

March 6, 2023

Oliver Orjiako, Community Planning Director

PO Box 9810

Vancouver, WA 98666-9810 / 564.397.4112 / oliver.orjiako@clark.wa.gov

RE: More Information for My “Age-in-Place Housing Initiative” Entry

Mr, Orjiako:

On February 1, I submitted a proposal that the topic shown above be reviewed and considered for the COUNTY’S COMPREHENSIVE PLAN UPDATE PROJECT. Almost immediately I received confirmation that my entry would be given to the team working on this project. My brief entry stated:

RE: Age-In-Place Housing Initiative

For the Comprehensive Plan Update, I propose that there be provision and leadership to include Age-In-Place home design – permitting – building to be included in the plan.

There is a need for this kind of Age-In-Place accessible home, especially among the elderly and the mobility-impaired population. With understanding and leadership from the Comprehensive Plan, this could launch a valuable component in Clark County’s housing options.

What is an Age-In-Place home? In broad terms, it can be summarized as; *A home with the resources and features allowing residents to safely age in their home with minimum restrictions, and in which the residents can confidently and safely welcome family and friends, regardless of disability.*

In the weeks following my February entry for Age-In-Place consideration, it became clear to me that my original four short sentences could not adequately represent this innovative style of housing for the elderly. Consequently, I wrote a much more thorough overview that touches on the rationale for A-I-P housing, how to fold it into conventional construction, cost issues, and a typical checklist of specific construction features.

I hope this more informative document will assist you and your staff in appraising my Age-In-Place Housing Initiative. I have enclosed (5) copies for you to review and to share with others. If this work has value to you or the planning process, I’ll provide as many copies as you need.

Warm regards,



Doug Hamilton

15010 NE 93rd Street

Vancouver, WA 98682 / 360.901.8699 / dwhamilton1@comcast.net

Enclosures

Wednesday, February 1, 2023

F.Y.I.

Community Planning
Comp Plan Comments
PO Box 9810
Vancouver, WA 98666

RE: Age-In-Place Housing Initiative

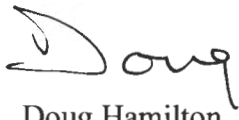
Greetings Sir or Madam:

For the Comprehensive Plan Update, I propose that there be provision and leadership to include *Age-In-Place home design - permitting- building to be included in the plan.

There is a need for this kind of Age-In-Place accessible home, especially among the elderly and the mobility-impaired population. With understanding and leadership from the Comprehensive Plan, this could launch a valuable component in Clark County's housing options.

What is an Age-In-Place home? In broad terms, it can be summarized as; ***A home with the resources and features allowing residents to safely age in their home with minimum restrictions, and in which the residents can confidently and safely welcome family and friends, regardless of disability.***

Warm regards,



Doug Hamilton
15010 NE 93rd Street
Vancouver, WA 98682
360.901.8699 / dwhamilton1@comcast.net

*Related concepts/terms include Accessible Design, ADA, Future-Proofing Your Home, Universal Design, and others.

DESIGNING and BUILDING OUR AGE-IN-PLACE HOME

~ Doug and Susan's Long, Rewarding Journey ~

INTRODUCTION: Building an Age-In-Place home was not an easy decision for us to make. Both of us had recently retired from long careers and loved the three decades we lived in our traditional Pacific Northwest Dream home – two-story home, one acre of lush turf, towering trees, combined workshop and RV storage of 2,000 square feet, abundant parking space to host family and friends, and underbrush to embellish our little private forest.

Conversely, we reflected on how our “dream home” might serve us as we aged. Our beloved, stately home had some features that would be problematic for seniors with mobility limitations. For example, all outside entrances had tall steps, there was no bedroom on the ground level, the only bathroom on the ground floor was a small $\frac{3}{4}$ bath, and the laundry was on the second level. Also, maintaining the landscaping required year-round rigorous labor, as well as expensive products and services.

We decided in our retirement to explore an AGE-IN-PLACE style for our new “forever home.” This document is a short summary of what we learned, and what we built.

OUR VISION: With informed collaboration among our designers-architects-engineers-builders-inspectors, we wanted to build a home that is...

- ...spacious, appealing, inviting, and safe from Day One,
- ...supportive of our current lifestyles,
- ...a home with the resources and features allowing us to safely age-in-place with minimum restrictions, and in which we can confidently and safely welcome family and friends, regardless of disability,
- ...a home that can readily accommodate in-home care if needed,
- ...constructed with cost-effective and durable materials,
- ...equipped with reliable technology that will provide safety and security, energy efficiency, health benefits, communication, accessibility, entertainment,
- ...surrounded by landscaping that is attractive and hardy as well as being neighbor-friendly and easy to maintain, and,
- ...complementary with the Cosgrove Short Plat neighborhood through the thoughtful application of architectural enhancements.

We did not begin with this VISION statement: Rather, the vision developed as we visited numerous home shows, consulted with families who had built A-I-P homes, spent many hours examining blueprints and floorplans, researching housing resources, interviewing builders and designers, and participating in a series of monthly 2016 workshops hosted by Clark County Commission on Aging. We moved into our new A-I-P home approximately a year ago. For the most part we have achieved our vision and have quickly come to love our new home.

Doug & Susan Hamilton

PO Box 823432

Vancouver, WA 98682-2902 / 360.901.8966 / dwhamilton1@comcast.net / © January 2023

NOTE: Related housing terms/concepts include Accessible Design, ADA, Age Friendly, Age-In-Place, Barrier Free, Future-Proofing Your Home, Home-for-Life, Your Forever Home, and Universal Design. All these designs are related but have slightly different features and requirements. The more practical A-I-P features you build into your home, the more it will accommodate your diverse needs as you age.

SPECIFICATIONS CHECKLIST; 1) Overall Floor Plan Layout 2) Entry 3) Bathrooms 4) Kitchen and Dining 5) Laundry 6) Bedrooms and Closets 7) Flooring and Carpeting 8) Electrical and Lighting 9) Plumbing 10) Security, Technology, Entertainment, Fire Safety 11) Exterior and Yard 12) Garage and RV Bay 13) Architectural Enhancements 14) Principles of A-I-P Design and Construction 15) Selected Resources Afterword

NOTE: Features marked with ► indicate that they are directly related to A-I-P functionality, rather than to conventional construction.

1) Overall Floor Plan and Layout

	Notes
<p>☐ in an A-I-P home, ideally all living and working areas are in a single-level home, located on level ground; in-home spaces are created for such things as living, hosting guests, storage, utilities, in-home care, hobbies or craftsmanship, vehicles, entertainment, home maintenance equipment ►</p>	<p>looking ahead to future market value, the home might reasonably include features that do not meet A-I-P standards (for example, an attic), yet this would have good value when the home is eventually sold or passed on to heirs ►</p>
<p>☐ all doors are framed a minimum of 42" Wide to permit safe, comfortable use of mobility devices ►</p>	<p>the traditional 36" framed door yields only 32" inches of net width, too narrow for many mobility devices ►</p>
<p>☐ include a 5' +/- "wheelchair maneuvering circle" in all key areas of the home; kitchen, all bathrooms, closets, pantry, laundry, all bedrooms, roll-in showers, garden shed ►</p>	
<p>☐ to the extent that it is practical, make provision for a live-in health care provider; arrangement should protect the privacy of the health professional; consider including the health care worker with a bedroom, bathroom, desk or counter space, perhaps a parking spot ►</p>	<p>goal is to have a good living space for a healthy family, with features in the home that will readily adapt to welcoming a live-in health care worker</p>
<p>☐ slab-on-grade foundation ►</p>	<p>a slab-on-grade foundation lowers the house, making it closer to the ground and easier to reduce barriers from the driveway to the entry; unlike a crawlspace, slab-on-grade foundation prohibits any future changes in the floor of the home; slab-on-grade foundation has footings and stem walls around the perimeter, assuring that siding is not in contact with the soil</p>
<p>☐ large, high-quality, three-pane, tinted windows throughout the home, all with low sills (i.e., 24" – 36" high) ►</p>	<p>low sills allow wheelchair-bound folks a good view out the windows ► note that low sills can affect the typical placement of electrical outlets; 3-pane tinted windows are energy efficient but do not directly affect A-I-P standards</p>

2) Entry

	Notes
<p>☐ no-step exterior entries for main entrance, man door, and both patio doors ►</p>	

□ driveway slope no greater than 5 degrees ▶	
□ lighted doorbell in accessible location, mounted between 36" to 48" above the entry surface	
□ motion-sensor or dusk-to-dawn light will illuminate the entry; street number sign is brightly illuminated ▶	a large, clear, well illuminated street number sign helps emergency responders during nighttime calls
□ entry door has video, intercom ▶	
□ create space to sit outside, under cover at the entry or on the porch	
□ install a flexible combination of keypads, Wi-fi remote control, and conventional door lock keys to provide security and convenience	

3) Bathrooms

Notes

□ install all bathroom doors to swing out into the living space, rather than opening into the bathroom itself, which is the traditional design ▶	for a senior citizen, the two most common in-home accidents are falling in the kitchen or in a bathroom; if the door swings into the bathroom, the fallen person may fall against the inside of the door and be an obstacle to those seeking to provide help to the fallen person ▶ pocket doors may be a workable option
□ install in all bathrooms grab bars that can support 250-300 pounds; grab bars should have in-wall bracing, done when the house is under construction ▶	if grab bars are not presently needed, it is recommended that the in-wall bracing for the grab bars be installed throughout the house as needed, making it much safer and reliable in the future should grab bars be needed ▶
□ all bathrooms have counters approximately 34" high (slightly lower than standard) and "wallpaper" mirrors that will serve residents while standing or setting; counters have rounded corners and radius edges ▶	sharp edges can increase a possible injury, such as a fall onto a bathroom countertop ▶
□ all bathrooms have "comfort height" toilets of 17" to 19" to ease the effort for sitting down and standing up; toilet stools (except for the powder room), the center of the toilet should be approximately 18" from a wall or other obstruction ▶	
□ all bathrooms have toilet paper holders designed to allow easy changing of toilet paper rolls using one hand ▶	
□ main bathroom and guest bathroom each have one sink designed for wheelchair access, if this need emerges ▶	these two sinks have a base that is level with the bathroom floor, and plumbing recessed toward the back wall; this allows a person in a wheelchair to have full access to the sink ▶
□ the main bathroom shower will have a zero-step glass door no less than 36" wide for easy wheelchair access; space for wheelchair maneuvering inside the shower, grab bars as	worth considering are exhaust fan, ceiling heater, and shower stall to have built-in anti-bacterial protection

needed, bench, handheld shower head assembly that can provide a shower in any part of the shower space either standing or sitting; moisture-tolerant light; main shower floor to be slip-resistant, even when wet▶	
□ the guest bathroom has one sink, toilet, large mirror, and a bathtub (rather than a roll-in shower)	access into the bathtub for the disabled will require using a mobility device that will take a person to the edge of the bathtub, and allow the person to pivot into the bathtub▶
□ the power room will have one sink, toilet, and a large wall mirror	

4) Kitchen and Dining

Notes

□ select and strategically place high quality appliances; builder Evergreen Homes NW's standard is General Electric appliances	
□ large, well illuminated kitchen island, approximately 36" high; deep stainless sink; this sink base is level with the kitchen floor, and plumbing is recessed▶	this sink base is level with the kitchen floor, and plumbing recessed toward the back wall; this allows a person in a wheelchair to have full access to the kitchen sink▶
□ upper wall cabinetry placed 3" lower than conventional height▶	
□ microwave placed low enough that wheelchair-bound folks can easily operate the appliance▶	
□ wall counter is approximately 34" high, well illuminated; soft-close cabinet doors and drawers; to allow wheelchair maneuvering, there is approximately 60" of space between the counter and the kitchen island▶	
□ raised level dishwasher▶	
□ adequate counter space for food preparation and serving	
□ base cabinets with rollout drawers, adjustable shelving, heavy duty dowels to organize and stabilize dishware	pull-down shelves have A-I-P benefits and might be considered▶
□ great room, kitchen and dining area blend into a single large, inviting, flexible living and working space	
□ the dining space opens into the covered patio and becomes an extension of the in-house kitchen and great room	

5) Laundry

Notes

□ clothes washer and dryer are both front loaded and raised about 16" inches from the floor; metal pedestals with drawers fill in the gap▶	top loaded washers and dryers are very difficult to operate for someone in a wheelchair or with other mobility issues▶
□ ample drawers, cabinets, counters, and closet rods	

<input type="checkbox"/> the wi-fi control console is mounted in the laundry	
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6) Bedrooms and Closets

Notes

<input type="checkbox"/> ideally, the main bedroom bed should have approximately 60" of space on three sides; if that is not workable, make sure that at least one side has 60" of space, and that the other sides have no less than 36" of space; where possible, the other bedrooms should have comparable space▶	worth considering during construction of the main bedroom, is to reinforce the ceiling to allow for easy installation of a hoist for moving a person from a wheelchair into and out of the bed▶
<input type="checkbox"/> all closets will be wheelchair accessible, have easy-to-operate doors, adjustable-height closet rods that can be reached sitting down or standing▶	
<input type="checkbox"/> bright, LED lights will illuminate the bedrooms and closets	
light switches should be reachable from the beds, telephone jack near the bed, electrical outlets near the bed; in the main bathroom, extra outlet(s) can power health care devices▶	

7) Flooring and Carpeting

Notes

<input type="checkbox"/> if carpeting is included in the flooring design, use low pile density, (less than 1/2" high pile because plush/thick carpet can restrict mobility devices); use a firm pad; do not use indoor or outdoor "no pile" carpet; where the carpet is bordered with tile/wood floors, the threshold should be less than 1/2"▶	NOTE: Acceptable flooring for an A-I-P home could be any conventional material; wood, tile, linoleum, concrete, etc. Preferably, the floor surface would be skid-resistant whether wet or dry
<input type="checkbox"/> if mats or throw rugs are used, use non-slip products; avoid curled edges or other tripping hazards	
<input type="checkbox"/> if there is a change in floor levels (into a step-down room for example), use color/texture/borders to highlight the change in surface levels to reduce the risk of falls	
<input type="checkbox"/> central vacuum system, with retractable hoses that reach every corner of the house	

8) Electrical and Lighting

Notes

<input type="checkbox"/> rocker-style light switches; glow light in switches illuminate when the switch is turned off to increase visibility and safety at night; lighted switches also assist residents with disorientation issues▶	
<input type="checkbox"/> electrical outlets placed 24-36" from the floor; helpful to install more outlets than the common building code of 12' apart▶	24-36" outlet height is comfortable both for a standing person and for someone who is wheelchair-bound▶ additional outlets will provide power to more electrical devices and reduce the chance of tripping over electrical cords

<input type="checkbox"/> switches 42-48" from the floor; most hallway and room entrances should have 3-way switches for entering and exiting	
<input type="checkbox"/> clear access space of 30" X 48" in front of switches and controls▶	this refers to furniture arrangement, not to structural design▶
<input type="checkbox"/> plug-in nightlights for hallways, bathrooms, entries; motion-sensor nightlights can be added to the mix	
<input type="checkbox"/> install (2) 220V outlets in the garage	
<input type="checkbox"/> install outlets for automobile charging station, RV shore power, and pre-wiring for solar panels	

9) Plumbing

Notes

<input type="checkbox"/> standards for toilets are included in the Bathrooms section	
<input type="checkbox"/> outdoor plumbing needs to be thoroughly drained during the winter months, generally early October to early April; includes drip irrigation, raised garden, water feature	

10) Security, Technology, Entertainment, Fire Safety,

Notes

<input type="checkbox"/> home wired for Smart Home communications	
<input type="checkbox"/> in-home console has live video outside the front door; system can be remotely armed and disarmed; audio notice is given any time one of the four external doors are opened	
<input type="checkbox"/> smoke alarms placed in every room▶	fire suppression sprinkler system is very effective, but also very expensive▶
<input type="checkbox"/> lightweight, ABC-rated fire extinguishers placed in Garage and Kitchen	
<input type="checkbox"/> power cords placed carefully to avoid falling risks▶	
<input type="checkbox"/> video systems in the Exercise Room and the Great Room accept broadcast television, streaming, Blu-ray, DVD; Great Room has surround sound, subwoofer; Exercise Room has VHS	
<input type="checkbox"/> radon vent	
<input type="checkbox"/> fiberglass 20-minute rated fire door leading from the Garage into the Mud Room	

11) Exterior and Yard

Notes

<input type="checkbox"/> architectural fiberglass roofing with limited lifetime warranty; with safety hooks; leaf covers for gutters	
<input type="checkbox"/> Rear Patio 24' 6" wide X 21' deep, including uncovered section where raised garden is placed; ceiling-mounted 6000W infrared heater; ceiling-mounted audio speaker	

connected to the entertainment system	
<input type="checkbox"/> James Hardie cement siding	
<input type="checkbox"/> house windows with one-way tinted glass	
<input type="checkbox"/> Garden Shed (no electrical service); 6' wide X 12' deep	
<input type="checkbox"/> rather than traditional grass turf, yard is covered, in order with: 1) drip irrigation piping for five zones 2) layer of landscape fabric to suppress weed growth, 3), layer of galvanized ¼" mesh to prevent mole incursions, 4) hardy, slow-growth shrubs and plants served by drip irrigation, 5) covered by bark nuggets▶	
<input type="checkbox"/> ADA accessible raised garden; 5' 2" wide X 10' 3" long X 2' high; served by drip irrigation system; located at patio in back yard▶	
<input type="checkbox"/> ADA accessible pervious gravel walkway in back yard▶	
<input type="checkbox"/> covered porch in front yard	
<input type="checkbox"/> all four exterior entrances are A-I-P compliant with zero threshold barriers and 42" net door openings▶	
<input type="checkbox"/> electrical Christmas lighting is installed under the eaves	

12) Garage and RV Bay

Notes

<input type="checkbox"/> garage has insulated, finished, painted walls; ceiling is approximately 11' high on the two-car garage side, and approximately 13' high on the RV Bay side	
<input type="checkbox"/> door for two-car Garage is 18' wide X 10' high▶	this door dimension will allow a van for the handicapped (i.e., high van ceiling, hydraulic lift) to be parked and operated inside the garage▶
<input type="checkbox"/> two-car garage includes utility sink, with shelves above, pull-down ladder for access to the attic, central vacuum	
<input type="checkbox"/> door for RV Bay is 14' wide X 12' high	
<input type="checkbox"/> RV Bay includes work bench with upper shelving	
<input type="checkbox"/> three open shelving units approximately 7' high, have a combined storage surface of approximately 570 square feet	
<input type="checkbox"/> RV septic dump is located in the driveway, near the door to the RV Bay	
<input type="checkbox"/> attic has an electric hoist to lift items to the attic; attic has approximately 300 square feet of high ceilings floor storage	
<input type="checkbox"/> attic has electrical outlet and one light	
<input type="checkbox"/> both garage doors have door openers	
<input type="checkbox"/> natural light is provided by windows on the	

east side of the garage, and by the windows in the top panels of the two garage doors	
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13) Architectural Enhancements in Our Home

Notes

<input type="checkbox"/> gable built over the Attic to give the appearance of a two-story home, which is the norm for our neighborhood	
<input type="checkbox"/> rough sawn, heavy timber sundials built over the gables for the Porch and the RV Bay	
<input type="checkbox"/> dry creek bed in front yard	
<input type="checkbox"/> water feature in back yard	
<input type="checkbox"/> coffered ceiling in Great Room	

14) Principles of A-I-P Design and Construction (Some of our random thoughts)

REMODEL or BUILD NEW: New construction with a good, practical A-I-P design that you and your family will love, is generally the preferred choice. However, that is not always possible. This is a low market for A.I.P. homes and securing a designer and builder might be difficult. A-I-P homes will require more square footage than a conventional home, because extra floor space is needed for wider doorframes, wider hallways, and turnarounds for wheelchairs. Conversely, remodeling an existing home to achieve A-I-P accessibility may be less expensive...or more expensive. Generally, remodeling costs more per square foot than new construction. (Example: Step-free main entrance: new construction = \$300; remodeling = \$4,000) Another consideration is that it may not be possible to remodel the home and groom the property to full A-I-P standards. Regardless of your choice of new construction or for remodeling, carefully seek professionals who have A-I-P knowledge, as well as the patience and flexibility to build a practical and authentic Age-In-Place dwelling.

DESIGN BEGINS at YOUR BOUNDARY: Before building or remodeling, look at your property from the view of ADA accessibility. Will you have a wide entry door with no steps, but plan a driveway so steep it's a hazard to someone wheelchair-bound? Does your parcel have a lovely, dense landscape on a steep slope that will require a lot of maintenance?

LITTLE THINGS CAN MAKE a DIFFERENCE: •elderly benefit from additional electrical outlets, installed at a height easily reachable •electrical cords should be placed for convenience, but not as a tripping hazard •elder hands are often stiff and in pain – use “D” handles (not knobs), swivel handles on faucets, lever doorknobs •brighter lights in the sunlight spectrum is good on aging eyes

VIEW FROM STANDING/SITTING: One feature of A-I-P design is flexibility and the ability for residents to safely perform household tasks sitting or standing. This includes such things as cooking, eating, laundry, toiletry, sleeping, housework, exercise, relaxing, recreation and hosting guests.

15) Selected Resources

AARP
601 E Street NW
Washington, DC 20049
202.434.3890– www.aarp.org/HomeFit (*Free publication*)

Aaron D. Murphy, ADM Architecture
5819 NE Minder Road, Suite C (
Poulsbo, WA 98370– 360.881.028
(Book: *Aging In Place*)

aginginplace.com: Patrick Roden, RN, PhD, CAPS – Information, services and conveniences which allow you to remain in the home of your choice as circumstances change, and to live there safely and comfortably

Aging in the Right Place, Stephen M. Golant (Book)

Bruce Sternberg Architect, Inc.
PO Box 82416
Portland, OR 97282– 503.774/5005– Fax 503.774.5335
sternarc@comcast.net

Clark County Commission on Aging
1300 Franklin Street
Vancouver, WA 98660-9810
360.397.2280– www.clark.wa.gov/aging
(Free publication: *Clark County Universal Green Design Idea Book Information and Ideas to Make Your Home Last a Lifetime*)

Clark County Commission on Aging 1916 Speaker Series: www.clark.wa.gov/aging:
Difficult Conversations with Mom and Dad (Christina Marneris). Housing Trends and Opportunities for an Aging Clark County (Alan DeLaTorre). What is Aging in Place? How Can it Be Achieved? (Patrick Roden). Challenges for Affordable Housing in an Era of Scarcity (Andy Silver). Simple Design Choices that Help People Age-In-Place Affordably (Amanda Davis). Financing Options for Remodeling, Renovating, Retrofitting, and New Construction for the Seniors & Boomers in Our Community (Mark Eshelman). Smaller or Larger? What to Consider When Contemplating a Move (Sherri Adams). How Accessibility at Home Matters & How to Hire a Contractor and to Get It Done Right (Aaron Marvin). What Are the Challenges of Aging in Public Housing? (Roy Johnson). The Future of Housing and How It Will Change How We Live (Aaron Murphy).

Evergreen Homes NW
2122 S Victory Court
Ridgefield, WA 98642– 360.624.3116 (*Evergreen Homes NW was the designer and builder of our home*)

FEMA – Fire Safety for Older Adults
U.S. Fire Administration
16825 South Seaton Avenue
Emmitsburg, MD 21727– 800.238.3358– www.usfa.fema.gov

InnovAgeCares.com– 844.201.8423 (*Provides in-home care and social engagement for the elderly*)

Living Design, George Welch, Owner
1514 Columbia Street
Vancouver, WA 98660– 360.695.4684

National Aging In Place Council – www.naipc.org

National Alliance for Caregiving – www.caregiving.org

National Association of Home Builders (NAHB)
1201 15th Street NW
Washington, DC 20005 - 800.368.5242 – www.nahb.org

Upside of Downsizing
1915 NW Amber Glen Parkway Suite 400
Beaverton, OR 97006 – 503.332.2892 – www.upsideofdownsizing.com

Afterword

This document is not a *TEMPLATE* of how to design and build an A-I-P home; rather it is an *EXAMPLE*. We are not construction experts in any sense of the word. However, we did our homework and had the gift of working with a helpful array of brilliant and talented home designers and builders. It quickly became clear to us that adding A-I-P features to our new home in no way restricted the aesthetics we also wanted.

After several years of research, numerous home shows and sessions with architects, we selected a respected builder...just as COVID19 swept the nation. This brought as such things as labor shortages, rapidly increasing cost of building materials, and supply chain delays...such as garage doors. (We had our two garages covered with nailed-on plywood for more than a year!)

We are now settled into our wonderful new home and enjoy the long-term benefits that come with A-I-P features. If you choose this path, we wish you great success!

Kind regards,
Doug & Susan Hamilton © January 2023