which “sustainability” applies: Resident, Organization, Operations, and Physical Setting.

- **Resident** – Sustainability applies to the ability of the community to provide a high quality of life as defined by the resident. We consider high quality to be meeting their expectations in each activity in which they need or desire to be involved (basic, instrumental, interest) to the greatest extent possible considering an individual’s limitations. Thus, the resident will experience a high quality of life whether in independent living, assisted living, dementia care, hospice care, skilled care, adult day care or other types of settings serving seniors. The challenge of sustainability increases as residents’ age and abilities decrease. The late researcher M. Powell Lawton found that the lower the competence (physical or mental) of the individual, the greater the impact of the environment on their

behavior.¹ Thus the environments where higher levels of care are provided must be the most carefully designed.

- **Organization** – Sustainability applies to the preservation of organizational health and success through changes in governance (including ownership) and operational leadership.
 - The characteristics of a **healthy** organizational as defined by Jim Collins in the book *Good to Great* are:
 - Self and organizational discipline required
 - Openness to truth demanded
 - Structured for sustainability of leadership
 - Maximize worth to resident of outputs
 - Care about staff as well as clients
 - Team-based approach to decision-making
 - Calculated risk taking encouraged
 - Continuous improvement expected
 - Expectations defined and measured²

All the above characteristics must be articulated in the core values and derivative principles defined by the governing body, which is the only sustainable element of the organization. They are expressed daily through the culture of the organization which is defined by the governing body. The governing body selects the CEO (by whatever title; Executive Director, Administrator, etc.), who is the key leader of the organizational culture. This leadership role shall have the demonstrated ability to create a culture with defined characteristics. The governing body also expects the CEO at the time of hire to begin the preparation of more than one potential successor from whom the board may choose. The board goal is to develop the future CEO from within the organization in order to sustain the culture. The CEO qualification must also include the ability to be a successful manager, who consistently generates successful outcomes.

- The characteristics of organizational success include:
 - Ability to generate a profit (also necessary for “non-profit” organization)

¹ *Physical Environments and Aging: Critical Contributions of M. Powell Lawton to Theory and Practice* has been co-published simultaneously as *Journal of Housing for the Elderly*, Volume 17, Number 1/2 2003. © 2003 by The Haworth Press, Inc. All rights reserved. Rick J. Scheidt and Paul G. Windley, Editors. ISBN 0-7890-2006-8 (alk. Paper) – ISBN 0-7890-2007-6 (pbk. Alk Paper) 1. Aged-Dwellings-United States 2. Gerontology. 3. Human beings – Effect of environment on 4. Environmental psychology 5. Lawton, M. Powell (Mortimer Powell). 1923 – 2001 - I Scheidt, Rick. J. 1944 - II Windley, Paul G. 1941-III . *Journal of housing for the elderly* HD7287 92 U54 P49 2003 / 362 6-dc21 / 2002153971

Publication available for review at: http://www.amazon.com/Physical-Environments-Aging-Contributions-Simultaneously/dp/0789020068#reader_0789020068

² *Good to Great*. Copyright ©2001 by Jim Collins. All rights reserved. HarperCollins Publishers, Inc. 10 East 53rd Street, New York, NY 10022. Collins, James C. (James Charles), 1958- *Good to great: why some companies make the leap...and other don't*/Jim Collins. – 1st ed. p. cm. ISBN 0-06-662099-6 (hc) 1. Leadership. 2. Strategic planning. 3. Organizational change. 4. Technological innovations – Management I. Title/ HD57.7.C645 2001 / 658 – dc21 / 2001024818

- Ability to meet or exceed resident expectations for experiences in each activity in which they are involved
- **Operations** – Sustainability applies to the ability of staff to consistently provide experiences for each resident activity that meet or exceed the resident expressed expectations. This requires an operating structure where each staff member is selected and trained to work both independently and collaboratively while developing potential replacements.
 - Staff at all levels systematically share successes and failures in approaches to create a learning environment where all systems and processes are continuously improved.
 - All staff members grow in their ability to respond promptly and consistently to resident needs and desires.
 - Staff turnover, which is inherent, is prepared for through the expectation that each position will be developing one or more successors at all times.

All operational processes; such as medication delivery, waste management, food service, care delivery, laundry, etc. require identification and vetting to fully understand how a community is going to function. As each of these processes is identified, impacts to the physical setting are included within the evaluation. The ultimate result will be a functional program, which forms a base framework for decision making regarding the physical environment. The preparation of a functional program is required by the *Guidelines for Design and Construction of Health Care Facilities*,³ which has been adopted as code in many states. As with all other dimensions, periodic evaluation of operational functions by multi-disciplinary teams provides benchmarking for continuous improvement of systems and processes.

- **Physical Setting** – Sustainability applies to:
 - Designing the physical setting to support all of the other dimensions:
 - Provide desired resident experiences in the most effective and efficient way possible.
 - Base all organizational decisions and actions on the core values and derivative principles and movement toward the vision.
 - Develop and periodically update a functional program that supports staff in their respective roles and incorporates all of the systems and processes required for operation of a senior living setting.
 - Incorporating flexibility within the design of the physical setting to permit operational changes and improvements that more effectively support desired resident experiences.
 - Minimizing the use of resources in the design and construction of the facility and in the equipment and supplies required for operations.

³ 2010 *Guidelines for Design and Construction of Health Care Facilities* is available at the Facility Guidelines Institute website for review as well as purchase: <http://www.fgiguilines.org>

- Selecting systems, materials, equipment and supplies based on life cycle analysis, cost, and benefit.
- Commissioning initially and periodically thereafter all building systems against benchmarks that provide a process for continual feedback for improvement.

Table of Contents

Pre-Development (PD) Analysis Process.....	7
Social-Cultural Context	11
Four Dimensions of Sustainability.....	12
D1: Resident (PR).....	13
D2: Organization (PO).....	23
D3: Operations (POP).....	26
D4: Physical Setting (PS).....	47
O1: Outcomes.....	60
Glossary.....	66
Exhibit A: Post Occupancy Evaluation Process Outline.....	68

Pre-Development (PD) Analysis Process

Prior to the design of a senior living community, there is a pre-development analysis process that is applicable to both re-positioned and new projects. This evaluation starts with the assumption that there is a need for a project and the client has a general idea about what the project will include. At this point there needs to be a strategic, purposeful process that includes a preliminary analysis of a project's viability utilizing specific criteria. The analysis reviews all potential options to be considered by the client (the wish list). It identifies users and other stakeholders, related needs in the geographic area and community at-large and the desired outcomes for both the users and the organization. It considers trends in the senior living marketplace, applicable reimbursements, and consumer demand as measured through market research.

What is the Project?

Defining the project requires the following process and answering questions to create a framework for sustainable decision making and determination of project viability in both the short and long-term.

- **PD1 Describe Project**

The general aspects to define include:

- **PD1.1 Populations to be Served**

- Identify resident and/or patient populations being considered
- Identify needs of each population being considered.
- Identify current resources available to address the identified population needs.

- **PD1.2 Drivers for the Project**

- Determine the drivers for the overall project:
 - Who?
 - Who is needed to serve populations identified?
 - What?
 - What is your intent?
 - What is your philosophy?
 - What services are required to serve populations identified?
 - What is the desired outcome from the project?
 - What is needed to make your project financially viable?
 - Where?
 - Where should this project be located?
 - Repositioned in or on existing site?
 - New site?
 - Which type of setting is most appropriate for the project utilizing the following filters?
 - Urban
 - Rural
 - Suburban
 - Combination
 - Decentralized

- Centralized
 - Proximity to existing services?
 - Why?
 - Why should the project exist?
 - Why do you want to do this project?
 - For an existing project, why are you re-positioning or recreating?
 - What are the cost benefits for the repositioning or recreation of a project?
- **PD2 Establish Integrated Team**
 - **PD2.1** Identify all stakeholders and consultants that are required for the Pre-Development Analysis Process.
 - Site Selection Disciplines
 - Civil Engineering
 - Master Planning
 - Feasibility/Demographics
 - Architectural
 - Development Representatives
 - Operational Disciplines
 - Staff Disciplines that are impacted or may be impacted by a new project
 - Front line and hands-on staff
 - Administration & management staff
 - Community at-large stakeholders
 - Related service providers
 - Regulators
 - Residents
 - Families
 - Adult Children
 - **PD2.2** All project stakeholders to be included in a workshop, focus group, or other type of setting to determine different perspectives on the proposed project description.
 - The results of the workshop/focus group/other meeting type will include recommendations and identify both positive and negative aspects of the proposed project from different perspectives.
- **PD3 Answer Specific Questions**
 - **PD3.1 Demographics**
 - Is this a community-based project?
 - What is currently needed in the community that is missing?
 - How does the proposed project meet the needs of the community at-large?
 - How does the proposed project meet the needs of the proposed resident and patient populations being served?
 - What is the demographic area being served?
 - What are the impediments to serving the identified populations?

- What are the cost/benefits of serving the identified populations?
 - What relationships should be established to assist with the development of the project?
 - What is the demand for the project?
 - Evaluate “cultural” beliefs, such as what comes to mind when you say “nursing home”?
 - Stigma prevention, branding, and re-branding
- **PD3.2 Existing or New Organization**
 - How do you view yourself as an organization?
 - Complete focus groups with the community to find out how you are viewed by the community at-large.
 - Survey tools and results
 - Generally discuss your marketing strategy after understanding how your organization is perceived.
 - Identify your areas of expertise.
 - Identify your areas of weakness.
 - Identify partnerships that complement the expertise needed to serve the identified resident and/or patient population.
 - Why is sustaining an existing or new organization important to you?
- **PD4 Preliminary Programming**
 - Identify components that would be operationally necessary to provide services to the proposed populations.
 - Identify approximate square footages for spaces required to allow for preliminary site evaluation.
 - Identify current trends in the marketplace that impact the type of project being proposed.
 - Identify best practices in the sector of the market that your organization wants to serve.
- **PD5 Define & Organize Project Context**
 - **PD5.1 Set the Foundation for the Proposed Project**
 - Evaluate all stakeholders’ comments and synthesize into recommendations.
 - Utilize a facilitator as required
 - Broadest view of your organization
 - **PD5.2 Sustainable Site Selection**
 - Evaluate orientation of the site in relationship to building location.
 - Evaluate increasing the use of daylight.
 - Evaluate Water Sources including access
 - Public
 - Well & Septic
 - On-site Treatment
 - Gray water
 - Black water
 - Evaluate Utilities including access
 - Electric

- Gas
 - Other
 - Potential alternatives
- Evaluate existing landscaping
 - Maintain existing local planting materials
 - Identify outdoor spaces
- Evaluate existing developed sites
 - Pros
 - Cons
- Evaluate existing brownfield sites
 - Pros
 - Cons
- Evaluate greenfield sites
 - Pros
 - Cons
- Identify transportation needs and availability
- **PD6 Project Viability**
 - Identify anticipated costs for pre-development and programming
 - Use workshops, focus groups, or other means to establish:
 - Cultural approach
 - Operational decision making process
 - Philosophical direction
 - Identify if the proposed project size fits the physically available site or pre-existing environment.
 - Establish baseline information for future development and phasing.
 - Assemble preliminary comparison proformas (approximate budgeting) to verify project viability.
 - Comparison of different sizes and types of sites
 - Establish viability of project to determine next steps.
- **PD7 Indicators**
 - Initial Workshop
 - Focus Groups of Stakeholders
 - Meeting Minutes
 - Recommendations
 - Action Plan including next steps

Social-Cultural Context

Social-cultural factors which influence all four dimensions of sustainability include:

- Country of origin
- Ethnic group
- Racial group
- Economic status
- Religious affiliations
- Historical experiences
- Political affiliations
- Gender Affiliations

These factors not only apply to the residents being served, but also to the following:

- Resident's family members
- Staff
- Owners
- Location of the project (inclusive of region, rural, suburban or urban)

As the community at-large changes over time, the types and availability of services provided will also have to adapt and change to meet new and/or different needs.

There must be a differentiation and understanding of social-cultural aspects based upon these universal influential factors of person-centered environments.

Four Dimensions of Sustainability

Dimensions (D1 – D4) build upon one another, impact more than one dimension at a time, and are interconnected. Impacting one dimension has a ripple effect throughout all the other dimensions of sustainability.

- D1: Resident
- D2: Organization
- D3: Operations
- D4: Physical Setting

Each dimension includes:

- Overview description
- Identification of the core values and how they apply to a specific dimension
 - Utilize core values to establish principles
- Development of an integrated team relevant to a specific dimension
- Development of elements/drivers of each dimension
- Development of desired experiences and outcomes
- Identification of the means for sustaining dimension
- Identification of documentation and indicators required for periodic benchmarking purposes through verification of compliance to the principles

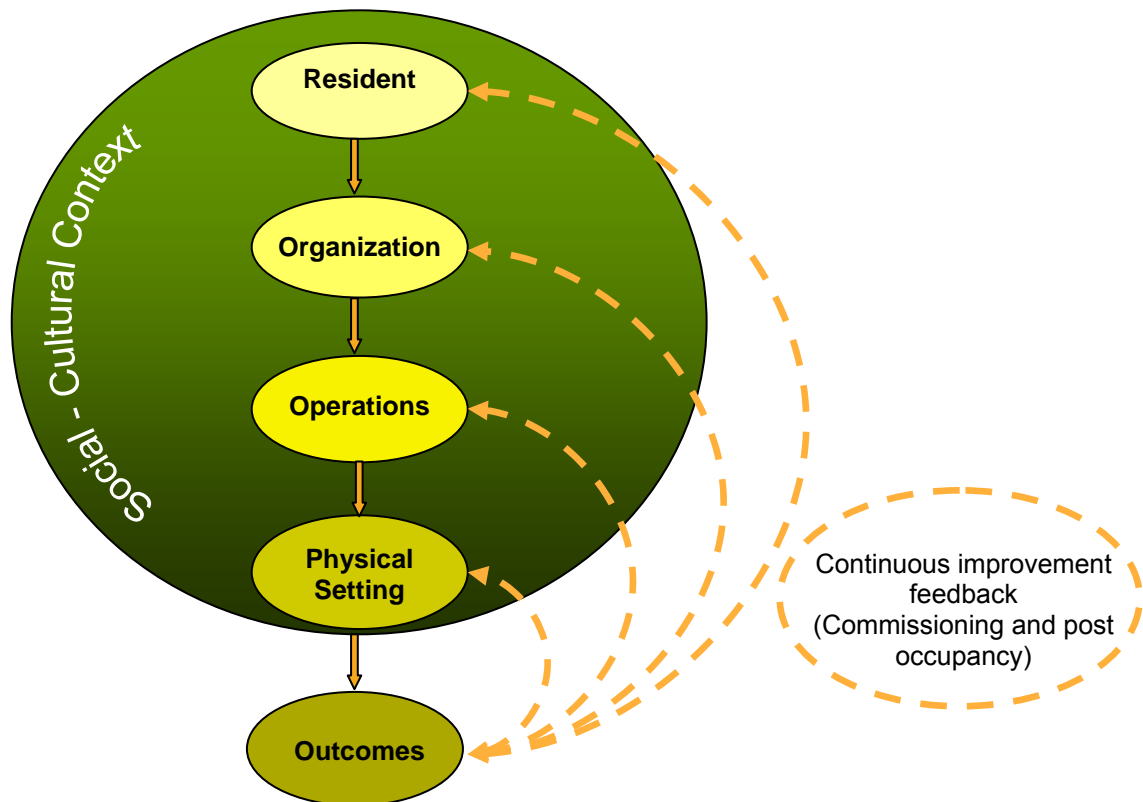


Diagram 1: Senior Living Sustainability Guide® Process⁴

⁴ Diagram 1: © With Seniors in Mind

D1: Resident

The sustainability process begins with the Resident. Social, psychological and physical needs drive all other dimensions. The measure of success is defined by achieving the objective of meeting the needs and sustaining the outcomes.

D1.1 Process for developing sustainable environments for Residents

- **PR1 Establish Integrated Team (Prerequisite)**
Stakeholders, including representation for residents, organization, staff, family, community at-large members, and others that provide input on the resident populations being served, and include the desired experiences for residents living for in the proposed setting.
- **PR2 Identify Resident Population(s) being Served**
Celebrate the uniqueness of each resident. The identity is **not** a medical diagnosis or a health issue!
 - **PR2.1 Resident Identity (based in terms of resident potential)**
 - Understand diversity of residents being served
 - Culture
 - Background
 - Interests
 - Life patterns
 - Capabilities
 - Family connections
 - Community involvement
 - **PR2.2 Sustaining Resident Identity**
 - Create opportunity for residents to gather based upon natural affinities
 - Begin with activities in which active elders are normally involved
 - Intentional design of the environment to compensate for aging related “losses”
 - Provide opportunity for relationships and involvements that are meaningful & rewarding
 - Achieve desired experiences of elders in their chosen activities
 - Provide supportive environments that allow residents to express who they are
 - Focus on the ability versus the inability.
- **PR3 Resident Experience**
 - **PR3.1a Option 1: Define and intentionally design for resident experience during activities.** Information is based upon the SAGE (Society for the Advancement of Gerontological

Environments) P.L.A.C.E. (Programming for Living and Achieving Culture-change Environments) process.⁵

- **PR3.1a.1 Attribute of Place Experience**⁶ The attributes are significant in environments designed for the elderly and cognitively impaired and are products of the interaction of people and environment. An attribute of place is based upon each individual's history, goals, and identity.
 - **Safety & Security:** Sense of physical and psychological security
 - **Functional Independence:** Focus on the supportive environment for participants to continue to exercise his or her remaining capacities; maintaining a sense of independence.
 - **Orientation:** Ease in movement through and use of an environment
 - **Sensory Stimulation:** Quality and intensity of stimulation as experienced by the various sensory modalities. Life is full of stimulation for residents; opportunities for positive sensory experiences add to quality of life. Residents with dementia require the level of stimulation to be appropriate to their cognitive level.
 - **Meaningful Activity:** Providing both planned and unplanned opportunities for residents to participate in meaningful activity that is important to the specific individual. Including choice of participation by residents is a part of creating a meaningful activity.
 - **Social Interaction:** Degree to which an environment facilitates or inhibits social interaction among people.⁷ The design and interior layout should provide opportunities for both planned and spontaneous social interaction. Note that every interaction between residents or resident and staff member provides an opportunity for a positive social interaction.
 - **Privacy:** Selective control of access to the self or to one's group. Resident and staff privacy for personal

⁵ For additional information on Resident Experience, Place Experience, and the programming process to achieve culture change go to the SAGE P.L.A.C.E. website:

www.sagefederation.org/sage_plasce.aspx.

⁶K.D. Moore, L.D. Geboy, G.D. Weisman, G. *Designing a Better Day*. Johns Hopkins, 2008. Chapter 3 The Experiential Approach *Attributes of Place Experience* pp 27-40.

⁷ Hutchison, Elizabeth D. *Dimensions of Human Behavior: Person and Environment* Exhibit 7.1 Key Concepts for Understanding Physical Environment-Behavior Relationships (Source: Adapted from Weisman (1981). Page 232. **Information is copyrighted and available at:**

http://books.google.com/books?id=Psa93PjNL5kC&pg=PA232&lpg=PA232&dq=Stimulation,+accessibility,+privacy,+Personalization,+crowdedness,+legibility&source=bl&ots=shqB41ZCvb&sig=EH-5jKJYTXM87ksorNYKfu0z9c&hl=en&ei=ScGzS5ChNMWclgfw-4XJCw&sa=X&oi=book_result&ct=result&resnum=1&ved=0CA YQ6AEwAA#v=onepage&q=&f=false

care spaces, as well as staff respecting the privacy of each resident and one another.

- **Personal Control:** Extent to which an environment facilitates personalization and conveys territorial claims to space. Personal control applies to both residents and staff and personalization of spaces; resident rooms, office areas, community/public areas identified by a group of residents that represent ownership, and control of specific elements within a physical setting; such as light (artificial and daylight), sound, temperature, etc.
- **Continuity of the Self:** Residents are individuals with a life time of experience that is part of their history. Honoring this experience acknowledges that each resident is an individual. Assisting staff to understand why knowing resident backgrounds is important.
- **Spirituality:** Providing opportunities for residents and staff to have respite time for support of spiritual welfare. This is different based upon individual experiences and desires.
- **Architectural Delight:** Spaces that support all of the other attributes and provide spaces that reflect the culture of the resident and staff being served.
- **Adaptability:** Extent to which an environment and its components can be reorganized to accommodate new or different patterns of behavior and/or desired activities. Also in terms of flexibility of spaces that can support a change in care model, regulation, reimbursement, etc. without negatively impacting other attributes.
- **Comfort:** Extent to which an environment provides and allows for sensory and mobility fit and facilitates task performance.
- **Crowding:** Unpleasant experience of being spatially cramped. This may be a cultural perception as well as providing adequate physical space for specific functions.
- **Wayfinding:** Ease with which people can conceptualize key elements and spatial relationships within an environment and effectively find their way. This applies to strategies for residents as well as visitors and orienting new staff and volunteers.
- **Cultural Meaning:** Extent to which an environment holds individual or cultural meaning(s) for people. Depending upon the residents being served and the staff serving residents, identify the different cultural

aspects that impact the organization, operations, and the physical setting.⁸

- **PR3.1a.2** Describe the attributes of the desired experience for activities of daily living (ADLs) and related clinical, operational, and social intervention.
 - **Sleeping**
 - **Awakening**
 - **Washing**
 - **Toileting**
 - **Dressing**
 - **Bathing**
 - **Eating morning meal**
 - **Eating noontime meal**
 - **Eating afternoon snack**
 - **Eating evening meal**
 - **Taking medication/supplements**
 - **Receiving treatment**
 - **Ambulating Independently**
 - **Daily movement**
 - **Socializing**
 - **Preparing for bed**
 - **Having sex**
- **PR3.1a.3** Describe the desired experience for instrumental activities of daily living (IADLs)
 - **Cooking**
 - **Shopping**
 - **Driving**
 - **Paying bills**
 - **Housekeeping**
 - **Taking medications independently**
 - **Using communication devices: i.e. telephone, computer, etc.**
 - **Doing laundry**
 - **Reading**
- **PR3.1a.4** Describe the desired experience for interest activities⁹
 - **Crafts/games**
 - This is an on-going process, as staff become acquainted with residents likes and dislikes (life planning)
 - Goal is to provide opportunities that reflect any current resident population versus

⁸ For information on the Environment of Care that addresses cultural responsiveness see 2010 *Guidelines for Design and Construction of Health Care Facilities Part 1: Chapter 1.2: Planning, Design, Construction, and Commissioning: Environment of Care*. Available at <http://www.fgiguilines.org>

⁹ Content referenced from a pre-architectural programming workshop and provided by Green, David A. and Abushousheh, Addie.

standardized activities, which implies that all residents enjoy the same activities.

- **Religious**
 - Opportunities and access for services based upon residents' history, experiences, and desires.
- **Exercise**
 - Specifically tailored exercise and wellness programming for residents.
 - Identify all exercise categories that would want to be offered that may effect the organization's operational function and physical setting.
- **Outdoor access**
 - Evaluate access to the outside for all residents. This is a balance of safety and shared risk to provide as much freedom of movement for residents as possible.
- **Entertainment**
 - Opportunities for different types of entertainment that are culturally responsive to resident population being served.
- **Life Skills (cooking, gardening, doing laundry)**
 - Based upon resident individual interests, identify opportunities for life skills that are appropriate.
 - Based upon the population being served, identify what types of life skills are desired and the flexibility required to achieve them at different points in time.
- **Community (internal)**
 - Identify the experience of residents being able to gather together in groups that include other residents and staff
 - This includes social events, educational events, etc.
- **Community (external)**
 - Identify process for community at-large involvement with family, volunteers, and residents living in the community.
 - Identify how to integrate the community into a project to promote socialization and reduce isolation.
 - Identify opportunities for the community at-large to mutually benefit from a reciprocal relationship with the organization.
 - This includes social events, educational events, etc.
- **Intergenerational**

- Residents must have choices in participation for intergenerational programming and activities.
- Provide opportunities both internally and externally for interaction with other generations to avoid isolation and segregation of elders.
- **PR3.1a.5** Describe characteristics for activities to promote quality of life
 - **Exploration**
 - Balance of risk
 - Sense of safety and security for freedom to explore (beyond private resident space)
 - Example: residents with dementia having areas of positive distraction purposefully designed into the space to allow freedom to explore. Positive distraction in a more public area to discourage residents from going into other resident rooms.
 - **Observation**
 - In socially stimulating places, residents often like to observe comings and goings and participate in social exchanges within the physical setting.
 - Purposefully create space for these types of encounters.
 - **Education**
 - Staff education and training to be evaluated at the beginning of a project development process.
 - Culture change is not a result of a physical setting, but an organizational and operational decision that changes how services and care are going to be delivered.
 - Involvement of all different disciplines from the beginning of the process leads to a successfully executed change. (Note: integrated teams are included in all four dimensions of the SLSG).
- **PR3.1b Option 2: Define and intentionally design resident experience during activities.**
 - Planetree© is about human beings caring for one another. A Planetree© continuing care community fosters caring relationships among residents, families, employees, and volunteers by emphasizing self-awareness and personal accountability. Staff retreats provide an understanding of the needs of older adults and sensitize staff to life from the resident's perspective, while building team relationship skills through experiential exercises. Ongoing seminars for residents and staff offer tools for communicating positively,

maintaining authentic relationships, and managing conflicts in a dignified manner.¹⁰ The following components are utilized:

- **Recognizing the Primary Importance of Human Interactions**
Human beings caring for other human beings, creating caring relationships among all members of the Planetree© community, including residents, families, employees, and volunteers.
- **Enhancing Each Individual's Life Journey**
A Planetree© continuing care community supports personal growth, self-expression, and the fulfillment of individual dreams.
- **Supporting Independence, Dignity, and Choice**
A Planetree© community supports an individual's autonomy, lifestyle, and interests. Each individual's routines and preferences determine the pace of care and services.
- **Incorporating Family, Friends, and Social Support Networks in the Life of the Community**
A Planetree© community supports connections to family and friends and encourages their involvement in the life of the community. Individuals are encouraged to maintain and expand their social support networks.
- **Supporting Spirituality as a Source of Inner Strength**
A Planetree© community offers opportunities to strengthen the relationship with one's faith and inner resources. A variety of programs provide meaningful spiritual support.
- **Promoting Paths to Well-Being**
A Planetree© community provides holistic wellness programs that maintain health and complement western scientific medical care.
- **Empowering Individuals Through Information and Education**
A Planetree© community provides the information necessary to maximize physical, mental, emotional, and financial well-being. A Continuous Quality Improvement process engages the entire Planetree© community in working together to solve problems and exceed quality standards.
- **Recognizing the Nutritional and Nurturing Aspects of Food**
Food choices and personalized service, in

¹⁰ Additional information on the Planetree© Care Model in relationship to long term and continuing care is available at <http://www.planetree.org/PCC.html>.

combination with sound nutrition practices, are a source of pleasure, comfort, and fellowship.

- **Offering Meaningful Arts, Activities and Entertainment**

Planetree© recognizes that people need opportunities for camaraderie, laughter, and creativity. A Planetree© community responds to individual interests and allows for spontaneity.

- **Providing an Environment Conducive to Quality Living**

Planetree© recognizes the influence that the continuing care living environment has on health and wellness. The design incorporates residential décor, natural light, and access to nature.¹¹

- **PR3.1c: Option 3: Define and intentionally design resident experience during activities.**

- Complete a process that evaluates all of the following to identify the desired resident outcomes:

- **PR2.1c.1** Describe the desired outcomes for activities of daily living (ADLs) as related to operational, clinical, and physical needs.

- **PR2.1c.2** Describe the desired outcomes for instrumental activities of daily living (IADLs) as related to operational, clinical, and physical needs.

- **PR2.1c.3** Describe the process for identifying interest activities for the population being served as related to operational, clinical, and physical needs.

- **PR2.1c.4** Utilize elements of the Environment of Care for evaluation of activities:

- Light and views
- Clarity of access (wayfinding)
- Control of environment
- Privacy and confidentiality
- Safety and security
- Finishes
- Cultural Responsiveness¹²

- **PR4 Means for Providing and Sustaining Resident Desired Experiences**

Upon completion of a project, an evaluation of desired experiences and outcomes shall be continually evaluated (commissioned).

- **PR4.1 Personal Assessments**

- Implement process & requirement for completion of personal assessments of each Resident

- Essence of the person
 - Background
 - Likes & dislikes

¹¹ Affiliate site reference would be Wesley Village in Shelton, CT

¹² 2010 *Guidelines for Design and Construction of Health Care Facilities* Part I: Chapter 1.2 Planning, Design, Construction and Commissioning

- Preferences
 - Desires
 - Meaning of home
- Life Plan for the person (includes care plan, service plan, etc.)
 - Resident involvement
 - Family involvement
- Update resident identities to provide on-going input for Dimension 2: Organization, Dimension 3: Operations, and Dimension 4: Physical Setting
- **PR4.2 Resident, family & staff surveys**
- **PR4.3 Resident, family & staff suggestion program**
- **PR4.4 Post Occupancy Evaluation**
 - Post-Occupancy Evaluation (POE) provides an opportunity to produce measured outcomes, generate guidelines, and focus on high-impact questions in an open, unbiased way (Shepley in Harris et al, 2008). The objectives of a POE are to provide feedback to stakeholders and design teams of the evaluated site, provide information to support future designs, generate new knowledge and clarify programming issues. An unbiased evaluation, based on the systematic gathering of data, provides corroboration of the effectiveness of prototypes and innovations and justifies design decisions (Shepley in Harris et al, 2008). To conduct a POE, it is necessary to have access to the facility, the administration, the employees, and the participants (and perhaps family members) and a resident's council.
 - Creating a process that evaluates all aspects of resident experience, organization, operations, and the physical setting; identifying outcomes connected to each dimension.
 - See Exhibit A: POE Process Outline
- **PR4.5 Formal complaint/concern process results**
- **PR5 Documentation and Indicators**
 - **PR5.1 Documentation**
 - Resident, family & staff surveys compiled into a summary report that includes actionable recommendations. Timeline to include start and completion dates for completion of recommendations. Evidence of continual or specifically scheduled survey input periods (duration shall not be longer than annually for reviews and responses to develop action plan)
 - Post Occupancy Evaluation that includes recommendations and action plan for improvements, including start date, date of completion, and further evaluation.
 - Demonstrated system for reviewing and incorporating resident, family & staff suggestions into decision making process.
 - Example of formal complaint/concern and resolution process
 - Forms

- Electronic Tracking
- **PR5.2 Indicators**
 - Establishment of a resident council that is part of a timely feedback process with management.
 - Establishment of a family and friends council that is part of a timely feedback process with residents and management.
 - Utilization of SAGE P.L.A.C.E. process.¹³
 - Utilization of Long-term Care Improvement Guide authored by Planetree© and Picker Institute¹⁴.
 - Establishment of custom or community specific programming process in relationship to identification of resident activities in relation to operational, clinical, and physical needs.

¹³ SAGE P.L.A.C.E. process: website: www.sagefederation.org/sage_plasce.aspx.

¹⁴ Long-term Care Improvement Guide and forthcoming Designation Process (pilot sites in process now) information available at <http://www.planetree.org>

D2: Organization

D2.1 Process for developing sustainable Organizational Structure

To create a process that establishes the foundation and on-going governance of a successful senior living organization. Organization exists to meet and address resident's needs effectively and efficiently on a continuous basis. The organization's structure shall be customer driven. Residents are reliant upon sustainability of organization.

- **PO1 Establish Integrated Team (Prerequisite)**
 - **PO1.2** Identify all stakeholders
 - **PO1.2.1** Include Value Owners
 - **PO1.1** Conduct workshop with integrated team to define all elements of the organization

- **PO2 Elements of Sustainable Organization**
 - **PO2.1 Values**
 - a) Derived from the philosophical rationale for the existence of the organization
 - b) Reflects the values of the investors, owners, administrator, and staff
 - **PO2.2 Vision**
 - a) Ultimate desired state of being of residents
 - b) Defined by the governing body
 - c) Describes and identifies community need for the proposed population being served
 - d) Describes and identifies beneficiaries
 - a. Primary (resident, staff, family care giver, etc.)
 - b. Secondary (family, friends, community members, etc.)
 - e) Describes the care model (person-centered)
 - a. Including resident population to be served
 - i. Current
 - ii. Future
 - b. Level(s) of care to be provided
 - i. Identify services related to level(s) of care
 - c. Continuum of care (upon entry and exit of a resident from the community/organization)
 - f) Establish Mission
 - g) Establish Principle Goals and Objectives
 - a. Identify strategies to achieve the objectives and goals
 - **PO2.3 Governance**
 - a) Body is steward of owners: mission, vision, and values
 - **PO2.4 Culture**
 - a) Intentional daily expression of the organization's values

- **PO2.5 Structure**
 - a) Residents at the top or center of the organizational chart
 - b) Team based
 - **PO2.6 Management philosophy**
 - a) Values driven

- **PO3 Means for Sustaining Organization Elements**
 - **PO3.1 Values**
 - a) Governing body serves as champion of the values
 - **PO3.2 Vision**
 - a) On-going evaluation of the community need
 - b) On-going evaluation of the care model
 - **PO3.3 Governance**
 - a) Continuous renewal through planned, systematic turnover. Governance members to be part of a regularly scheduled replacement process.
 - b) Create governance policies for all areas of responsibility
 - c) Complete comprehensive orientation of new board members
 - **PO3.4 Culture**
 - a) CEO/Executive Director/Administrator selected for role as primary determinate
 - **PO3.5 Structure**
 - a) Governance body and CEO/Executive Director/Administrator established as guide and support
 - **PO3.6 Management philosophy**
 - a) Develop potential of individual (staff and resident)
 - b) Focus on Continuous Quality Improvement (CQI)

- **PO4 Documentation and Indicators: Prescriptive Path**
 - **PO4.1 Documentation**
 - Consistency of values guiding governance and operations
 - Listing of values
 - Meeting minutes demonstrating utilization of values in decision making
 - Comprehensive, integrated set of governance policies
 - Active contribution by new board members
 - Meeting minutes including assignments and completion of assignments
 - Identification/listing of strengths and weaknesses of board for utilization of future board improvements
 - Annual governance calendar
 - Including board terms
 - **PO4.2 Indicators**
 - Financial stability
 - Maintain and improve financial position

- The Green House Project® process¹⁵
- **PO5 Documentation and Indicators: Performance Path**
 - **PO5.1** Completion of SAGE (Society for Advancement of Gerontological Environments) P.L.A.C.E. (Programming for Living and Achieving Culture-change Environments)¹⁶
 - Documentation resulting from the completion of the SAGE P.L.A.C.E. process.
 - **PO5.2** Implementation of Planetree© philosophy and continuous improvement process of culture change.
 - In utilizing the Planetree© process, checks and balances are the measurement tools; including data collected on patient/resident satisfaction, staff retention and hiring, and staff satisfaction scores.
 - Utilization of Long-term Care Improvement Guide authored by Planetree© and Picker Institute¹⁷.
 - **PO5.3** Implementation of a customized approach to culture change and sustainability as identified through the Small House movement.¹⁸
 - **PO5.4** Implementation of a customized approach to culture change and sustainability as identified through recommendations provided by The Pioneer Network¹⁹ and/or Culture Change Now²⁰
 - **PO5.5** Implementation of a customized resident-centered approach based upon healthcare case management programs and moving services to residents versus moving residents through the continuum of care.
 - **PO5.6** Implementation of a customized resident-centered approach to culture change.

¹⁵ Information on The Green House Project® available at <http://www.thegreenhouseproject.org>

¹⁶ Information on SAGE P.L.A.C.E. available at http://www.sagefederation.org/sage_place.aspx

¹⁷ Long-term Care Improvement Guide and forthcoming Designation Process (pilot sites in process now) information available at <http://www.planetree.org>

¹⁸ National Alliance of Small Houses (NASH): Information available at <http://www.smallhousealliance.org>. Additional information available at <http://juderabig.com>. Institute at Masonic Health Center in Massachusetts: www.MHSinstitute.org.

¹⁹ <http://www.pioneernetwork.net>

²⁰ <http://www.culturechangenow.com>

D3 Operations

D3.1 Process for developing sustainable Operations

Each system and process for every function that occurs for both staff and residents is identified, developed, and understood by stakeholders.

- **POP1 Establish Integrated Team (Prerequisite)**
 - **POP1.1** Identify all stakeholders
 - **POP1.2** Conduct workshop with integrated team to define all elements of operations
 - **POP1.3** Based upon Organization vision & values, communicate care model; including culture change and cultural responsiveness to stakeholder team

- **POP2 Elements of Sustainable Operations**
 - **POP2.1 Staff roles**
 - Identify all staff roles
 - **POP2.2 Staff relationships**
 - Identify and describe desired staff relationships
 - Between staff
 - Between staff and residents
 - Between staff and family
 - **POP2.3 Staff training**
 - Establish staff training responsibilities
 - Develop listing of training modules that include interdisciplinary team
 - **POP2.4 Activity programming**
 - Activity is used in the global sense to include all activity types
 - All staff are part of the programming staff
 - Every staff/resident interaction is an opportunity for meaningful relationship and involvement for residents
 - Per activities identified under Dimension 1: Resident, further define by including and identifying all staff that are required for activities to occur and resident experiences to be realized.
 - Coordinate each activity and function with Dimension 4: Physical Setting to verify activity space is available for activities identified.
 - **POP2.5 Family involvement**
 - Families regarded as part of care/support team
 - Coordinate with Dimension 4: Physical Setting to provide spaces for family and residents to interact.
 - **POP2.6 Systems and processes**
 - Identify all systems and processes that will be required for operations.
 - **Deliveries & Procurement**
 - General
 - Clinical/Medical
 - Food Service

- Maintenance
 - Other
 - **Environmental Management Services**
 - Housekeeping
 - Laundry
 - Maintenance
 - Grounds
 - Waste Management
 - Medical & Hazmat
 - Trash
 - Recycling
 - **Food & Dining Services**
 - **Wellness Services**
 - **Administration**
 - **Marketing**
 - **Activities**
 - **Other**
 - Regular Input provided by multi-disciplinary team members
- **POP3 Means for Sustaining Operational Elements**
 - **POP3.1 Staff roles**
 - Develop and use potential of each team member
 - Hire or develop competency required for role
 - Define required tasks for staff roles
 - Provide baseline means & direction for completing tasks
 - Outline process for continual input from team members for improvement
 - **POP3.2 Staff relationships**
 - Organize interdisciplinary teams
 - Define and develop types of teams (i.e. Self-directed work teams)
 - Alignment with Dimension 2: Organization: PO2.1 Values & PO2.2 Vision.
 - Regularly evaluate team(s) performance for improvement
 - **POP3.3 Staff training**
 - Create training modules
 - Update training materials on an established regular schedule.
 - Improve training materials with feedback from team members
 - Continuously evaluate team and individual competencies
 - Strength based approach to training
 - Establish staff orientation process
 - In-service training to be repeated periodically
 - **POP3.4 Activity programming**
 - Develop process for activity implementation.
 - Schedule regular staff in-service on activity program approach.

- Interdisciplinary team meetings to discuss progress and activity programming reflective of residents' desired experience.
 - Develop new activities based upon updates and changes in residents' capability, ability, and/or desire.
 - **POP3.5 Family involvement**
 - Assign staff member as point person for family communication
 - Continuously inform of resident status and opportunities for connection
 - Train all staff responsibility to promote family involvement
 - **POP3.6 Systems and processes**
 - Regularly flow-chart systems and processes for efficiency and effectiveness (Example: Implementation of Lean Process).
 - Continual improvement process for sustaining high level of satisfaction by staff, residents, and families.
 - Implementation of staff, resident, and family surveys.
 - Include input of team members into updates for systems and processes.
- **POP4 Means for Communicating Operational Needs**
 - **POP4.1 Functional Program**
 - Create and maintain the functional program that describes each operational process to achieve desired experience for each activity
 - Identify all users, processes, equipment, furnishings, and supplies required that relate to desired outcomes of specific activity
 - Activities & Experiences as related to the 4 Dimensions: Resident, Organization, Operations and Physical Setting
 - **Dining experience**
 - Dimension 1: Resident
 - Food presentation and quality
 - Ordering or selection of menu items
 - Number of selections offered and menu variation
 - Method of service for individual selections
 - Dining environment ambiance
 - Resident feedback opportunities related to dining
 - Selection of food offered
 - Taste: amount or lack of seasoning
 - Degree of accommodation for special diets
 - Dimension 2: Organization

- Evaluate core values and relate to all dining functions
- Dimension 3: Operations
 - Who is responsible for dining services?
 - Who is responsible for procurement of supplies?
 - Where will food be delivered?
 - How will food be delivered?
 - Will dining be centralized, decentralized, or a combination of both?
 - Who will serve the food?
 - Dining Service delivery requirements: create policies for the following:
 - Re-use of leftover food
 - Maintaining appropriate food temperatures as required by regulations
 - Providing variation in food selections
 - Utilization of organically or locally sourced food
 - Create recycling program in conjunction with EMS: Maintenance, Facilities, and Grounds
 - Develop integrated pest management program with EMS: Maintenance, Facilities, and Grounds
- Dimension 4: Physical Setting
 - Access and accommodation for challenged residents to public or common dining areas
 - Identify storage requirements
 - Evaluate centralized and decentralized options and number of residents to be served for each venue.
 - Mitigate the level of background noise that may impact residents' (hearing aides, etc.)
- **Bathing & Dressing experience**
 - Dimension 1: Resident
 - Appropriate privacy, comfort and dignity

- Appropriate hot water temperature management for bathing
- Personal selection of clothing and accessories
- Dimension 2: Organization
 - Evaluate core values and relate to all bathing and dressing functions
- Dimension 3: Operations
 - What is the bathing process?
 - In resident rooms?
 - In central bathing?
 - Who assists with the bathing process?
 - How is the bathing process scheduled with the resident?
 - Identify types of training required.
 - Decide if salon services will be offered with central bathing or within personal care area
 - Training for staff to assist residents in selecting their own clothing and accessories
- Dimension 4: Physical Setting
 - Ease of access to bathing facilities and bathing fixtures
 - Resident room
 - Central bathing
 - Identify storage requirements.
 - Identify all required equipment
 - Provide area for personal grooming
 - Provide private and accessible closet and/or wardrobe and storage for residents' personal belongings
- **Sleeping & Waking experience**
 - Dimension 1: Resident
 - Flexibility in waking time
 - Flexibility in sleeping time
 - Personal control of lighting levels
 - Dimension 2: Organization
 - Evaluate core values:
 - Supporting resident choice
 - Staff training to promote resident choice
 - Dimension 3: Operations

- Provide training to accommodate resident preparation for going to bed, napping, and waking up
- Flexibility and choice of time selected by resident
- Dimension 4: Physical Setting
 - Evaluate ambient background noise level for interior and exterior²¹
 - Evaluate lighting levels
 - Resident rooms
 - Common areas
 - Provide personal controls for lighting
 - Provide personal controls for daylighting levels (interior).²²
 - Provide private sleeping area for residents
- **Access to Outdoor Areas**
 - Dimension 1: Resident
 - Provide control of daylighting levels (exterior)
 - Safe access to the outside
 - Access to sunshine as appropriate
 - Vitamin D
 - Re-setting circadian rhythms
 - Choice of when to go outside
 - Dimension 2: Organization
 - Evaluate core values in relationship to risk and review policy with family and resident
 - Residents to have free access to the outside
 - Dimension 3: Operations
 - Staff training to understand level of acceptable risk and opportunities for residents to have safe access to the outside
 - What types of exterior spaces are appropriate?

²¹ 2010 *Guidelines for Design and Construction of Health Care Facilities*: Available at www.fgiguideelines.org. Additional information: *Sound & Vibration: Design Guidelines for Health Care Facilities*: Available at www.fgiguideelines.org

²² IESNA RP-28-07 *Lighting and the Visual Environment for Senior Living*: Available at <http://www.iesna.org>

- Who will maintain the exterior spaces?
- How will activities be integrated with the exterior spaces?
- How shall security be provided?
- Dimension 4: Physical Setting
 - Based upon the operational program, what types of outside areas shall be included?
 - How many people shall be accommodated?
 - What storage is required?
 - What types of activity spaces will use the outside space(s)?
 - Will you need accessible, raised beds?
 - What type(s) of security and IT needs for outside spaces are required?
- **Exercise and Related Activities**
 - Dimension 1: Resident
 - Provide choice of activities
 - Provide multiple activity options simultaneously
 - Dimension 2: Organization
 - Evaluate core values in relationship to providing resident choice and access to exercise venues.
 - Dimension 3: Operations
 - What is your wellness program and approach?
 - Evaluate types of exercise being offered as related to other wellness services and exercise.
 - What services or classes will be provided on-site?
 - What services and/or classes will NOT be provided on-site?
 - Address community at-large potential partnerships to expand activity offerings.
 - What staff will be utilized for exercise and related activities?
 - Based upon resident population being served, what are the ranges of exercise and related activities that will be provided?

- Appropriate to resident physical ability
 - Appropriate to resident cognitive ability
- Dimension 4: Physical Setting
 - Provide appropriate space for operational program
 - Provide appropriately sized storage
 - Identify what will be stored.
- **Entertainment Opportunities**
 - Dimension 1: Resident
 - Entertainment choices to relate to resident's individual preferences
 - Resident participation is voluntary
 - Dimension 2: Organization
 - Core values to be reviewed and identified that are relevant to entertainment activities as they relate to residents and staff
 - Dimension 3: Operations
 - What staff will be responsible for coordinating entertainment opportunities?
 - What is the role of family in entertainment opportunities?
 - How are entertainment selections made; based upon current resident population and their respective life plans?
 - Dimension 4: Physical Setting
 - Identify types of spaces required for entertainment activities to take place.
 - Identify number of venues (including scale) that is appropriate.
 - Identify number of people to be accommodated in each space.
 - Identify all storage needs and appropriate size.
- **Transportation experience**
 - Dimension 1: Resident
 - Access to scheduled transportation
 - Choice of times to go to different community venues
 - Dimension 2: Organization

- Based upon core values, determine fulfillment of transportation needs and amount of choices.
- Dimension 3: Operations
 - What staff is responsible for coordinating transportation?
 - What staff is responsible for dispatch of transportation?
 - What staff is responsible for confirming all scheduled pick-ups and drop-offs with residents?
 - Will you have an in-house transportation system or contracted vendor?
 - Drivers, regardless of being direct staff or contracted staff shall complete training in how to serve, lift, and transport elders.
 - Identify needs for maintenance building/space and/or garage; including services to be provided. Coordinate with grounds and other related service sectors.
- Dimension 4: Physical Setting
 - Determine if resident transportation vehicles will be located on-site.
 - Determine types of vehicles and required parking. Evaluate parking needs based upon function versus simply complying with code, zoning, & regulations.
 - Evaluate all pick-up and drop-off areas for appropriate heights and covering from inclement weather.
 - Determine need for maintenance building/space and/or garage for project.
- **Medication Delivery & Administration**
 - Dimension 1: Resident
 - Based upon resident population being served determine if medication distribution is decentralized or centralized.
 - Based upon resident population determine level of staff involvement required for

medication delivery and administration.

- Dimension 2: Organization
 - Evaluate core values in conjunction with current research on how to reduce medication errors.²³
- Dimension 3: Operations
 - Determine type of delivery and functional process
 - Who is responsible for signing off on medication deliveries?
 - Where will medication deliveries be made?
 - Centralized
 - Medication room
 - Secured medication cart
 - Decentralized
 - Resident rooms
 - Identify specific locations within resident rooms: entry, bathroom, etc.
 - Hybrid of Centralized and Decentralized.
 - Central dispensary or pharmacy.
 - Decentralized medication delivery and administration of medication.
 - Determine staff access to medications and related security.
- Dimension 4: Physical Setting
 - Where will medications be stored and secured?
 - Provide appropriate space to accommodate medications in multiple locations as required.
 - If providing medications in resident room, design within storage unit to include supplies, writing/charting surface,

²³ Research available at <http://www.healthdesign.org/research/reports>

- glove storage, etc. that is securable.
 - What kind of locking system should be used?
 - Where are refrigerators dedicated for medications to be located?
 - Where should narcotics (double/triple locked) be located?
- **Nursing Care Delivery**
 - Dimension 1: Resident
 - Personal as well as clinical information to be available to nursing care staff and included in the Life Plan that is established upon the entry to a community.
 - Dimension 2: Organization
 - Establish the baseline means for delivering Nursing Care that allows for feedback and improvement through integrated team management.
 - Establish culture of the care model and expectations; including evaluation of resident-centered care.
 - Dimension 3: Operations
 - Interdisciplinary team training to be provided to create respectful/appropriate observance of individual resident spaces.
 - Cross training and integrative training approach to nursing care that includes understanding the tasks of other service and care team members
 - Evaluated and document each nursing process.
 - Evaluate the usage of lift systems²⁴
 - Dimension 4: Physical Setting
 - Utilize the functional program to establish the physical space needs for nursing care delivery including but not limited to the following:

²⁴ *Patient Handling and Movement Assessment (PHAMA)* is available as a white paper on the Facility Guidelines Website: <http://www.fgiguilines.org>. The PHAMA is reference in the 2010 *Guidelines for Design and Construction of Health Care Facilities*

- Centralized versus decentralized services
 - Work spaces required
 - Lighting
 - Acoustical privacy
 - Storage spaces required
- Provide in-service to discuss design
 - Utilize mock-ups
- Provide lifts and related storage based upon completion of assessment (PHAMA).
- **Environmental Services: Housekeeping Process**
 - Dimension 1: Resident
 - Determine how frequently resident room housekeeping shall occur.
 - Provide information to residents regarding cleaning processes and chemical utilization as identified in Waste Management Guidelines.
 - Dimension 2: Organization
 - Establish the culture for the organization and identify the impact to services provided.
 - Establish the baseline means for completing housekeeping and environmental services that allows for feedback and improvement through integrated team management.
 - Dimension 3: Operations
 - Identify the frequency and methodology of cleaning individual resident spaces.
 - Identify the frequency and methodology of cleaning community/public spaces.
 - Determine process for an emergency or an unexpected accident.
 - Identify and evaluate environmentally preferable cleaning products, equipment, and procedures with infection control, nursing, quality assurance, etc.

- Evaluate premeasured system
- Evaluate types of housekeeping carts
 - Assist with indoor air quality
 - Assist with staff injuries
- Outline specific tasks to be completed with other interdisciplinary team members
 - Cleaning scheduling
 - Coordination with linen and laundry
 - Coordination with nursing care
 - Coordination with regularly scheduled maintenance
- Waste management assessment:
 - Establish recycling process
 - Provide easy access to recycling for residents and staff
- Establish waste management guidelines.
- Establish policy for construction and demolition waste.
- Establish medical waste management guidelines.
 - Evaluate utilization of reusable sharps containers
- Dimension 4: Physical Setting
 - Determine number of residents per housekeeping closet
 - Determine products and equipment that will be stored in each housekeeping closet.
 - Determine need for centralized housekeeping storage in addition to decentralized housekeeping closets.
 - Determine size of each housekeeping storage and closet areas.
 - Provide areas for recycling and waste container storage.
- **Environmental Services: Laundry Process**

- Dimension 1: Resident
 - Identify how a resident would like to have their clothes prepared on a daily basis within their Life Plan.
 - Identify if resident and/or family would like to be involved in the laundry process within their Life Plan.
- Dimension 2: Organization
 - Establish the culture for the organization and identify the impact to services provided.
 - Establish the baseline means for completing laundry services that allows for feedback and improvement through integrated team management.
- Dimension 3: Operations
 - Determine if laundry services will be completed in-house or contracted for bed and bathroom linens.
 - Determine if laundry services will be completed in-house or contracted for table and dining linens.
 - Identify procurement and delivery process for laundry services.
 - Identify all other areas utilizing linen.
 - Example: catering services
 - Identify what staff is responsible for laundry services:
 - Environmental Services
 - Maintenance
 - Facilities
 - Identify frequency and methodology for laundering resident personal items.
 - Evaluation of environmentally preferable cleaning products; equipment, and procedures.
- Dimension 4: Physical Setting
 - Identify commercial laundry equipment and storage needs.
 - Identify personal laundry equipment and storage needs.
 - Identify how many personal laundries will be

located within the project
based upon care model.

- **Environmental Services: Maintenance, Facilities, and Grounds Process**
 - Dimension 1: Resident
 - Resident to have access to maintenance staff.
 - Resident to have access to gardening activities and outside including access to grounds staff
 - Dimension 2: Organization
 - Establish the culture for the organization and identify the impact to services provided.
 - Establish the baseline means for completing maintenance, facilities and grounds that allows for feedback and improvement through integrated team management.
 - Dimension 3: Operations
 - Establish preventative maintenance program that includes work order system process, establish targets, and determine response efficiency rate.
 - Filter changes
 - Lighting: Relamping scheduling
 - Lawn & garden care
 - Evaluation of environmentally preferable equipment, building supplies, and maintenance procedures:
 - Establish policy to use low VOC finishes/materials in new construction and particularly in renovations/remodeling
 - Establish appropriate indoor air quality management practices
 - Establish filter changing schedule
 - Establish Minimum Efficiency Reporting Value (MERV):

- Commitment to sustainable practices throughout the community.
- Dimension 3: Operations
 - Establish Energy Manager or equivalent position.
 - Evaluate continual commissioning of facilities
 - Provide staff, resident and family training and education on sustainable initiatives.
 - Apply appropriate energy conservation practices commensurate with resident environmental comfort.
 - Establish water management process:
 - Appropriate hot water temperature management in compliance with regulations.
 - Establish Environmental Management System (EMS) Manager or equivalent position:
 - Evaluate waste management and recycling programs; including training and education
 - Establish regular utility management and review
 - Water
 - Electricity
 - Gas
 - Other
- Dimension 4: Physical Setting
 - Establish storage requirements that support sustainable initiatives identified by operations.
 - Establish equipment requirements that support sustainable initiatives identified by operations.
 - Establish office space requirements
- **Environmental Services: Procurement Process**
 - Dimension 1: Resident

- Provide education for residents on purchase of environmentally preferable cleaning products
 - Dimension 2: Organization
 - Establish the culture for the organization and identify the impact to services provided
 - Establish the baseline means for completing procurement and environmental services that allows for feedback and improvement through integrated team management
 - Dimension 3: Operations
 - Establish environmental purchasing program
 - Establish purchasing process that includes responsibilities and sign off process
 - Evaluation with nursing, infection control, quality control, dining services, and other disciplines within Environmental Services regarding purchasing of the following:
 - Environmentally preferable cleaning products;
 - Energy efficient equipment and appliances
 - Water saver equipment and appliances
 - Locally sourced products
 - Locally source food
 - Organic
 - Dimension 4: Physical Setting
 - Evaluate office space requirements
 - Evaluate storage space requirements
 - Evaluate loading dock delivery process
 - Evaluate technology to assist with deliveries and responses to deliveries
- **Team Meeting Process**
 - Dimension 1: Resident
 - Provision for resident council
 - Resident and family involvement of care plan
 - Dimension 2: Organization

- Provision for organizational meetings, board meetings, etc.
 - Dimension 3: Operations
 - Provision for differently scaled team meetings.
 - Identify processes and types of meetings required for all disciplines
 - Staff training policies and procedures
 - Nursing & Care
 - Team Leadership
 - EMS
 - Dimension 4: Physical Setting
 - Private area to create and discuss care plan
 - Establish types and locations of meeting spaces
 - Identify resources needed in team meeting space (Equipment)
 - **Identify any other ADL/IADL, resident and/or staff activity related experiences that require operational evaluation for specific project and how they impact the following:**
 - Dimension 1: Resident
 - Dimension 2: Organization
 - Dimension 3: Operations
 - Dimension 4: Physical Setting
- **Process for Communication**
 - Establish means for communicating environmental requirements to integrated design team as outlined under Dimension 4: Physical Setting
- **Outcomes & Commissioning**
 - Establish drivers for on-going function and operational process improvement
 - Continually evaluate changes in technology that improves outcomes
 - Complete benchmarks for on-site on-going research
 - Establish a research agenda
 - Regularly evaluate staff capabilities
 - Create a strengths approach to staff training program
 - Systematically evaluate the desired experiences of residents
 - Regularly evaluate resident population being served.
- **POP5: Documentation & Indicators for Sustainable Operations**
 - **POP5.1 Documentation**
 - Functional Program including continual improvement process for maintaining updates

- Resident Personal Assessment Tool: Form & Process
 - Utilize to create resident Life Plan
- Environmental Management System (EMS) including environmental programs and procedures
 - Meeting Minutes
 - Recycling diversion rate (%) documentation: waste minimization report or similar
 - Resident reporting of utility/water usage
 - % reduction
 - % increase
 - Resident input/reporting on Grounds care/improvement and demonstration of response/implementation
- Resident participation in periodic building condition inspections as noted in meeting minutes and scheduled action items
 - Functional areas of improvement
 - Aesthetic areas of improvement
- Satisfaction survey results
 - Resident participation (%)
 - Staff participation (%)
 - Family participation (%)
- Creating a process that evaluates all aspects of resident experience, organization, operations, and the physical setting; identifying outcomes connected to each dimension.
 - See Exhibit A: POE Process Outline
- **POP5.2 Indicators**
 - Wellness Programming
 - Physical Setting Indicators
 - Wellness Center
 - Aquatics Center
 - Additional recreational opportunities
 - Operational Indicators
 - Resident Driven
 - Exercise Programs
 - Dietary Programs
 - Access to “green” spaces (indoor & outdoor) including plantings, seating areas, etc.
 - Gardening Access & Programs
 - Resident committee structure to accommodate various and sundry areas of resident interest
 - Resident committees’ advisory function to management
 - Resident building representatives as part of council and/or management team

- Resident energy usage monitoring committee
- Resident implementation of one on one interaction with all residents (grass roots level) emphasizing seasonal energy savings potential based upon resident behavior and usage patterns.
- Environmental and operational policies and procedures
 - Physical examples of implementation: photos of recycling containers, etc
 - Resident and staff participation in recycling
 - Policy and procedure manuals

D4 Physical Setting

D4.1 Process for developing sustainable Physical Setting

The physical space program is developed utilizing the values & vision established for the organization and the functional program based upon desired operational outcomes that reflect desired resident outcomes. The Physical Setting facilitates programming for relationships and involvements, resident mobility and function, indoor environmental quality and staff efficiency. Operational impacts to the Physical Setting are outlined above; under Dimension 3 Operations.

- **PS1: Establish Integrated Design Team (Prerequisite)**

Create high performance physical setting for senior living by starting with an integrated design team that includes, but is not limited to all design disciplines from the beginning to the end of the pre-design, programming and design process. Depending upon the outcome of the Pre-development Analysis Process, consultants from that process may be applicable to the physical setting dimension design process.

- Organization/Client
- Users
 - Resident
 - Staff
 - Family
- Design Disciplines
 - Civil Engineering
 - Architectural
 - Engineering
 - Interior Design
 - Landscape Architectural
 - Specification Writer
 - Acoustics
 - Lighting
 - Wayfinding
 - Specialty consultants
- Construction/Cost Estimating
 - General Contractor
 - Cost Estimator
 - Subcontractors
- Manufacturers
 - Product
 - Systems
- Regulators
 - Authorities Having Jurisdiction (AHJ)
 - Zoning and Planning
 - Plans Review
 - Health Department
- Operations
 - Staff
 - Consultants

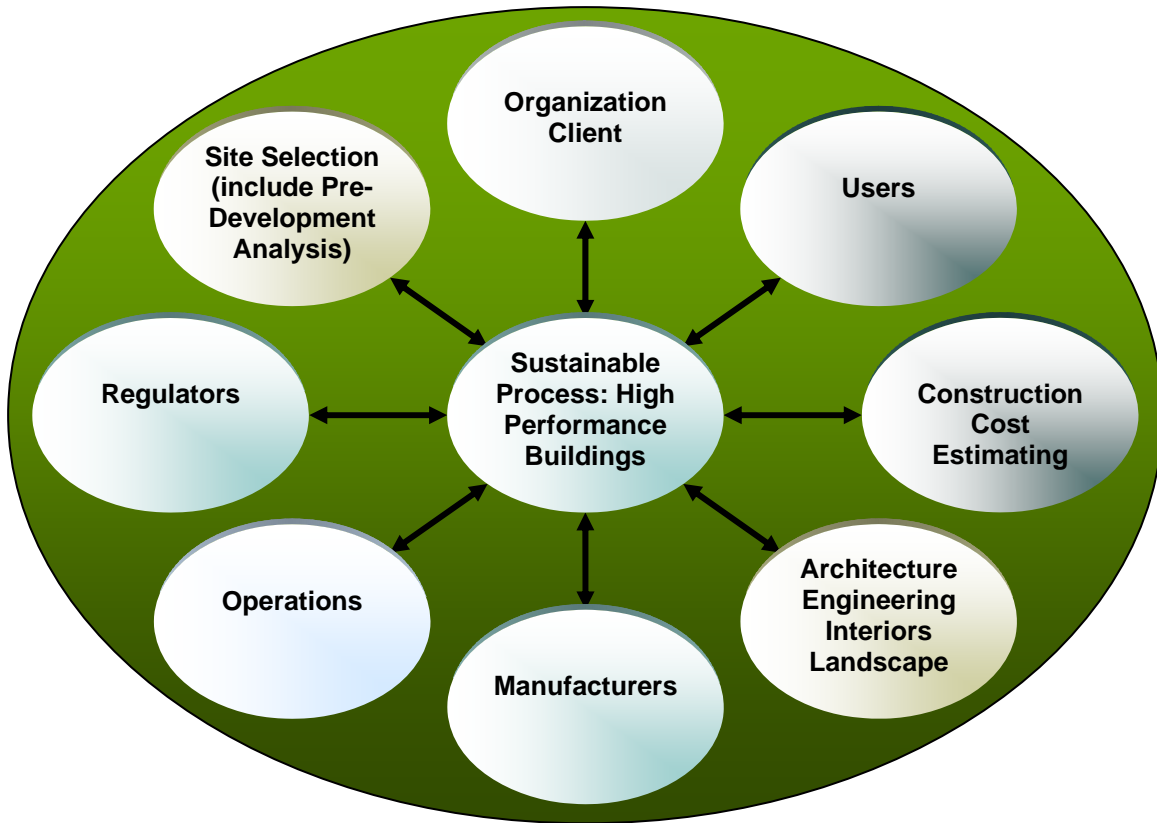


Diagram 2: Integrated Team²⁵

- **PS2: Elements of the Physical Setting**
 - Utilize the Functional Program to develop the Physical Space/Building Program
 - Reference desired outcomes for operational systems & process
 - Incorporate adjacencies
 - Incorporation of Universal Design Principles
 - Accessibility without stigma
 - Lighting
 - Acoustics
 - Detailing
 - Identify and outline areas that require potential flexibility and may change in the future
 - Requires evaluation of current needs
 - Requires evaluation of future needs: 5 year intervals

- **PS3: Means for Sustaining Elements of the Physical Setting**
 - **PS3.1 Integrated Design Process**
 - Direct involvement of integrated team throughout the design process
 - Charrettes
 - Workshops

²⁵ Diagram 2: © With Seniors in Mind

- Focus groups
- Regularly scheduled electronic progress meetings
- Utilize a checklist to outline sustainability goals for the Physical Setting
 - Periodically update the checklist throughout the design process
 - Programming
 - Schematic Design
 - Design Development
 - Construction Documents
 - Bid Negotiation
 - Contract Administration
 - Commissioning
- **PS3.2 Functional Program coordination**
 - Scheduled review of Functional Program during all phases of design to evaluate potential compromises or change in operational thinking during the process
 - Schematic Design
 - Design Development
 - Construction Documents
 - Update the Operational Functional Program as a record to the project
 - Utilize as required for submission to the AHJ based upon the codification of the *Guidelines for Design and Construction of Health Care Facilities*²⁶
 - Evaluate resident and staff experiences on a regular basis and apply results to the physical setting as appropriate to improve resident and staff experiences and outcomes for the community.
 - Scheduled reviews of Physical Setting checklist during all design phases to evaluate potential compromises or changes that occur during the design process:
 - Checklist to include:
 - Why are we doing this and for what reason?
 - Are the organization's values & vision supporting the user experience?
- **PS3.3 Regulation application**

Integration of the regulator/AHJ into the design process provides opportunities to explain the culture change and sustainable characteristics of a project. Utilize the Functional Program as a tool and guide for the AHJ to better understand the intent of the project; including the care model, operational impacts, and the physical environment.

²⁶ *Guidelines for Design and Construction of Health Care Facilities* available at www.fgiguide.org

The goal is to establish the intent of the project and then review with regulations to not limit the project outcomes that impact residents, staff, and family. Evaluate and identify the need for waiver/variance process.

- Evaluate applicable codes, guidelines, regulations, and requirements:
 - *Guidelines for Design & Construction for Health Care Facilities*²⁷
 - *Sustainability Codes (IGCC)*²⁸
 - *ASHRAE/USGBC/IESNA 189.1 Standard for the Design of High-Performance, Green Buildings (Except Low-Rise Residential Buildings)*²⁹
 - *ASHRAE/ASHE 189.2P Design, Construction and Operation of Sustainable High Performance Health Care Facilities*³⁰
 - *Building Codes*³¹
 - *NFPA & Life Safety*³²
 - *Health Departments*
 - *Departments of Aging*
 - *Commissions on Aging*
 - *CMS*³³
 - *Joint Commission*³⁴
 - *ADA*³⁵
 - *Local Jurisdiction*
 - *Others*
- Identify and evaluate applicable requirements of Client funding type being utilized
 - *HUD 202*³⁶
 - *Tax Credit (by State)*
 - *Grant requirements*
 - *Other government funding requirements*
 - *Private Investors*
 - *Others*

²⁷ Available at <http://www.fgiguilines.org>

²⁸ International Green Construction Code (IGCC) available at <http://www.iccsafe.org/cs/IGCC/Pages/default.aspx>

²⁹ Available at <http://www.ashrae.org/publications/page/927>

³⁰ ASHRAE/ASHE 189.2P completed first comment period on May 2, 2011. Additional information available at <http://spc1892.ashraeecs.org/>

³¹ International Code Council (ICC): Codes available at <http://www.iccsafe.org/Pages/default.aspx>

³² National Fire Protection Agency (NFPA): Codes available at <http://www.nfpa.org>

³³ Centers for Medicare & Medicaid Services: Information available at <http://www.cms.gov/Manuals/>

³⁴ Joint Commission Standards: Available at: http://www.jointcommission.org/standards_information/standards.aspx

³⁵ ADA Standards: DOJ 2010 ADA Standards (effective March 15, 2012, but can be used now instead of the 1991 ADA Standards): Available at: <http://www.access-board.gov/ada/index.htm>

³⁶ Information available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/progdesc/eld202

- **PS3.4 Site enhancement (preserve, establish and/or enhance):**
 - Use of indigenous species
 - Evaluate types of planting to be used that are safe for population being served
 - Providing accessible garden(s), outdoor areas, and places of respite for residents, family, and staff.
 - Outdoor spaces to be able to be supervised by staff from within the building depending upon the population being served
- **PS3.5 Incorporate flexibility in environmental systems design that can adapt to changing needs**
 - Based upon the functional program, identify the immediate needs, as well as anticipated needs within 5 year increments.
 - Example: building to allow for different types of licensure as reimbursement streams change
 - Example: building to allow for different types of licensure as care model changes to meet resident population needs
- **PS3.6 Provide design solutions that create opportunities for 'socializing spaces' both indoor and outdoor areas**
 - Access to outdoor areas (visually & physically)
 - Varying types of spaces for different activities that are identified in the functional program
 - Allow for more than one activity space to support multiple types of activities to occur at one time based upon residents' Life Plan desires. (Note: this will change over time, so flexibility is important.)
 - Provide places of respite both indoor and outdoor areas for both staff and residents.
 - Example: meditation garden
 - Example: den or other smaller intimate area for resident use
 - Provide staff break areas that include access to daylighting and outdoors; as well as amenities such as resident kitchen and personal secured storage for belongings.
- **PS3.7 Provide daylighting without glare and shadows**
 - **PS3.7a Common dining and living room areas**
 - Windows and skylight equal to 12% of the floor area.
 - Skylights should be diffused to prevent glare and shadows caused by direct beams of sunlight.
 - Daylight harvesting should not be implemented before light levels exceed 100 footcandles³⁷

³⁷ JAMA 2008; 299(22) pp 2642-2655

- Light shelves are recommended to shade the view area of the window, while allowing daylight to penetrate deeper into the room
- **PS3.7b Direct resident access and control of daylighting**
 - Resident Rooms
 - For example: Automated shade control
 - Photocell (light sensor) to control window shades to filter daylight and reduce glare
- **PS3.7c Access to daylighting**
 - Staff break areas
 - Corridors
 - Community space
 - Work areas
- **PS3.8 Energy Efficiency**
 - **PS3.8a.1 For new buildings**, utilize energy modeling to demonstrate a 10% improvement over requirements in ANSI/ASHRAE/IESNA Standard 90.1-2007 or
 - **PS3.8a.2 For new buildings**, utilize energy performance rating for estimated energy use of both the baseline and proposed design from EPA's Energy Star Target Finder design tool available at http://www.energystar.gov/index.cfm?c=new_bldg_design.bus_target_finder. Goal is to meet a score of 75 or above utilizing target finder.
 - Registration on the site is required.
 - Information and data is saved electronically to be accessed as required as data is developed for comparison.
 - Projects that earn a score of 75 or higher are also eligible to submit for Energy Star certification.
 - **PS3.8b For existing buildings**, utilize ENERGY STAR Portfolio Manager available through the EPA for evaluation of energy consumption. Information is available at <https://www.energystar.gov/istar/pmpam/index.cfm?function=pmpam.homepage>
 - Registration on the site is required.
 - Information and data is saved electronically to be accessed as required as data becomes available.
 - Requires a minimum of 12 months of data.
 - Allows for multiple buildings to be benchmarked for comparison to one another.
 - Projects that earn a score of 75 or higher are also eligible to submit for Energy Star certification.

- **PS3.8c Energy Saving Features**
 - Note that all recommendations are to be reviewed in context of the resident populations being served; and function supersedes energy efficiency and/or saving features.
 - Utilization of indirect lighting with T8 or T5 lamps
 - Utilization of compact fluorescent fixtures
 - Utilization of LED exit signs
 - Utilization of ENERGY STAR appliances for resident units.
 - Utilization of ENERGY STAR and/or energy saving commercial equipment.
 - Boilers
 - Hot water heating equipment
 - Variable speed drives
 - Utilization of sensors for lighting controls
 - Evaluate level of automation based upon resident populations being served.
 - Implementation of a building automated system for controlling HVAC equipment.
 - Energy efficient design of building envelope.
 - Windows
 - Skin of building
 - Roofing
 - Insulation
- **PS3.8d Alternative Energy Sources**
 - Evaluate renewable energy sources that are regionally appropriate:
 - Geothermal
 - Solar
 - Wind
 - Co-generation opportunities
 - Bio-mass
- **PS3.9 Water Efficiency**
 - **PS3.9a Water Consumption**
 - Utilization of a per gal/bed/year calculation comparison method for evaluating water consumption.
 - Design to include a minimum of 216 gallons per bed per year (gal/bed/year) or less.
 - Based upon research, this metric will yield an approximate 10% improvement over standard healthcare baselines.³⁸

³⁸ Metric is provided from a baseline utilized by Green Globes® – CIEB – Healthcare implemented by The Green Building Initiative™ (GBI). Green Globes® is an electronic interactive

- **PS3.9b Water Saving Features**
 - Utilization of 1.28 GPF or less for toilets.
 - Utilization of .5 GPF or less for urinals
 - Utilization of proximity detectors for fixtures & fittings
 - Note: for memory care residents, discuss the appropriate level of automation based upon population being served.
 - Utilization of 2.2 GPM faucets for public restrooms.
 - Utilization of 1.5 GPM faucets for resident room bathrooms.
 - Utilization of low flow shower heads.
 - Utilization of microfiber cleaning systems.
 - Coordinate with Dimension 3: Operations
 - This is not only an effective way to reduce water use, but also the reduction of chemical use and infections rates.
 - Utilization of water saving commercial kitchen dishwashing equipment.
 - Utilization of water saving residential appliances within resident units.
 - Utilization of landscaping that minimizes the use of irrigation.
- **PS3.10: Indoor Environmental Quality**
 - **PS3.10a Evaluate security & safety measures**
 - Identify location of project in conjunction with level of security & safety required
 - Urban
 - Suburban
 - Rural
 - Architectural Details, Surfaces & Finishes
 - Eased corners & edges
 - Flooring
 - Pattern
 - Texture
 - Ease of ambulation
 - Slip resistance
 - Smooth surface transition
 - No step entry
 - Wall surfaces
 - Pattern
 - Texture
 - Residential aesthetic
 - Handrails & lean rails

survey based building rating system. GBI also provides third party assessment and certification for Green Globes®

- Grab bars
 - Alternative configurations designed based upon resident population being served.
- Roll-in accessible showers
 - Evaluate different types
 - Prefabricated
 - European sloped to drain
- Furnishings
 - Accessibility and ease of use that allows a resident to enter and exit furnishings independently, whenever possible
 - Appropriate seat heights (18”-19”)
 - Appropriate arm heights (24” – 26”) depending upon use and location
 - Appropriate seat depths (20” – 21”) depending upon population being served
- **PS3.10b Universal Design: Accessibility**
 - Provide access for residents & staff without stigma
 - Door widths to accommodate equipment and population being served to be utilized
 - Tied to the functional program
 - Tied to the flexibility for future changes
 - Corridor widths
 - Grab bars
 - Alternative configurations based upon the functional program
 - Accessible/adaptable bathroom fixtures
 - Lighting
 - Task lighting
 - Night lighting
 - Acoustics
 - Emergency call
 - HVAC controls
 - Accessible cabinetry
 - Accessible appliances
- **PS3.10c Include low/no VOCs in product specifications**
- **PS3.10d Complete technology systems evaluation**
 - Identify all systems required and desired for the project including desired outcomes
 - Discuss interface of all systems

- Coordinate all technology systems with staff education and training identified in Dimension 3: Operations
- Discuss staff control of systems
- Discuss resident control of systems
- **PS3.10e Filters to be Minimum Efficiency Reporting Value (MERV)**
 - During construction: MERV 13 (70 – 75% dust spot)
 - Prefilter before coil for non-aseptic & aseptic areas: MERV 8 (35 - 40% dust spot)
 - Pre/final filter before coil for nonaseptic and aseptic areas: MERV 14 (80 – 85% dust spot)
 - Final filter after blower-terminal filter for non-aseptic areas: MERV 16 (95% DOP – 99% dust spot)
 - Final filter after blower-terminal filter for aseptic areas: MERV 17 (≥99.97% DOP)
- **PS3.10f Evaluate percentage of outside air for ventilation appropriate for elders**
- **PS3.10g Evaluate levels of humidity appropriate for elders³⁹**
- **PS3.10h Lighting for the aging eye**
 - Evaluation of light levels required for the population being served in conjunction with efficient, energy saving lighting solutions.
 - ASHRAE/IES 90.1 2011 amendment will provide an appropriate LPD⁴⁰ to meet the light levels recommended in RP-28-07, so there should be no conflict between efficiency & residents' needs, assuming that energy efficient light sources are used. If conflict arises between efficiency and resident quality of life; resident needs shall prevail.
 - Avoid glare
 - Indirect lighting solutions
 - Utilize Illuminating Engineering Society of North America (IESNA) ANSI/IESNA RP-28-07, *Lighting and the Visual Environment for*

³⁹ Often HVAC systems for senior living settings do not include an evaluation of humidity, particularly when it is related to air dryness and the condition of elders' skin, respiratory needs, and other health concerns. Recommend discussions with mechanical consultants and subcontractors in relationship to humidity and care of elders based upon the region and geography of a proposed project site.

⁴⁰ LPD is Lighting Power Density, a measure of electrical power used to light a given space. Units are watts per square foot, so a high LPD means more watts per square foot. Energy Codes use the LPD to determine the lighting system energy efficiency. Definition of lighting terms available at http://www.foodtechinfo.com/FoodPro/Efficiency/lighting_basics.htm.

*Senior Living*⁴¹ (Table with recommended minimum light levels to be included based upon permission: Eunice to verify for republishing approval.)

- **PS3.10i Acoustics**
 - Utilize *Sound & Vibration: Design Guidelines for Health Care Facilities* referenced by the *2010 Guidelines for Design and Construction of Health Care Facilities*.⁴²
- **PS3.10g Thermal Comfort**
 - Utilize ASHRAE 55 2004 for design for thermal comfort.
 - Provide a range for residents to control thermal comfort within resident rooms.
 - Provide a range for staff to control thermal comfort within offices and related staff areas.
- **PS3.11: Materials & Resources**
 - **PS3.11a Utilize regional construction methods and materials**
 - Identify local manufacturers
 - Identify regional information that impacts building construction in a specific area (for example: soils)
 - **PS3.11b Utilize environmentally preferable products based upon appropriate applications for senior living and life cycle analysis/multiple attribute certification versus single attribute evaluation**
 - Reference NSF® Standards and other certifications that utilize multiple attributes approach
 - NSF/ANSI Standard 140-2007 Sustainable Carpet
 - NSF/ANSI Standard 332 Sustainable Resilient Flooring
 - NSF/ANSI Standard 342 Sustainable Wallcovering Products
 - ANSI/BIFMA e3-2010 Furniture Sustainability Standard
 - Draft NSF 347 Sustainability Assessment for Single Ply Roofing
 - Draft NSF 336 Sustainable Assessment of Commercial Furnishing Fabrics
 - Draft NSF/GCI 355 Green Chemicals and Processes Information
 - Draft NSC 373 Sustainability Assessment for Dimensional Stone

⁴¹ Available at <http://www.iesna.org>.

⁴² Available at <http://www.fgiguilines.org>

- **PS3.11c Recycling**
 - Refer to Dimension 3: Operations to determine types of recycling provided within proposed project.
 - Provide space for recycling containers within public spaces.
 - Provide space for recycling containers within resident rooms
 - Provide space for handling, separating, and pick-up of recycled materials
 - Provide space for furniture storage that is utilized for “re-use” and/or “replacement” parts for furniture related items and equipment.
 - Provide space for attic storage of finish materials.
- **PS3.12: Emissions, Effluents, & Pollution Controls**
 - **PS3.12a HVAC systems**
 - Include air intakes located away from source of pollutants.
 - Such as entries & drop off points and loading dock areas.
 - Include boilers with low NOx emissions.
 - No chlorofluorocarbon (CFC) based refrigerants are utilized.
 - **PS3.12b Entry systems**
 - Provide walk-off mats at entries that are flush to the surrounding flooring materials.
 - Walk-off mats placed on top of surfaces are not recommended as they create tripping hazards.
 - All thresholds and change in flooring materials to be flush for ease of ambulation.
 - **PS3.12c Fire Protection systems**
 - No halon fire protection systems to be utilized within the project.
 - **PS3.12d Waste Water**
 - Consider providing collection of rain water for irrigation and outdoor planting activities.
 - Consider alternative paving materials that reduce water run off; however surfaces and products utilized require ease of ambulation by staff and residents.
 - **PS3.12e Asbestos**
 - For existing projects dating prior to 1975, request documentation that asbestos has been identified and remediated from buildings and/or an asbestos management plan is in place.

- Identify if project includes need for asbestos remediation.
- **PS3.12f Lead**
 - For existing projects request documentation that lead has been identified and remediated from buildings and/or a lead management plan is in place.
 - Identify if project includes need for lead remediation.
- **PS3.12g Radon**
 - For existing projects request documentation confirming radon levels are below 4 pCi/L.⁴³
- **PS3.12h PCBs**
 - For existing projects request documentation that there are no PCBs in the existing building(s) and/or there is a PCB management plan in place.
- **PS3.12i Integrated Pest Management Program**
 - Refer to Dimension 3: Operations for the establishment of the integrated pest management program.
 - Provide the physical space required for administering the program; including safe storage of equipment and chemicals.
- **PS4 Documentation & Indicators for Sustainable Physical Setting**
 - **PS4.1 Documentation**
 - Documented Building Program based upon the Functional Program
 - Building Documents that demonstrate how Functional Program is supported by the design
 - Building Documents that show energy and water savings features
 - Specification information that demonstrate utilization of multi-attribute criteria for product selection
 - Building Information Modeling (BIM)
 - Including energy modeling
 - Physical Setting checklist
 - **PS4.2 Indicators**
 - Specifications utilizing *GreenFormat™*
 - Utilization of life cycle assessment tools and approaches
 - Utilization of BEES 4.0⁴⁴
 - Utilization of ATHENA® EcoCalculator for Assemblies⁴⁵

⁴³ For Radon maps and information go to <http://www.epa.gov/radon/zonemap.html#mapcolors>

⁴⁴ Available at http://www.sustainablebuildingcentre.com/forum-topic/bees_4_0_free_software_tool_for_selecting_environmentally_preferred_cost_effective_building_products

⁴⁵ Available at <http://www.athenasmi.org/tools/ecoCalculator/>

O1 OUTCOMES

A sustainable process requires continuous improvement feedback that revisits each dimension over time as related in the *Natural Step Process*. Positive resident outcomes determine the success of the environment.

- **O1.1 Elemental measures of success**
 - **O1.1.1 Developing and utilizing resident potential**
 - **O1.1.2 Resident involvement in meaningful relationships**
 - **O1.1.3 Resident participation in meaningful activities**
 - **O1.1.4 Functioning at residents' maximum capability**
 - Enjoying their life
 - **O1.1.5 Maximizing residents' self-mobilization ability**
 - Including system of wayfinding
 - **O1.1.6 Resident sense of purpose and value**
 - Purposeful living
 - **O1.1.7 Resident sense of feeling safe and secure**
 - **O1.1.8 Resident privacy, confidentiality and dignity**
 - **O1.1.9 Resident choice, autonomy, and individuality**
 - **O1.1.10 Resident physical comfort**
 - **O1.1.11 Resident spiritual wellbeing**
 - **O1.1.12 Addressing cultural responsiveness as related to residents**

- **O1.2 Means for Sustaining Outcomes for Residents**
 - **O1.2.1: Continuous evaluation process**

Continuous quality improvement (CQI) requires continuous outcome measurement and regularly shared trend information with governing body, all staff, residents and families. The governance body uses outcome information to update operational processes and staff outcomes for strategic planning to achieve desired experiences. Overall, CQI is the means for transparent accountability to residents and families.

 - **O1.2.1.1 Resident**
 - Verify resident information regarding activities and desired experiences
 - Establish Resident Council
 - Establish resident-driven committees
 - For example: Residents engaged in a Green Committee
 - Environmental purchasing
 - Community initiatives
 - Recycling programs
 - Organic food selections
 - **O1.2.1.2 Organization**
 - Establish Quality Assurance Committee
 - Identify the effectiveness of organization structure and management philosophy
 - Determine status of organization culture
 - **O1.2.1.3 Operations**

- Revise staff roles, relationships, and training based upon the outcomes
- Improve activity programming
- Increase family involvement
- Improve operating systems and processes
- Update Function Program
 - Intended to be a dynamic record
 - Utilize best practices discovered through operations to inform the updates
- Provide means to discuss residents' complaints/concerns and process for resolution with management or other respective parties
 - For example: Town Meeting
- Process/procedure established for commissioning Resident Quality of Life that includes:
 - Actual resident input
 - Response to input
 - Reasonable timeframe for response/action
 - Upon complete, feed resulting information into other similar processes as lessons learned.
- Regular evaluation (commissioning) of care model & outcomes
 - Resident satisfaction surveys
 - Family satisfaction surveys
 - Staff satisfaction surveys
- **O1.2.1.3 Physical Setting**
 - Initial commissioning of building systems
 - Continual commissioning of building systems
 - Routinely evaluate wayfinding process for all populations being served
 - Update physical setting based upon outcomes
- **O1.3: Documentation and Indicators for Sustainable Evaluation**
 - **O1.3.1 Organization**
 - **O1.3.1.1 Documentation**
 - Meeting minutes from governance body meetings
 - Benchmarking and research outcomes from project
 - Commissioning reports
 - Post occupancy evaluations
 - **O1.3.1.2 Indicators**
 - Updating visions and core values based upon demonstrated outcomes
 - Evaluation of all four dimensions based upon commissioning and post occupancy evaluation outcomes
 - **O1.3.2 Operations**
 - **O1.3.2.1 Documentation**

- Updates to the Functional Program based upon commissioning, post occupancy evaluation, and interdisciplinary team recommendations
- Evaluations and reports of new and/or updated policies and procedures reflecting results of continuing quality improvement process
- **O1.3.2.2 Indicators**
 - Privacy
 - Operational Procedure/Staff Policy: knocking on door prior to entering resident private areas
 - Operational Procedure/Staff Policy: reduced noise levels, specifically at night (establishment of an acoustics/noise work group)
 - Educational Training
 - Staff Training Plan
 - Resident Satisfaction Surveys
 - Family Satisfaction Surveys
 - Staff Satisfaction Surveys
 - Resident ability to control their environment
 - Meal time
 - Sleeping & Waking time
 - Bathing time
 - Outdoor access
 - Indoor access
 - Daylight access
 - Temperature within private resident areas
 - Clothing choice
 - Meal preparation input (menus, etc.)
 - Personal storage
 - Access to staff
 - Flexible furniture arrangement
 - Operable windows
 - HVAC controls (Temperature & Humidity)
 - Staff ability to control their environment
 - Procedure for hands-on care giver to provide input on resident care and management of senior living setting
 - HVAC controls (Temperature & Humidity)
 - Wayfinding
 - Policy that includes training staff to assist Visitors and Residents to find their way when lost or confused
 - Safety and security
 - Evaluations conducted in conjunction with resident acuity level
 - Procedures for emergency preparedness
 - Security: technology systems
 - Security: staff procedures
 - Resident satisfaction surveys
 - Family satisfaction surveys

- Meaningful activity and relationships
 - Residents engaged in activities
 - Staff empowering residents to maximize their potential
 - Resident council
 - Connectivity to community at-large through programming
 - Technology
 - Face to face
 - Available regular transportation schedules
 - Internal
 - External
- Spiritual well-being
 - No restraint environment
 - Consistency of staff engagement with residents
- Purposeful living
 - Recycling program
 - Volunteer programs
- Cultural responsiveness
 - Diverse staff
 - Language & interpretations provided
 - Different types of meal preparation
- **O1.3.3 Physical Setting**
 - **O1.3.3.1 Documentation**
 - Commissioning reports
 - Post occupancy evaluations with recommendations
 - Resident, family & staff surveys
 - Documented flow-charting processes
 - Quantified performance measures used to track trends
 - Resident, family, and staff suggestion program
 - Formal documented complaint/concern process
 - Regulatory surveys
 - **O1.3.3.2 Indicators**
 - Privacy
 - Resident Room
 - Private Sleeping Areas within semi-private rooms
 - Private Rooms
 - Private Bathrooms
 - Private Bathing
 - Private area for discussing care planning and personal matters with family and staff
 - Resident ability to control their environment
 - Lighting
 - Access to lighting controls
 - Task lighting
 - Window shading (drapery/blinds)
 - Control daylighting levels
 - Control glare

- Outdoor access
- Indoor access
- Daylight access
- Operable windows
- HVAC controls (Temperature & Humidity)
- Personal storage
- Flexible furniture arrangement
- Acoustical separation between spaces
- Staff ability to control their environment
 - Personal storage
 - Daylight access in break areas
 - Lighting
 - Task lighting
 - Access to controls
 - Mobile technology (technology located at POS)
 - Example: COWs, PDAs, Electronic/Web-based Records
 - Flexible furniture and office arrangement
 - Operable windows
 - HVAC controls (Temperature & Humidity)
 - Adequate space for securely storing personal belongings.
- Wayfinding
 - Provide clear access for Residents
 - Provide clear access for Visitors (including Family)
 - Provide clear access for Staff
- Safety and security
 - Evaluate in conjunction with resident acuity level
 - Emergency response equipment locations clearly identified (as an example of “Safety measures in place”)
 - Security system infrastructure
- Meaningful activity and relationships
 - Provide areas for engagement & socialization
 - Provide places of respite
 - Provide appropriate furnishings and equipment for appropriate activities
 - Provide resident-accessed storage of materials
- Physical comfort
 - Indoor environmental quality
 - Appropriately dimensioned furnishings
 - Linens
- Spiritual well-being
 - Areas for meditation (indoor and outdoor)
 - Therapeutic gardens
- Purposeful living
 - Access to books, media, etc. at all times
- Cultural responsiveness

- Vegetable gardens
- Appropriate language on postings, information, and wayfinding

GLOSSARY

Dimension 1: Resident

Process for developing sustainable resident outcomes: description and definitions:

- ADL: Activities of Daily Living
- IADL: Instrumental Activities of Daily Living
- SAGE P.L.A.C.E.: Society for Advancement of Gerontological Environments' Programming for Living and Achieving Culture-change Environments
- NASH: National Alliance of Small Houses

Dimension 2: Organization

Process for developing sustainable Organizational Structure: description and definitions:

- Governance body is the steward of and accountable to the Values Owners
- Systematic turnover of governance body membership provides sustainability
- Governance body defines the vision, targets, and milestones for operations
- Written policies are the basis for all governance
- Governance body jointly develops a succession plan with the chief executive officer, executive director, or similar leadership position for the CEO, ED, leadership position

Dimension 3: Operations

Process for developing sustainable Operations: description and definitions:

- Note that the information for each operational process is evaluated by impact to each Dimension: Resident, Organization, Operation, and Physical Setting.

Dimension 4: Physical Setting

Process for developing sustainable Physical Setting: description and definitions:

- MERV: Minimum Efficiency Reporting Value
- NSF®: National Sanitation Foundation
- GBI™: Green Building Initiative™
- ANSI: American National Standards Institute
- ASHRAE: American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- ASHE®: American Society for Healthcare Engineering
- USGBC®: United States Green Building Council

Outcomes

Process for developing sustainable Outcomes: description and definitions:

- Commissioning: definition applies to not only the physical setting, but also the continual evaluation of Resident, Organization, and Operations Outcomes.
- CQI: Continuous Quality Improvement

EXHIBIT A: Post Occupancy Evaluation Process Outline⁴⁶

1. Organizational goals/objectives – Document original goals and revisions to goals over time
2. Review of physical and operational plan and processes
 - a. Plan evaluation
 - b. Program evaluation
 - c. Site verification – if changes have been made not shown on the plan, provide documentation), document the existing context/setting
 - d. Operational plan and processes – document in-house and out-sourced processes; review processes in context to the daily programs for residents/participants
3. Identification of operational/behavioral/environmental concerns
 - a. Operational conflicts with overall processes (e.g. food service, materials management, medical, activities)
 - b. Behavioral concerns – residents/participants, staff (e.g. morale, satisfaction, perceptions of quality)
 - c. Environmental concerns (e.g. quality of the indoor and exterior environments, sustainable practice, use of resources)
4. Observation
 - a. Administration/staff work processes, schedule, integration with residents/participants
 - b. Residents/participants daily schedule, interactions with services, social interactions, etc.
 - c. Based on the daily schedules of administrative/staff and residents/participants, develop a list of relevant observations from the administration/staff processes and the residents/participants experience
5. Interviews
 - a. Demographic data of all administration/staff and residents/participants
 - b. Provide documentation of number of interviews conducted and who was interviewed.
 - c. Limit interviews to 20-30minutes each
 - d. Interview employees holding key positions
 - e. Interview residents/participants
 - f. If possible, interview family members
 - g. Interview the Resident's/Participant's Council (as a group)
6. Data analysis
 - a. Qualitative and quantitative analysis – analysis methods vary
7. Results – outcomes connecting each dimension
8. Final report
 - a. Purpose – goals and objectives
 - b. Methodology
 - c. Results
 - d. Conclusions
 - e. References
 - f. Appendices

⁴⁶ Harris, D., Joseph, A., Becker, F. Hamilton, D. K., Shepley, M. and Zimring, C. (2008). A Practitioner's Guide to Evidence-Based Design. Concord, CA: The Center for Health Design.