

Appendix K

Compliance with LEED Standards

Pleasant Harbor Conceptual Load Estimates

Mason County PUD Letter

Compliance with LEED Standards



February 14, 2012, 2012

Pleasant Harbor Marina and Golf Resort Narrative Demonstrating Compliance with the Intent of LEED Standards

Condition "63.x" of Jefferson County Ordinance 01-0128-08 states:

"Statesman shall use the LEED (Leadership in Energy and Environmental Design) and "Green Built" green building rating system standards. These standards, applicable to commercial and residential dwellings respectively, "promote design and construction practices that increase profitability while reducing the negative environmental impacts of buildings, and improving occupant health and well-being".

Statesman is not obligated to receive LEED certification, Statesman agrees to build to LEED standards.

The LEED 2009 manual for new construction and major renovations shall apply to all commercial buildings within the MPR.

Following is a summary of applicable items from the LEED 2009 checklist. Details for each item may be found in the LEED 2009 Manual for New Construction.

Sustainable Sites

1. Prerequisite 1 Construction Activity Pollution Prevention required

Intent: To reduce pollution from construction activities by controlling soil erosion, waterway sedimentation and airborne dust generation.

- a) Described in Craig A. Peck & Associate reports, Subsurface Group reports, and golf course contractor reports, these measures will include:
 - i. On-site gravel and sand production
 - ii. Protecting topsoil by stockpiling and covering for re-use
 - iii. Prevention of sedimentation leaving the confines of the site to enter Hood Canal
 - iv. Water truck controls for dust and particulates

2. Credit 1 Site Selection 1 point

Intent: To avoid the development of inappropriate sites and reduce the environmental impact from the location of a building on a site.

- a) The site has been approved for development of a Master Planned Resort (MPR) by Jefferson County Ordinance 01-0128-08.

- b) Prior use of the site was recreational in the form of an RV park. Most of the area proposed for the golf course/golf resort was previously developed with roads, water and utilities operate to campsites covering the area. Rest room facilities, outdoor cooking areas, and an activity center.
- c) The marina area of the MPR will comply with the December 2009 Jefferson County locally-approved Shoreline Management Plan (SMP).

3. Credit 2 Development Density and Community Connectivity 5 points

Intent: To channel development to urban areas with existing infrastructure, protect green fields, and preserve habitat and natural resources.

- a) Urban services and infrastructure required to serve the MPR will be developed on-site in accordance with the Washington State Growth Management Act. Where services are required from others, Pleasant Harbor Marina and Golf Resort will negotiate a reasonable Memorandum of Understanding with each agency or district (in accordance with Board of County Commissioners Condition 63.c) to provide mitigation to offset the cost of services not offset by the additional tax revenue that will be generated by the Resort.
- b) The marina upland will be renovated within the footprint of existing buildings to comply with the December 2009 locally-approved Shoreline Master Program (SMP).
- c) The golf course is proposed within an area where previous site disturbance occurred.
- d) Other services to be provided within the MPR will include: restaurants, laundry, a convenience store, boat launch, real estate office, a place of worship, beauty salon, medical office, fitness center, and other amenities.
- e) Steep slopes to the south with mature vegetation in the 200-ft Shoreline Environment along the south boundary of the golf course/golf resort area of the MPR will be managed by local Tribes for the purpose of preserving and minimizing potential impacts to habitat and natural resources.

4. Credit 3 Brownfield Developmentdoes not apply 0 points

5. Credit 4.1 Alternative transportation - public transportation access 6 points

Intent: To reduce pollution and land development impacts from automobile use.

- a) Provisions will be made for a Jefferson Transit/Mason Transit stop at the intersection of Black Point Road with U.S. Highway 101.
- b) Shuttle service will be provided within the Resort to accommodate guest activities and provide access between the Marina and Golf Resort areas.
- c) Shuttle service will be provided between the Resort and State and National Parks in the area to minimize parking demand that might otherwise occur as a result of tenants of the Resort visiting these areas.

6. Credit 4.2 Alternative transportation - bicycle storage and changing rooms 0.5 point

Intent: To reduce pollution and land development impacts from automobile use.

- a) Bicycle rental and bicycle storage is proposed for guests and staff who may wish to use Resort pathways.
- b) Staff and guests will be encouraged to use bicycles within the resort property.

7. Credit 4.3 Alternative Transportation - low-emitting and fuel-efficient vehicles 3 points

Intent: To reduce pollution and land development impacts from automobile use.

- a) On-site hybrid fuel-efficient vehicles or electric carts will be available for rent to use within the Resort.
- b) Guests will be encouraged to utilize shuttle service on-site and between the marina and golf course/golf resort.

8. Credit 4.4 Alternative Transportation - parking capacity 2 points

Intent: To reduce pollution and land development impacts from automobile use.

- a) Shuttle service will be provided between parking areas and the marina to minimize parking at the marina.
- b) 70% of guest parking associated with the golf resort residential units will be below grade within structures.
 - i. For Stage 1, Marina Lands: all parking for the 66 residential units will be surface parking. Parking for the guests of the Marina will be surface parking, as it is currently.
 - a. Marina parking is currently surface parking and parkade parking with approximately 198 stalls
 - ii. For Stage 2, Golf Resort, all parking for occupants of the Terrace condos or the Villas and Vistas will be below grade in a concrete parkade. Golfers and short-stay visitors to the Resort will have surface parking. Staff parking will be surface parking.
 - a. The preliminary count for Golf Course surface parking is 499 stalls
 - b. The preliminary count for Golf Course underground parking is 633 stalls plus 38 underground boat stalls.
- c) Visitors and guests will be encouraged to use shuttle service or pedestrian pathways to minimize use of personal vehicles on the resort property.

9. Credit 5.1 Site Development – protect or restore habitat 1 point

Intent: To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

- a) Proposed residential densities are 3.0 units per acre with minimal amounts of impervious area of approximately 12% of the site with the Preferred Alternative 3 site plan. Approximately 88% of the site will be maintained in a pervious condition.

- b) Native plantings proposed in the marina upland area, maritime village, and golf resort will be selected to promote biodiversity.

10. Credit 5.2 Site Development – maximize open space 1 point

Intent: To promote biodiversity by providing a high ratio of open space to development footprint.

- a) Redevelopment in the marina upland area will be limited to the footprint of existing buildings.
- b) The proposed 18-hole golf course will retain a high ratio of open space within the MPR.

11. Credit 6.1 Storm water Design – quality control 1 point

Intent: To limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from storm water runoff and eliminating contaminants.

- a) The proposed storm water management plan (Peck & Associates 2011) will increase on-site infiltration and control storm water runoff from the golf course/golf resort lands to prevent contaminants from entering Hood Canal.

12. Credit 6.2 Storm water Design – quality control 1 point

Intent: To limit disruption and pollution of natural water flows by managing storm water runoff.

- a) Storm water design will include vegetated bio-swales, constructed wetlands, infiltration galleries, and below-grade storm water piping to control storm water and prevent run-off from disturbed areas during and following construction, and from pollutant-generating surfaces in the developed condition of the site.

13. Credit 7.1 Heat Island Effect – non roof 1 point

Intent: To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

- a) As previously stated, approximately 88% of the site will be preserved in pervious surface area, which will avoid heat-generation by pavement and roofs in these areas.
- b) Provisions will be made for approximately 50% to 70% of vehicles to park in covered parking, below grade.
 - i. See Item #8 (credit 4.4) for details regarding proposed parking.
- c) Healthy trees and shrubs removed during clearing and grading (10 inches in diameter or less) will be considered for relocation to a temporary tree farm for future replanting in disturbed areas.

14. Credit 7.2 Heat Island Effect – Roof 1 point

Intent: To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

- a) Metal, non-combustible roofing materials have been selected with a solar reflective index (SRI) of 75% of the roof surface).

- b) SRI is used by the Green Building Council to estimate how hot a surface will get when exposed to full sun. Materials with the highest SRI are coolest and the most appropriate choice for mitigating the heat island effect.

15. Credit 8 Light Pollution Reduction 1 point

Intent: To minimize light trespass from the building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction and reduce development impact from lighting on nocturnal environments.

- a) Light pollution will be reduced using Dark Sky fixtures from which light will emit is at an angle. (The nadir at a given point is the local vertical direction pointing in the direction of the force of gravity at that location.)

Interior lighting standards will be specified using Energy Star Standards:

- LED lighting
 - Compact fluorescent
 - Induction lighting for parkades
 - Low voltage for exterior landscape lighting
- b) Non-emergency exterior luminaries with a direct line of sight on roads or on pathways will be controlled through occupant sensing motion detectors to reduce lighting by 50% between 11pm and 5am.
- c) Building exterior lighting will be indirect with luminance value no greater than 0.10 horizontal and vertical foot-candles at the site boundary. At 10 feet beyond, building exterior lighting will be no greater than 0.01 horizontal foot-candles.
- d) All public roadways accessing the resort will have luminance generated from an LED single luminary or from induction lighting placed at intersections to provide sufficient safe light levels at the site boundary for a length of 2 times the driveway width centered at the centerline of the driveway.

Water Efficiency

16. Prerequisite 1: Water Use Reduction required

Intent: To increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

- a) No municipal water supply or wastewater systems will be impacted by the development. On-site privately-owned and privately-operated systems are proposed within the MPR.
- b) Fixtures chosen for use will comply with guidelines described in the LEED 2009 construction standards (page 21) with the goal of reducing water consumption. The list below describes representative fixtures and the LEED guideline regarding use in gallons per flush (gpf) or gallons per minute (gpm).
- i. Commercial toilets 1.6 gallons per flush (gpf)

- ii. Commercial urinals 1.0 gpf
- iii. Commercial lavatory faucets 2.2 gpm at 60 psi (private applications)
- iv. Commercial lavatory faucets 0.5 gpm at 60 psi (all except private applications)
- v. Commercial pre-rinse spray valves (food service) <1.6 gpm
- vi. Residential toilets 1.6 gpf
- vii. Residential lavatory faucets 1.2 gpm at 60 psi
- viii. Residential kitchen faucet 2.2 gpm at 60 psi
- ix. Residential showerheads 2.5 gpm at 80 psi per shower stall

17. Credit 1: Water Efficient Landscaping 4 points

Intent: To limit or eliminate the use of potable water or other natural surface or subsurface water resources available on or near the project site for landscape irrigation.

- a) Non-potable water utilization will reduce potable water consumption through wastewater treatment and storm water management systems.
- b) Total potable water consumption will be reduced by more than 50% per equivalent residential unit (ERU) per day as a result of proposed water use reduction fixtures and practices.
- c) The proposal includes using Class A reclaimed water from a Membrane Bioreactor (MBR) treatment process for landscape irrigation and fire smart spray irrigation..

18. Credit 2: Innovative Water Technologies 2 points

Intent: To reduce wastewater generation and potable water demand while increasing the local aquifer recharge.

- a) In addition to non-potable water feed of Class "A" water for irrigation of the golf course and landscaped areas, a second water line will be provided for the commercial center's use at Terrace Building 1 for Class "A" feed to toilets and urinals.
- b) An on-site wastewater treatment facility will be constructed.

19. Credit 3: Water Use Reduction 4 points

Intent: To further increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

- a) Planned use of low-volume fixtures combined with collection of stormwater collection for reuse will reduce the demand on wells.
- b) Wastewater will be treated at the on-site treatment facility to allow re-use of water for non-potable needs including irrigation and fire fighting purposes.

Energy and Atmosphere

20. Prerequisite 1: Fundamental Commissioning of Building Energy Systems required

Intent: To verify that the project's energy-related systems are installed and calibrated to perform according to the owner's project requirements, basis of design and construction documents.

Elements of the proposed energy system will include: CHP (Combined Heat and Power)

Source power will be generated through one micro-turbine that will provide sufficient power to operate the Waste Water Treatment Plant (WWTP) for secondary power. Tri-generation is a term that refers to three functions of the Micro Turbines:

- Produce power to operate the WWTP.
- Waste heat will generate heat for the pools, spas and provide BTU's to the heating system.
- Heat will enhance the operation of the geothermal heat pumps.

GEO Exchange:

- A lined reservoir will have the capacity to store up to ± 120 million gallons of Class A reclaimed water from the wastewater treatment process, and collected storm water.
 - Plastic piping from the geothermal heat pumps will traverse the base of the 13.5-acre reservoir in order to displace heat (heat sink) from the buildings (as required), as well as to produce cooling. Water, mixed with 8% bio-degradable vegetable oil, will circulate through the piping.
- a) A qualified individual will be assigned to review and oversee the commissioning of energy systems and the management of the utility District of Pleasant Harbor Resort.
 - b) This individual will document and report completion and/or recommendations to the Resort owner.
 - c) The Resort owner will document the project requirements.
 - d) Requirements will include the development of commissioning requirements, commissioning plan, verification of installation and performance, completion of a summary commissioning report.

21. Prerequisite 2: Minimum Energy Performance required

Intent: To establish the minimum level of energy efficiency for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.

- a) The building designs for multi-level structures will utilize a non-combustible recycled steel with concrete interface between floors.
- b) Exterior materials will be selected from the Hardi-Plank energy-conservation group.
- c) Interior materials will be selected from fiber-free laminated hardwoods and tiles providing ease of maintenance.

22. Prerequisite 3: Fundamental Refrigerant Management required

Intent: To reduce stratospheric ozone depletion.

- a) The Resort will comply with the requirement of zero use of chlorofluorocarbon-based refrigerants in new construction and re-construction. This standard for CFC elimination is part of Energy Star Appliances and Fixtures that applies to refrigerators, and air-conditioning condensers.

23. Credit 1: Optimize Energy Performance 10 points

Intent: To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

- a) Georexchange will use the ambient temperatures in the ground to improve efficiency and operation cost of heating and cooling. The earth will be used as a heat source in cold weather and a heat sink in warm weather. The reclaimed water reservoir of 13.5 acres will provide a medium for the exchange of heating and cooling for the geo-exchange mechanical systems. Reduced energy consumption will be achieved with the Tri-generation of collecting the waste heat from the combined heat and power (CHP) cogeneration unit and relaying this heat for pool and spa heating.
 - i. Note: Tri-Generation: creating heating, power and cooling from a single fuel source.
- b) Waste heat collected from the CHP cogeneration unit will contribute to heating in common areas.

24. Credit 2: On-Site Renewable Energy 7 points

Intent: To encourage and recognize increasing levels of on-site renewable energy self-supply to reduce environmental and economic impacts associated with fossil fuel energy use.

- a) The Public Utility District of Mason County was consulted to validate LEED standards for this energy. Hydroelectric energy produced through the PUD's Bonneville Plant would not meet LEED standards. However, the GRID does engage in Wind-Power Energy that will provide for a percentage of the energy source for the Resort as negotiated with Mason County PUD #1.
- b) The Resort, through necessity, has specified 35 - 40% of energy consumption and capacity from Green Energy Sources. The hybrid system includes geothermal exchange closed loops for heating and cooling as well as in-suite controls for the energy related monitoring. The results are Whole Building Energy Systems, where the building performance rating has been improved by more than 30%. This will include the benefit of green electrical power, waste-heat used for recreational heating, and cooling from the geo-exchange within the water medium of the reservoir.

25. Credit 3: Enhanced Commissioning 2 points

Intent: To begin the commissioning process early in the design process and execute additional activities after systems performance verification is completed.

- a) The Resort agrees to follow requirements set forth in the LEED 2009 manual for new construction (page 39).
- b) These requirements ensure the capability to efficiently commission systems as they are built or installed with documentation of completion and/or suggestions.

26. Credit 4: Enhanced Refrigerant Management 2 points

Intent: To reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contributions to climate change.

- a) The Resort will use no chlorofluorocarbon (CFC)-based refrigerants or conventional refrigeration technology.
- b) The proposed geo-exchange heat pumps will provide a central heating and/or cooling system that pumps heat to or from the ground/water of the Reservoir & Brackish Marina Water. The earth will be used as a heat source in cooler weather and a heat sink in warmer weather. This design will take advantage of moderate temperatures in the water to improve efficiency and reducing the operational cost of heating and cooling systems. 2-pipe fan coil systems for delivering heat/cooling. A 2-pipe fan coil unit consists of a fan and a heating or cooling coil. Different areas of a building may require heating or cooling at the same time; therefore, a 4-pipe system will be used in some buildings.
- c) Without mechanical cooling that utilizes CFC's, the proposed energy system will minimize any direct impact on ozone depletion. (GHG Emissions)
- d) Use of Energy Star appliances that do not release CFCs will be specified for use within the Resort.

27. Credit 5: Measurement and Verification 3 points

Intent: To provide for the ongoing accountability of building energy consumption over time.

- a) Energy consumption will be monitored for each structure.
- b) Energy consumption will be controlled with specified use of low-consumption fixtures and appliances.

28. Credit 6: Green Power 1 points

Intent: To encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.

- a) The Resort will use propane first and diesel second, for the redundancy energy source of the combined heat and power (CHP) Unit

Materials and Resources

29. Prerequisite 1 required

Intent: To facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills.

- a) Provide easy access to areas dedicated to collection and storage of materials for recycling for the entire resort area including the Marina.
- b) Recyclable materials will include paper, cardboard, glass, plastics and metals.

30. Credit 1.1: Building Reuse – maintain existing walls, floors and roof .does not apply ... 0 points

31. Credit 1.2: Building Reuse – maintain existing interior nonstructural elements 0 points

.....does not apply

32. Credit 2: Construction Waste Management 2 points

Intent: To divert construction and demolition debris from disposal in landfills and incineration facilities. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.

- a) Twin dumpsters will be provided at building sites, one for recyclables.

33. Credit 3: Materials Reusedoes not apply 0 points

34. Credit 4: Recycled Content 1 point

Intent: To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

- a) Metals and plastics will be made of recyclable materials.
- b) In accordance with Jefferson County Board of County Commissioners Condition 63.f, Statesman will prioritize the sourcing of construction materials from within the County, where possible.

35. Credit 5: Regional Materials 2 points

Intent: To increase demand for building products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

- a) Regional materials to be used on-site such as cement boards, metal framing and roofing material, floor coverings and wood products will be made from renewable products. To the extent possible, at least 20% of these materials will have been extracted, harvested or recovered and manufactured within 500 miles of the Resort.

36. Credit 6: Rapidly Renewable Materials 1 points

Intent: To reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

- a) Construction materials will include recycled steel and recycled wood products.

37. Credit 7: Certified Wooddoes not apply 0 points

Indoor Environmental Quality

38. Prerequisite 1: Minimum Indoor Air Quality Performance required

Intent: To establish minimum indoor air quality (IAQ) performance to enhance indoor air quality in buildings, thus contributing to the comfort and well-being of the occupants. .

- a) Window designs will be specified as venting windows to code standards. Buildings are air conditioned, from Ground-Water Sources using geothermal technology.
- b) All buildings will be naturally ventilated through the delivery of fresh-air through the delivery of heat and cooling from geo-exchange. The reflected ceiling plan will provide the airflow pathway incorporating fan-coil units.

39. Prerequisite 2: Environmental Tobacco Smoke (ETS) Control required

Intent: To prevent or minimize exposure of building occupants, indoor surfaces and ventilation air distribution systems to environmental tobacco smoke (ETS).

- a) Smoking will be prohibited except on designated outdoor areas 25 feet or more away from buildings

40. Credit 1: Outdoor air delivery monitoring 1 point

Intent: to provide capacity for ventilation system monitoring to help promote comfort and well-being.

- a) CO₂ sensors will monitor parkades with alarm controls.

41. Credit 2: Increased Ventilation 1 point

Intent: To provide additional outdoor air ventilation to improve indoor air quality (IAQ) and promote occupant comfort, well-being and productivity.

- a) All outdoor spaces will be naturally ventilated.
- b) Hydrocarbons will be reduced to minimum standards on-site; therefore, CO₂ emissions will be substantially reduced.

42. Credit 3.1: Construction Indoor Air Quality Management Plan – During Construction 1 point

Intent: To reduce indoor air quality (IAQ) problems resulting from construction or renovation and promote the comfort and well-being of construction workers and building occupants.

- a) Control standards will be met or exceeded based on Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) standards.
- b) Permanently installed air handlers will not be required for temporary heating/cooling during construction.

43. Credit 3.2: Construction Indoor Air Quality Management Plan – Before Occupancy 1 point

Intent: To reduce IAQ problems resulting from construction or renovation to promote the comfort and well-being of construction workers and building occupants.

- a) Building flush-out and filter replacement will occur through the fan coil units prior to occupancy.
- b) Filters will be inspected regularly during occupancy.

44. Credit 4.1: Low-Emitting Materials – Adhesives and Sealants 1 point

Intent: To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- a) Adhesives, sealants and sealant primers will comply with South Coast Air Quality Management District (SCAQMD) Rule #168 as specified in the 2009 LEED manual for new construction (page 66).

45. Credit 4.2: Low-Emitting Materials – paints and coatings 1 point

Intent: to reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- a) Low emitting materials such as paints and coatings to be used within the Resort will comply with volatile organic compound (VOC) limits. Clear wood finish, floor coatings, stains, primers and shellacs will also meet these standards.

46. Credit 4.3: Low-Emitting Materials – Flooring Systems 1 point

Intent: To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- a) The flooring specifications will be mainly tile in foyers, kitchens, bathrooms, laundry spaces, with laminate hardwood in grand rooms and high traffic areas. These will meet tight-looped Floor Score Standards.

LEED 2009 cites Floor Score certification as an indicator of indoor air quality. FloorScore tests and certifies all hard surface flooring and flooring adhesive products to ensure they meet stringent indoor air quality emission requirements. The program was developed by the Resilient Floor Covering Institute (RFCI) in conjunction with Scientific Certification Systems (SYS0 and has certified products since 2005

- b) Volatile Organic Compound (VOC)-approved Milligan Carpets will be specified for quiet spaces such as bedrooms and corridors under the Green Label Plus program.

LEED 2009 cites the Green Label Plus program as an indicator of indoor air quality. The Carpet and Rug Institute (CRI) launched the Green Label Plus program in 1992 to test carpet, cushions and adhesives to help identify products with very low emissions of VOC.

47. Credit 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products 1 point

Intent: To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

- a) No formaldehyde resins will be specified for interior use.

48. Credit 5: Indoor Chemical and Pollutant Source Control 1 point

Intent: To minimize building occupant exposure to potentially hazardous particulates and chemical pollutants.

- a) VOC-approved Milligan "Dirt Control" entry way systems will be specified for all major foyer entryways.
- b) Exhaust rates are quoted at 0.50 cubic feet per minute per square foot of room area. The pressure differential, with surrounding spaces, will meet 5 Pascals on average and 1 Pascal when doors to rooms are closed.
- c) A separate ventilated utility building adjacent to the Maintenance Building will be the only appropriate area for storage of hazardous liquids and chemicals.

49. Credit 6.1: Controllability of Systems – Lighting 1 point

Intent: To provide a high level of lighting system control by individual occupants or groups in multi-occupant spaces (e.g., classrooms and conference areas) and promote their productivity, comfort and well-being. (See Dark Sky Lighting Report.)

- a) Lighting controls through monitoring systems such as "Energex" will have a manual override option; otherwise, adjustments will be controlled by the measurement of lumens to code requirements by utilizing LED or Energy Star fixtures or Induction Lighting.
- b) When motion ceases, the illumination will be decreased by 50% to 100%.
- c) Outdoor lighting will be controlled by photocells and motion detectors.

50. Credit 6.2: Controllability of Systems – Thermal Comfort 1 point

Intent: To provide a high level of thermal comfort control by individual occupants or groups in multi-occupant spaces (e.g., classrooms and conference areas) and promote their productivity, comfort and well-being.

- a) Thermal comfort will be controlled through a 2 and 4 pipe fan coil system with thermal energy produced through Tri-generation geothermal technology combined with one CHP. (See the description provided in Item #26 above.)

51. Credit 7.1: Thermal Comfort – Design 1 point

Intent: To provide a comfortable thermal environment that promotes occupant productivity and well-being.

- a) Heating and cooling will be provided with Tri-generation geothermal technology combined with one CHP. (See the description provided in Item #23, above.)

52. Credit 7.2: Thermal Comfort – verificationdoes not apply 0 points

53. Credit 8.1: Daylight and Views – Daylight 1 point

Intent: To provide building occupants with a connection between indoor and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

- a) Natural light will be important in common gathering areas to a minimum level of 25 foot candles during daylight and 500 foot candles for clear sky conditions without shades.
- b) The proposal includes preserving and selectively planting evergreen trees to shade buildings.

54. Credit 8.2: Daylight and Views – Views 1 point

Intent: To provide building occupants with a connection between indoor and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

- a) Architectural designs direct views in approximately 80% of buildings towards the south, east and west.

Views will be directed away from the north except for approximately 12% of the Terrace units in Building 1. All other views will be orientated to the south, west and east or variations of this in order to maximize daylight within structures.
- b) Sight lines will be enhanced through the design of transom windows and clear-story windows in vaulted spaces.

Innovation in Design

55. Credit 1: Innovation in Design 5 points

Intent: To provide design teams and projects the opportunity to achieve exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building System.

- a) Materials, design, specifications and standards will be exceeded in almost every category.
- b) Compliance will be demonstrated through points earned, through quality control, with documentation throughout planning, construction and operation.
- c) Proposed strategies center on multiple uses of each feature (such as the proposed reservoir), and especially the proposed multi-use of structures in order to minimize the impervious area of the Master Planned Resort.

Regional Priority

56. Credit 1: Regional Priority 4 points

Intent: To provide an incentive for the achievement of credits that address geographically-specific environmental priorities.

- a) Hood Canal is a regional priority for protection and preservation. The storm water management proposal for the Resort is designed to infiltrate runoff on-site to prevent the discharge of pollutants to Hood Canal. The proposal includes permanently preserving the 200-ft Shoreline Environment of the south bank of the golf course property within a conservation easement to be administered by local Tribes.

Pleasant Harbor Conceptual Load Estimates

Pleasant Harbor - Conceptual Load Estimates for Development					
Building I.D.	Building Size	Number of Residential Units	Load Density (VA/SF)	Load Subtotal (VA)	Load Total (VA)
Golf Terraces and Conference Center/Spa - T1 (Residential)	235,369	191	15	3,530,535	
Golf Terraces and Conference Center/Spa - T1 (Commercial)	36,000		25	900,000	
Golf Terraces and Conference Center/Spa - T1 (Total)	271,369	191			4,430,535
Golf Terraces and Conference Center/Spa - T2	155,915	153	15		2,338,725
Golf Terraces and Conference Center/Spa - T3	92,695	88	15		1,390,425
Golf Terraces and Conference Center/Spa - T4	92,695	88	15		1,390,425
Sea View Villas (23 buildings - per each, assume equal size)	16,632		15	249,480	
Sea View Villas (23 buildings - total load)	382,542	206	15		5,738,130
Golf Vistas (5 buildings - per each, assume equal size)	14,256		15	213,840	
Golf Vistas (5 buildings - total load)	71,280	44	15		1,069,200
Maritime Village (Residential)	55,803	66	15	837,045	
Maritime Village (Commercial)	13,334		25	333,350	
Maritime Village (Total)	72,453	66			1,170,395
Pleasant Harbor House	3,316	1	15		49,740
B&B Existing	1,461	1	15		21,915
Maintenance/Staff	86,931	52	15		1,303,965
Water Treatment Plants (Provided by WRP Engineering)	8,521				433,400
Total Load for Development (in kVA):					19,337

Mason County PUD Letter



**PUBLIC UTILITY DISTRICT NO. 1
OF MASON COUNTY**

N. 21971 Hwy. 101
Shelton, Washington 98584

BOARD OF COMMISSIONERS

KARL DENISON, Commissioner
JACK JANDA, Commissioner
RON GOLD, Commissioner

November 18, 2013

Brendon Inman, PE
Hargis
brendoni@hargis.biz

Dear Mr. Inman,

In response to your questions with regard to Mason PUD 1's ability to serve the Pleasant Harbor Resort at "Full Build-Out" I would like to elaborate a little since it is not a simple "yes" or "no" answer. PUD 1 is ready and able to meet the total capacity needs of the project at full build-out. As we have previously discussed with the Pleasant Harbor planning group, this would need to be accomplished through a phased-in approach, as discussed more fully below in response to your questions.

Short Answers to Your Questions:

1. Does Mason County PUD No.1 currently have capacity to serve this development?

Answer: Not at this time.

2. If the answer to #1 is "not at this time", at what point would that occur?

Answer: This will require a phased-in approach. The first requirement would be to add cooling fans on the power transformer in the Duckabush Substation. These fans will give us the capacity to serve Stage 1, Phases 1-3, as presented on the construction schedule provided by Hemisphere Engineering, Inc. on June 22, 2011. Beyond the installation of cooling fans in the Duckabush substation, we will need to perform additional engineering studies and designs to accommodate the remaining stages/phases of the development.

3. What improvements/upgrades would need to occur to serve the proposed development at full build out?

Answer: To serve full build-out will require a new substation and associated distribution feeders.

4. Would PUD improvements be made in phases coincident with the proposed development?

Answer: Yes; improvements would be made as project loads are added.

In addition to the distribution system additions needed to serve this project, there are also power and transmission considerations that should be kept in minds as the project unfolds. Under the power sales contract between PUD 1 and the Bonneville Power Administration ("BPA"), substantial advance notice is required in order to obligate BPA to serve the project load. For example, notice for service from BPA under



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RON GOLD, Commissioner

its Tier 2 power rates requires up to XX years advance notice. Similarly, under the transmission agreement between PUD and BPA, obtaining transmission capacity on the BPA system to import a resource acquired to serve the project requires up to XX years advance notice. I mention these matters so these timing requirements can be integrated into the project planning process.

I trust these answers are responsive to your question. Should you need any further information, do not hesitate to contact me.