

STATE OF WASHINGTON
 DEPARTMENT OF ECOLOGY
REPORT OF EXAMINATION
 WRTS File No. G2-30436

Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 11, 2007	G2-30436		

NAME Pleasant Harbor Marina and Golf Resort			
ADDRESS (STREET)	CITY	STATE	ZIP CODE
308913 US Highway 101	Brinnon	WA	98320

PUBLIC WATERS TO BE APPROPRIATED

SOURCE 3 Wells
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	300	254

QUANTITY, TYPE OF USE, PERIOD OF USE		
121 ac-ft/yr (Additive) 105 ac-ft/yr (non-additive) 28 ac-ft/yr (non-additive)	Multiple Domestic and Commercial Supply Irrigation (61 acres) Irrigation (120 acre Fire Smart Program)	Year-round, as needed April 1 to Sept. 30 th April 1 to Sept. 30 th

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL

Well 1 800 feet north and 1700 feet west of the SE corner of Section 15
 Well 2 to be constructed in the SW ¼ SE ¼ - site to be determined
 Well 3 to be constructed in the NW ¼ N ½ - site to be determined

SMALLEST SUBDIVISION	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SW ¼ SE ¼	15	25 N	2 W.W.M.	16	Jefferson
NE ¼ N ½	22	25 N	2 W.W.M.		

POINT OF WITHDRAWAL NAME	PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

PLEASANT HARBOR MARINA & GOLF RESORT located in JEFFERSON COUNTY, WASHINGTON all within portions of SECTIONS 15 and 22, both in TOWNSHIP 25 NORTH, RANGE 2 WEST, W.M. AND GOVERNMENT LOT 7 OF SAID SECTION 15, AND GOVERNMENT LOTS 2 AND 3 OF SAID SECTION 22;

Including:

LOTS 1, 2 and 3 OF WATERTOUCHE SHORT PLAT, AS RECORDED IN VOLUME 2 OF SHORT PLATS, PAGES 205 AND 206, RECORDS OF JEFFERSON COUNTY, WASHINGTON, BEING A PORTION OF SECTION 15, TOWNSHIP 25 NORTH, RANGE 2 WEST, W.M., JEFFERSON COUNTY, WASHINGTON, and

LOTS 1 and 2 of PLEASANT HARBOR MARINA SHORT PLAT, AS PER PLAT RECORDED IN VOLUME 2 OF SHORT PLATS, PAGES 221 TO 223 AND AMENDED IN VOLUME 3 OF SHORT PLATS, PAGES 8 TO 10, RECORDS OF JEFFERSON COUNTY, WASHINGTON.

A complete legal description of the project's boundaries is located in the file

DRAFT

DESCRIPTION OF PROPOSED WORKS

Three wells serving the Pleasant Harbor development.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
July 1, 2011	July 1, 2018	July 1, 2025

PROVISIONS

Metering and Reporting Diversions

1. An approved measuring device shall be installed and maintained for each of the diversions authorized by this water right, in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.
2. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access <https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/>. If you do not have Internet access, contact the Southwest Region Office for forms to submit your data.
3. Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation, and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements."
4. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions and may inspect, at reasonable times, any measuring device used to meet the above conditions.

Groundwater Monitoring Plan

1. Issuance of this permit is contingent with ongoing compliance with the **Groundwater Monitoring Plan**.
2. The monitoring program will continue for five years or until full build-out whichever is greater, at which time the frequency of monitoring may be adjusted based on results.
3. The permit holder is required to prepare and submit an annual report summarizing monitoring results. The report must be reviewed and stamped by a licensed hydrogeologist and is due by February 28th of each year.

Neighborhood Plan

1. Issuance of this permit is contingent with ongoing compliance with the **Neighborhood Plan** required by Jefferson County Planning.

Development Schedule

1. The development schedule shall be as follows:
 - Construction shall begin by July 1, 2011
 - Construction shall be completed by July 1, 2018.
 - Proof of Appropriation shall be filed by July 1, 2025.

The water user is advised that quantities recommended for the instantaneous and annual rates of withdrawal may be reduced at the time of issuance of a final water right commensurate with the capacity of the installed system and the amount of water used. While this ground water right authorizes water for the full development of this project, domestic needs will be phased in as the resort builds out. Accordingly this groundwater permit may be used for both domestic supply AND irrigation of 61 acres, with the 133 acre feet of irrigation demand designated as a non-additive/alternate quantity as authorized by surface water permit S2-30437. To the extent the surface water right has provided a reliable source of supply for the irrigation requirements, the final certificate for the groundwater right may be issued to authorize only domestic, potable water, and quantities reported on the Proof of Appropriation form limited to domestic supply.

FINDINGS OF FACTS AND ORDER

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is available for appropriation and the appropriation as recommended is a beneficial use and will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER that a permit be issued under Ground Water Application Number G2-30436 subject to existing rights and indicated provisions, to allow appropriation of public ground water for the amount and uses specified in the foregoing report.

You have a right to appeal this ORDER. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001 (2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your *Notice of Appeal*.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. File your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 - 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. Serve your appeal to the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
PO Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. Send a copy of your appeal to:

Thomas Loranger
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia WA 98504-7775

For additional information, visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>. To find laws and agency rules visit the Washington State Legislature Website: <http://www1.leg.wa.gov/CodeReviser>.

Signed at Olympia, Washington, this day of 2010.

Thomas Loranger, Section Manager
Water Resources Program
The Southwest Regional Office

BACKGROUND

DESCRIPTION AND PURPOSE

On October 11, 2007, Pleasant Harbor Marina and Golf Resort filed two Applications for Water Right Permits; the first to withdraw ground water at the maximum rates of 300 gpm for municipal supply and irrigation of 108 acres; and a second application to use water from a rainwater collection system, also for municipal supply and irrigation of the same project. The applications were assigned application numbers G2-30436 and S2-30437 respectively. The project site is located on the Black Point Peninsula situated between the Dosewallups and Duckabush Rivers, on the east side of Hood Canal, in the Skokomish River Watershed Inventory Area (WRIA 16) in Sections 15 and 22 of T25N, R2W.

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, Pacific Groundwater Group (PGG) prepared this report under contract to Ecology. PGG reviewed all available documents pertaining to these applications, including site conditions, historical water use, existing rights, and seniority of pending applications that could potentially be affected by the application. PGG also performed supplemental analysis to evaluate recharge, aquifer properties, and drawdown associated with the proposed pumping (PGG, 2009). Final determinations of water availability were made by the Department of Ecology.

Under the provisions of RCW 90.03.290 and 90.44, a water right shall be issued upon findings that water is available for appropriation for a beneficial use, that the appropriation will not impair existing rights or be detrimental to the public welfare. In accordance with these provisions, I recommend issuance of Permit G2-30436.

LEGAL REQUIREMENTS FOR ISSUANCE OF A WATER RIGHT PERMIT

Public Notice

A public notice of the proposed appropriation was published in the Jefferson County Leader on December 17th and 24th, 2008. In response to the notice a protest letter was received by Mr. Gary Steele on behalf of the Brinnon Group, (Brinnon). These comments are addressed in the Report of Examination under the section entitled Consideration of Protestant's Concerns.

State Environmental Policy Act (SEPA)

While the Pleasant Harbor project's withdrawal of water is less than 2,250 gallons per minute, which does not in itself trigger a SEPA review, a water right application is still subject to a SEPA threshold determination in situations where it is part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).

The Statesman Group of Companies, LTD, and Black Point Properties, LLC, submitted an application with Jefferson County for a Master Planned Resort (MPR) in the Black Point area. This project required an amendment to the County's Comprehensive Plan, and thus this application is part of larger SEPA process.

The County, acting as lead agency, determined that this proposal was likely to have significant adverse environmental impacts, and required that an Environmental Impact Statement (EIS) be prepared.

The Final Environmental Impact Statement for the proposed Brinnon Master Planned Resort was issued by the Jefferson County SEPA-responsible official on November 27, 2007, and a final decision was made on January 14, 2008.

Water Resources Statute and Case Law

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340 and RCW 90.44.050. In accordance with RCW 90.03.290, favorable determinations must be made on the following four criteria in order for an application for a water right to be approved:

- Water must be available.

- There must be no impairment of existing rights.
 - The water use must be beneficial.
 - The water use must not be detrimental to the public interest.
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INVESTIGATION

Evaluation of this application included, but was not limited to, research and/or review of the following:

- Department of Ecology records of surface and ground water rights and claims, and well construction reports within the vicinity of the subject production wells.
 - Documents and reports applicable to the area, as referenced in the conclusions of this report.
 - A field visit conducted by Peter Schwartzman of Pacific Groundwater Group and John Pearch of Ecology on May 7th, 2009.
 - Subsequent analysis of drawdown and pumping water level associated with the requested groundwater withdrawal. PGG developed a preliminary groundwater flow model of the Black Point Peninsula and used the model to evaluate responses to pumping.
 - Chapters 90.03, 90.44 and 90.54 Revised Code of Washington
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LOCATION OF PROJECT SITE

The Pleasant Harbor development is situated adjacent to Hood Canal, two miles south of Brinnon on the Black Point Peninsula. The peninsula has an area of about 710 acres, and is surrounded on three sides (north, south and east) by the waters of the Hood Canal. The north side of the Peninsula is also bounded by Pleasant Harbor, an inlet connected to the Hood Canal via a narrow channel. The western edge of Black Point Peninsula is defined by US Highway 101, beyond which occur the foothills of the eastern Olympic mountain range.

The property contains stands of predominantly coniferous forests, interspersed with open meadow areas that were logged approximately 40 years ago by previous owners. The property is characterized by terraced areas separated by steep "kettle" formations caused by receding glaciers.

The project site has been logged and was formerly the site of a 500-unit Thousand Trails (American Campground) seasonal campground for trailers and campers.

INTENT OF WATER RIGHT APPLICATION

The intent of these filings is to secure water rights for the proposed Pleasant Harbor Resort and Golf Club (Resort). The final plan for the Resort encompasses approximately 250 acres and includes the golf course resort area of approximately 220 acres and the marina resort area of approximately 26 acres. The development will be a Master Planned Resort that will include at the golf course resort area up to 890 residential units (802 townhouse style condo units and at the marina resort 88 residential units), 46,000 square feet of commercial space - including retail and conference spaces, an 18-hole golf course, 11,500 square feet of commercial space and the existing 311-slip marina.

PROJECTED WATER USE

The water supply for this project will combine the use of existing groundwater rights, new groundwater rights, aquifer infiltration, rainfall water harvesting, and treatment and reuse of wastewater. Groundwater wells will be the potable water supply source for the resort. Groundwater will also be used initially for irrigation; however, as surface-water collection facilities are constructed on the property, surface water will replace groundwater as a primary source for irrigation. The applicant is also pursuing plans for the development of reclaimed water for the irrigation program. As this water becomes available, groundwater and surface water use will be reduced by the available reclaimed water and as provided by the terms in the reclaimed water permit. Ultimately, at full resort buildout, reclaimed water could potentially supply the majority of the irrigation demand, thus reducing the overall use of groundwater and surface water.

POTABLE WATER DEMANDS

The proposed development is being designed to consume less than 40% of the water that a typical development uses by implementing water saving devices. Pleasant Harbor proposes the use of low flow toilets, motion activated faucets, low flow showerheads, and high-efficiency washing machines.

The applicant has calculated the potable residential water demand to be only 70 gallons per day (gpd) for each residential unit, *Water resource management report, 2020 Engineering Report, March 22, 2007, section 2.1.2 (2020 Report)*. Also see Chapter 3 of the EIS for the Resort. However, this is recognized to be a low residential demand. The State Department of Health (DOH), who will approve the number of connections for the water system, recommends that for planning purposes, a higher number be used with the understanding that actual demand may be more inline with the applicant's estimates.

The annual quantity of water that will be authorized for the domestic use of the Resort is based on the ADD and the seasonal occupancy of the Resort. Because there are no records at this time for the lower 70 gpd/ERU estimate, the application is considered for a request at this time for a quantity of water for full development based on the 175 gpd/ERU¹. The occupancy of the Resort is determined to range from 85% in the high season to 30% in the low season, with an average of 53% occupancy. 2020 Report; EIS, chapter 3; Water Supply and Groundwater Analysis, Subsurface Group LLC, December 17, 2008 (Subsurface Report).

At 175 gpd – prorated to account for seasonal usage, the annual demand for residential potable water supply is 93 acre feet per year. The application applied for the water right based on this calculation, with the expectation that in the future the actual water use will be 40% of this amount. In addition to domestic water needs associated with the living units, the applicant has estimated 25,000 gpd or 28 afy for commercial use over an expected total area of approximately 57,500 square feet. This is a reasonable quantity requested when considering the commercial uses include a restaurant, lounge, commercial kitchen, a conference center for up to 400 guests, marina operations, offices, and shops.

Given these estimates, the potable water demand at the design occupancy is about 121 ac-ft per year. Table 1 details the resorts estimated water demand based on projected occupancy rates.

Table 1. Potable Water Demand

Potable Water Demand Based on 890 units			
Occupancy %	85%	50%	30%
# of Month	4 months	3 months	5 months
# Units Occupied/Day	757	445	267
Potable Water/Day	132,113	77,240	47,000
Potable Water/Year	16,117,791	7,106,093	7,106,093
Annual use	121 acre-feet per year (includes additional 28 acre-feet associated with commercial uses)		

IRRIGATION (NON-POTABLE) WATER DEMAND

The irrigation program includes irrigation of the golf course, and a "Fire Smart" program intended to promote natural vegetation and reduce fire hazards in other areas.

Irrigation at the golf course will be applied to 61 acres with state-of-the-art equipment designed to minimize water use and promote efficiency. PGG estimated water demand at the golf course based on the Washington Irrigation Guide assuming turf grass grown in the vicinity of Quilcene with an irrigation efficiency of 85 percent, as summarized below:

Table 2. Irrigation Demands

Month	Crop Irrigation Requirement (in/mo)	Crop Irrigation Requirement (acre-ft)	Total Irrigation Requirement (acre-ft)
April	0.64	3.25	3.83
May	2.37	12.05	14.17
June	3.31	16.83	19.80
July	5.12	26.03	30.62
August	3.99	20.28	23.86
September	2.10	10.68	12.56
Total	17.53	89.11	104.84

¹ DOH recommends using 175 gpd /ERU for ADD and 350 gpd/ERU for the maximum daily demand (MDD) to calculate potable demand, as stipulated in Sections 5.2.1.1 and 5.2.1.5 of the DOH Water System Design Manual (Design manual)

In addition, the applicant has requested 28 af/yr to be applied to 120 acres under the Fire Smart program during the April-to-October growing season. The Fire Smart Program has been designed to promote native vegetation growth and reduce fire hazards. Native vegetation is primarily dormant in the summer months and a 20 percent evapotranspiration factor has been assigned to wet them. Statesmen applied this rate to 120 acres of property that will not be developed by the proposal, and calculated a Fire Smart program demand of about 28 acre-feet per year. Total irrigation demand is therefore estimated to be 133 af/yr.

Assuming that the Fire Smart program is applied between July and September, PGG estimates that average monthly irrigation demand would approach the total requested Q_i for the two water rights (300 gpm) during the maximum irrigation month (July). Because irrigation demand comprises a significant portion of the total requested Q_i during the dryer summer months, satisfying this demand will rely on storage of water during other portions of the year. Irrigation water will be stored in Kettle B located near the driving range. The kettle will be lined to form a storage pond, and should be capable of holding 60 million gallons of water. Subsurface Memorandum, page 15. (Note that the total irrigation demand of 133 af is equivalent to 43.3 million gallons.) Water will be pumped from the pond with a pressurized piping system to meet irrigation and fire flow needs.

Groundwater under this water right will be used to establish the golf course, however as alternate sources of water become available they will provide an increasing portion of the irrigation demand. Surface water will come from rooftop collection systems and storm runoff. The use of this surface water would be authorized under surface water right application S2-30437². The groundwater right will remain available as a back-up source; however groundwater is not expected to be needed.

Additionally, the Resort is planning to apply for a reclaimed water permit, and if approved the non-potable water derived from wastewater treated to Class A reclaimed water standards will be the primary source for irrigation of the 61 acre golf course and also the developer's "Fire Smart" program. Both the groundwater right and the surface water right will be retained as back-up supplies if the reclaimed water source is not available or is inadequate for a period of time. The reclaimed water will be authorized for use under a Department of Ecology Water Quality Program Reclaimed Water Permit.

Total Irrigation Requirement

Since the Washington State Cooperative Extension does not calculate irrigation demands for a Brinnon station, irrigation duty for this project are based on climatic conditions at the nearby Quilcene, 11 miles north of the Black Point Peninsula.

The crop irrigation requirements for the irrigation of pasture and turf amount to 17.54 inches per acre over an April to September irrigation season. The applicants will be installing a new, efficient irrigation system assumed to be at least 85% efficient.

- Using a Crop Irrigation Requirement (CIR) for pasture/turf, of 17.54 in/yr for the irrigation season, the CIR for 61 acres is $(17.54 \text{ in}/12 \text{ in/ft}) * 61 \text{ acres} = 89 \text{ ac-ft/yr}$.
- Application Efficiency (E_a) for pop-up sprinklers is approximately 85% efficient, assuming a 10% evaporation factor, the estimated Total Irrigation Requirement (TIR) = 105 ac-ft/yr.

TOTAL WATER REQUIREMENT

Annual Quantities

The total water requirements for this project amount to 254 acre-feet per year. It should be noted that while the ground water right would authorize water for the full development of this project, it is the applicant's intent that domestic needs will be phased in as the resort builds out. Accordingly the groundwater permit should be used for both domestic supply AND irrigation (and Fire Smart) with the 133 acre feet of irrigation demand designated as an alternate source and a *non-additive* quantity to the right authorized by surface water permit S2-30437.

Instantaneous quantities

The application requests 300 gallons per minute. This is a maximum quantity of water that would be withdrawn from up to the 3 wells on the site. If groundwater supplied the entire Resort, both potable and irrigation, the quantity withdrawn from the ground was calculated by the applicant to amount to 150 gallons per minute on an average annual basis. At such time that surface water is available for irrigation the average annual withdrawal

² Rooftop rainwater collection systems are exempt from the water right permitting process, however the applicant has elected to get a water right permit for this portion of their water use.

will be 75 gallons per minute, with a range over the year of a low of 50 gallons per minute to a peak of 109 gallons per minute. Based on the need for this water for the initial development and recognizing the needs of maximum demands for water system planning under DOH regulations, the 300 gallons per minute is reasonable.

EXISTING WATER RIGHTS ASSOCIATED WITH PROJECT SITE

There are currently 5 other water rights appurtenant to the same property. Two, ground water certificates G2-20465 and G2-24359, are associated directly with facilities that Statesmen will now operate. On paper these two rights amount to 28 acre-feet per year. Water right certificates G2-27964, G2-21134 and G2-23623 are associated with the Pleasant Tides Water Co-op which serves water for domestic supply on the Black Point Peninsula. While the Statesmen project is located partially within the service area of the Co-op, and Pleasant Tides could supply an additional 12.5 acre-feet, the parties have not reached an agreement and Statesmen has elected to pursue its own rights.

Table 3. Existing Water Rights Summary

File #	Person	Doc	Priority	Use	Qi (gpm)	Qa (af/yr)	TRS	QQ/Q
G2-20465C	American Campgrounds	Cert	8/29/1972	DM	55	25	25.0N 02.0W 15	SW/SE
G2-21134C	Black Point Water Co Inc	Cert	6/14/1973	DM	40	60	25.0N 02.0W 15	SW/NW
G2-23623C	Black Point Water Co Inc	Cert	1/20/1975	DM	45	60	25.0N 02.0W 15	SW/NW
G2-24359C	REILLY ROBERT E	Cert	12/13/1976	DM	60	3	25.0N 02.0W 15	
G2-27964	Pleasant Harbor Beach Tract	Pmt	12/24/1990	DM	215	25	25.0N 02.0W 15	

Status of Existing Rights

Ground water certificate G2-20465 issued to American Campgrounds is appurtenant to one of the production wells that will be used for the resort. The certificate authorizes the withdrawal of 55 gpm, and 25 acre-feet per year, based on the projected water demand of an 800 trailer RV park and other incidental water use. The facility was never metered it is unknown how much water was actually used. Since it has been a number of years since the campground was fully operational, the applicant has requested that this certificate not be considered as an available source of supply for this project.

Ground water certificate G2-24359 was issued for the domestic demands of the existing Pleasant Harbor marina area, including a small commercial establishment and also water used at the marina. Given the type of project, and without evidence to the contrary we assume that the full 3 acre-feet is a reasonable water duty.

HYDROGEOLOGIC ANALYSIS/GROUND-WATER FLOW SYSTEM

Regional Setting, Land Use, and Topography

Black Point Peninsula is located in the northern portion of the Hood Canal, southeastern Jefferson County, about 3 miles south of Brinnon and 40 miles north of Shelton (Figure 1). The Peninsula is part of *Water Resource Inventory Area 16* (Skokomish-Dosewallups). The Peninsula is primarily residential with a small marina on the north side, however much of the Peninsula was originally intended to be developed as a campground area.

The surface area of the Peninsula is approximately 1.1 square miles (696 acres; area of the Peninsula east of Highway 101) of which Statesman holds approximately 0.34 square miles (220 acres) (Figure 1). The topography ranges from steep, coastal bluffs to gently rolling uplands. Most of the shoreline consists of steep bluffs with narrow beaches. The central portion of the Peninsula contains large surface depressions known as kettles. Kettles are landform features from the Vashon ice age that resulted in blocks of ice calving from the front of the receding glacier and becoming buried partially to wholly by glacial outwash. The Peninsula is bounded by saltwater on three sides, from Pleasant Harbor to the north, the Hood Canal to the east and the Duckabush River delta to the south. The ground surface elevation ranges from about 60 feet in the deepest kettle, to elevation 320 feet on a hill in the southeast portion of the site. The average site elevation of the Pleasant Harbor Resort is about 180 to 200 feet.

CLIMATE

The site occurs in the rain shadow of the Olympic Mountains, although the rain shadow effect is smaller near the site than further to the north and northwest. The climate is *northwest marine*; where winter months are typically

moderate and wet, while summer months are typically mild and dry. Over 55 inches of precipitation fall in Quilcene, about 11 miles north of the site. Most of the precipitation events in the site area are generated from southerly storms that move north up the canal. Precipitation data are also available from Madrona Ridge, which is on the West side of Hwy.101 across from Pleasant Harbor. The data are collected by Mr. Bruce Klanke, who was trained by and uses an automated weather station approved by NOAA. His data are transmitted to Mesowest and are available at their website under location AS461. Comparison of data from the two locations shows slightly more precipitation at Madrona Ridge (59 vs. 55 in/yr over the period 1992 through 2008), with very similar seasonal variation (PGG, 2009). Over a period from 1948 through 2005, average annual precipitation at Quilcene gage "2 SW" (456846) was 55.4 in/yr, with monthly average temperatures ranging from a 60.7 °F high to a 39.7 °F low (<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?waquic>). For estimating precipitation recharge to the Black Point Peninsula, PGG used Quilcene precipitation and temperature data for the period of 1948 to 2005.

Geologic Setting

The project site lies on the boundary of the Physiographic province of the Olympic Mountains and the Puget Sound Lowland.

The geology of the Peninsula has been mapped by Dragovich et al. (2002) and Carson (1976), with some additional mapping by Subsurface Group (2008) on the Statesman property. Surficial geologic mapping in the site vicinity shows exposures of recent beach deposits, Vashon age glacial sediments, pre-Vashon non-glacial sediments, and older bedrock.

Multiple glaciations have occurred in the project vicinity during Pleistocene times (10,000 to 200,000 years ago). These glaciations, and intervening non-glacial periods, have deposited sediments in the project area that reflect a complex history of deposition and erosion. Wells and outcrops on the Black Point Peninsula show that the bedrock is overlain by both glacial sediments from the most recent glaciation (Vashon Stade of the Fraser Glaciation, which occupied the area about 19,000 to 13,000 years ago) and older non-glacial sediments. In some places, the Vashon glaciation is interpreted to have eroded away substantial thicknesses of pre-Vashon sediments; whereas in other areas the pre-Vashon non-glacial sediments are observed closer to the land surface. The Vashon glacial deposits are interpreted to be thickest in the western and central portions of the peninsula; whereas in more eastern portions of the peninsula the older non-glacial sediments escaped deep erosion, and are observed cropping out on the south-central and south-east beach bluffs.

Vashon glacial sediments include a sequence (from bottom to top) of advance outwash, glacial till, and spotty occurrences of recessional and ice-contact outwash. As the glacial ice known as the Puget Lobe advanced into the project area, meltwater streams began depositing advance outwash deposits. Coarser sediments (e.g. sands and gravels) were deposited in fluvial (stream) environments, whereas finer sediments (e.g. silts and silty sands) were deposited in glacio-lacustrine (lake) environments created when portions of the Puget lobe blocked drainage of the meltwater streams. As the Puget Lobe advanced into site vicinity, advance outwash deposits were overrun by the glacier and a dense mixture of silts, sands, gravel, cobbles and boulders known as Vashon glacial till was deposited under the advancing glacial ice. As the glacier retreated, the project site experienced active ice margin deposition and later ice stagnation. Glacial Lake Leland began draining and releasing large volumes of water that flowed through the area, eroding advance outwash and till in some areas and depositing recessional outwash in others. Large stagnant blocks of ice eventually melted and produced deep localized depressions known as kettles. Surficial geology on the Black Point Peninsula is dominated by exposures of glacial till, ice-contact deposits and recessional outwash.

Older Pre-Vashon non-glacial deposits are interpreted as part of the Whidbey Formation. They are composed of very dense stratified fine to coarse sand interbedded with gravelly sand with occasional 2 to 6-inch thick clayey silty beds. The sands and gravels are fluvially deposited with a source area in the Olympic Mountain foothills to the west.

The bedrock unit of the Peninsula is known as the Crescent Formation (basalt), located on the surface along its northern and east-central portions. The bedrock is exposed on the northeast corner and the eastern-central portions of the Black Point Peninsula and in the foothills northwest and southwest of the peninsula; bedrock is also known to be close to land surface in locations immediately west of the peninsula. However, it is not certain how deep the Crescent Formation extends below the surface, in the southern portion of the Peninsula. Wells have only penetrated the Crescent Formation on west of Highway 101 and indicate a separate aquifer that is disconnected from the Sea Level aquifer. The bedrock surface in the project vicinity has been shaped by former glacial episodes and by the Duckabush and Dosewallups rivers. On the Black Point Peninsula, an erosional valley formed during prior glaciations is interpreted to trend north-south through the western and central portions of the peninsula, and has been filled in by both glacial and non-glacial sediments.

GROUNDWATER OCCURRENCE

Groundwater in the vicinity of the Black Point Peninsula occurs in the Vashon advance outwash deposits, the pre-Vashon non-glacial deposits and to a lesser extent in bedrock. Because the Vashon and pre-Vashon deposits have no intervening low-permeability aquitard, these two units form a single aquifer where both are present below the regional water table. For the purpose of this report, saturated conditions within either or both of these units is referred to as the "sea level aquifer". The sea-level aquifer is can be moderately productive, and is capable of providing several hundred gallons per minute to properly constructed wells. In contrast, bedrock produces low quantities of groundwater from fractures, and therefore constitutes a minor aquifer in the study area. The following points describe salient features of the groundwater flow system beneath and immediately adjacent to the Black Point Peninsula:

1. Investigation of hydrogeologic conditions in the bedrock aquifer immediately west of the Black Point Peninsula concluded that the bedrock and sea level aquifers are relatively separate and do not exhibit significant hydraulic continuity with one another (Aspect, 2006). This conclusion was based on aquifer testing conducted at the Tudor Well (water right application G2-29065), which found that drawdown in the bedrock aquifer did not propagate to the glacial aquifer and that chloride concentrations increased significantly in the bedrock aquifer but remained stable in the glacial aquifer system.
2. The sea level aquifer generally occurs under unconfined conditions. The till which overlies the aquifer is somewhat discontinuous. No springs or seeps were identified or sampled from the sea level aquifer by the Subsurface Group (2008). The top of the sea level aquifer is just a few feet above sea level on most parts of the Peninsula, whereas the aquifer base is well below sea level. Most wells tap this aquifer, but none penetrate the entire thickness.
3. The sea level aquifer is expected to be moderately transmissive based on sedimentary textures and aquifer thickness. A 24-hour, 65 gallons-per-minute (gpm) pumping test was conducted at the American Campground on the project site, and showed a delayed yield response typical of unconfined aquifer conditions (Subsurface Group, 2008). Early-time data from the aquifer test provided an estimated transmissivity of approximately 2,500 ft²/day and a confined storage coefficient of 0.0007 (PGG, 2009). Over timeframes of months to years, unconfined storage coefficient values (e.g. 0.1 to 0.2) are expected in the sea level aquifer.
4. PGG estimated precipitation recharge to the Black Point Peninsula based on precipitation and temperature data from Quilcene gage "2 SW" (456846) over the period from 1948 through 2005 and the observation that most precipitation infiltrates into surficial soils without significant runoff (Subsurface Group, 2008). Using a proprietary version of the USGS "Deep Percolation Model", PGG estimated that out of an average precipitation of 55.4 in/yr, associated recharge is on the order of 37.7 in/yr with losses to evapotranspiration of about 17.7 in/yr (PGG, 2009). Potential evapotranspiration was estimated to be 26.9 in/yr. In addition to recharge from precipitation, the peninsula receives recharge from the foothills to the west, likely as a combination of subsurface groundwater flow ("subflow") and surface runoff.
5. Groundwater discharge from the Black Point Peninsula primarily occurs to marine water, but may also occur to small surface-water features and to groundwater wells. The peninsula is surrounded on three sides by the marine waters of Hood Canal. Groundwater in the sea level aquifer discharges to marine water to the north (along Pleasant Harbor) and towards the south. An eastern discharge pathway may also occur, but is at least partially blocked by bedrock.
6. Groundwater elevations were mapped at select monitoring wells on the peninsula by the Subsurface Group (2008). The mapping shows groundwater elevations on the order of 9 to 10.5 feet NGVD88 in central portions of the peninsula (at wells MW-3 and MW-6). Higher groundwater elevations (15.2 feet NGVD88) are observed along the western peninsula near SR101, likely due to the effects of groundwater recharge from the uplands to the west. An anomalously high groundwater elevation is observed along the eastern portion of the southern coastline (27.5 feet NGVD88 in Well MW-2), which PGG interprets as possibly affected by subsurface bedrock topography. Based on the geometry of the peninsula and its hydro-geologic framework, it is reasonable to expect groundwater flow towards the southern and northern coast-lines, a possible flowpath towards the eastern coastline (depending on the subsurface occurrence of bedrock towards the east), and higher groundwater elevations in the western and central portions of the peninsula.
7. PGG performed a preliminary water balance for the peninsula. Precipitation recharge is estimated to be approximately 2,230 af/yr over the entire 710-acre peninsula and 785 af/yr over the 250-acre project site based on a recharge rate of 37.7 in/yr. In developing the analytic element groundwater flow model, PGG produced one interpretation where recharge inflow (subflow) from the western foothills was estimated to be on the order of 100 af/yr, although other interpretations could also be developed. Out of a total groundwater inflow of 2,330 af/yr, current groundwater withdrawals are estimated to be on the order of 47 af/yr (about 2 percent of total recharge). This rough estimate is based on an assumed 300 gpd water use at 140 residences (the Pleasant Tides Water Coop system serves a total of 103 hookups, the Black Point Commercial Power water system serves 6 hookups, and about 30 well-log locations are contained in Ecology's online well log database). Given that existing residences predominantly employ septic systems, at least half that groundwater withdrawal is re-introduced to the groundwater flow system as septic effluent. On a net basis, about 99

percent of the recharge to the peninsula is currently unconsumed by pumping. Most of that recharge is expected to discharge to marine water, although a small portion may discharge to various minor surface-water features.

8. Given that the Black Point Peninsula is surrounded on three sides by marine water, both the sea level aquifer and the bedrock aquifer are potentially vulnerable to saltwater intrusion. The potential for saltwater intrusion depends, in part, on the relative balance between freshwater flushing through the aquifer and the magnitude of groundwater withdrawals. The bedrock aquifer system appears to be highly susceptible to intrusion under small to moderate rates of withdrawal. High chlorides plague the Tudor Well and Pleasant Harbor Well #2, which are both completed in bedrock. In contrast, the Pleasant Tides Well and Pleasant Harbor Well #3, both completed in glacial sediments, have no apparent issues with chloride. Seawater Intrusion is further discussed in this ROE in a subsequent section entitled Seawater Intrusion.

GROUNDWATER AVAILABILITY

Pleasant Harbor Well Construction

The existing (former American Campground) production well is located in the central portion of the Black Point Peninsula in the SW ¼ SE ¼ Section 15, Township 25 North, Range 2 West W.M. The well was completed in July, 1972 to a total depth of 271 feet, approximately 2,100 feet inland from the southeastern shoreline of the Peninsula. The land surface elevation at the well head is 145 feet above mean sea level (MSL). The well is screened in the sea level aquifer (Pre-Vashon non-glacial deposits) from 215 to 270 feet below ground surface (bgs) (-70 ft to -125 ft MSL). In May, 2008 the static water level in the well was 136.1 feet bgs (8.74 ft MSL) (Subsurface Group, 2008).

In addition to the existing former campground well, two additional production wells will be constructed on the Pleasant Harbor property. One of these two new wells is intended as a possible replacement of the Campground well which is an older well with possible infrastructure limitations. The other potential new well is to be located on the southeastern portion of the property, approximately 340 feet from the southern shoreline of the Hood Canal in Section 22.

To date, groundwater availability has only been established at the Section 15 location, and based on the analysis of PGG (2009) and Peach 2010). Monitoring Well "MW-2" was installed at the Section 22 location, encountered groundwater at a depth of 151 feet below land surface; however, aquifer testing at this location would require installation of a larger test or production well. As previously noted, Well MW-2 has an anomalously high groundwater elevation that may be indicative of a relatively high subsurface bedrock elevation, and which could limit available groundwater flow to a production well installed at this location.

Because groundwater availability at the Section 22 site has not yet been established, approval of this Permit is based solely on the attributes of the Section 15 site. Before the applicant would be allowed to withdraw groundwater from the Section 22 location, they would need to: 1) install and test a new well, 2) show that the aquifer test data suggest sufficient availability at the site, and 3) show that pumping from the site will not cause new impairment to surrounding senior water-right holders or be detrimental to the public interest due to saltwater intrusion concerns (see Section on "provisions").

Regardless of whether of the Section 22 site provides sufficient water supply, Ecology and PGG find that sufficient supply for all three wells could be derived from the Section 15 site. Groundwater availability at the Section 15 site is established based on:

- Interpretation of the 24-hour, 65 gpm aquifer test performed on the American Campground Well;
- Interpretation of short duration well testing at higher rates (250 and 307 gpm) by the driller;
- Estimated long-term aquifer drawdown based on aquifer property estimates; and,
- Consideration of available drawdown in properly constructed production wells.

A conservative estimate of maximum total drawdown at the American Campground Well pumping at 300 gpm is 54 feet, however drawdown in multiple production wells would be considerably less if the pumping were distributed between two or more wells.

The American Campground Well is screened between 215 and 270 feet bgs and has a static groundwater level of 135 feet bgs. This provides an available drawdown of about 80 feet, of which a minimum of 15 feet should be reserved for a well pump and seasonal water-level fluctuations, thus providing a usable drawdown on the order of 65 feet. Thus, available drawdown appears to be sufficient to supply either the American Campground Well

pumping at a maximum pumping rate of 300 gpm or two wells in this general vicinity dividing this total pumping.

Water balances for the area indicate that estimated groundwater recharge on the Black Point Peninsula (2,330 af/yr) is significantly higher than the annual allocation associated with the water right (254 af/yr). Therefore, water availability is considered highly likely both at the scale of the production well and the aquifer system.

POTENTIAL IMPACTS TO EXISTING GROUND AND SURFACE WATER RIGHTS

The proposed water right would withdraw as much as 254 af/yr of groundwater from wells completed within the sea level aquifer. This translates to an average annual withdrawal of 158 gpm. The water right would be limited to a maximum instantaneous withdrawal of 300 gpm from three wells. A portion of this water right quantity is expected to be supplied from surface water sources - which are addressed in a separate ROE, or from reclaimed water. However, for the purpose of evaluating impacts, a conservative approach assumes that the full quantity of water could be pumped from the sea level aquifer.

PGG developed a groundwater flow model to improve estimates of aquifer transmissivity beneath the peninsula, to estimate drawdown associated with the proposed pumping, and to estimate seawater intrusion potential associated with pumping (PGG, 2009). Several model scenarios were developed to address uncertainties regarding aquifer occurrence (i.e. occurrence of subsurface bedrock boundaries), groundwater subflow from upgradient (areas west of Highway 101), and alternative interpretations of aquifer transmissivity by the Subsurface Group (2008). Modeling results found that drawdowns associated with the pumping scenarios are relatively small across the peninsula (predicted drawdowns were on the order of several tenths of a foot in near coastal locations), and are not expected to impair the ability of existing wells to obtain customary well yields.

SEAWATER INTRUSION

Increasing chloride concentrations in nearby domestic wells as a result of seawater intrusion is a concern to many individual well owners and residents on the coast of the Black Point Peninsula. In response to these concerns, Ecology conducted a study to determine baseline chloride levels in existing coastal domestic wells in order to establish a future groundwater monitoring strategy for the Pleasant Harbor development. The goals of this study were to: (1) evaluate the general extent of seawater intrusion; and (2) assess the need for future monitoring of groundwater levels and chloride concentrations. *Pearch Hydrogeologic Memo Part I: Chloride Sampling in Coastal Domestic Wells on the Black Point Peninsula, Jefferson County, Washington, pertaining to Water Right Application G2-30146 January 2010.*

The results of this study allow Ecology to give Pleasant Harbor appropriate provisions pertaining to water quality and water level monitoring. Specific mitigation measures will be identified and applied to Pleasant Harbor in case their production wells increase chlorides levels in any neighboring wells. This report describes the findings of an investigation of geology, groundwater quantity, ground-water quality, and seawater intrusion potential on the Black Point Peninsula, Jefferson County, Washington.

Ecology finds that seawater intrusion is not a widespread problem on the Peninsula - chloride concentrations are within acceptable limits in most domestic wells. However, there are two areas near the shoreline where local intrusion appears to be indicated in the sea-level aquifer. Local upconing of the saltwater wedge was evident in two domestic wells that exceeded the MCL of 250 mg/L (Washington State Department of Health drinking water standards). The 367 feet deep well on Cormorant Drive (ACY954), 3,100 feet west of the ACG well, was sampled in August, 2009 and had a chloride concentration of 3,500 mg/L. The 58 foot well on Black Point Road (ABA112), 2,400 feet northeast of the ACG well, was sampled in September, 1998 and had a chloride concentration of 12,053 mg/L. It is assumed that both of these wells were originally drilled at a depth within or close proximity of the saltwater wedge and high chlorides have forced these wells to be unusable. However, additional domestic wells sampled in August, 2009 indicate there is not presently a wide-spread lateral intrusion occurring in the sea-level aquifer (well water in 8 other domestic wells exhibit chlorides to be less than 26 mg/L). More detailed reporting of Ecology's sampling results can be found in *Pearch, (2010)*.

Regardless, domestic wells on the coast of Black Point Peninsula are still potentially at risk of a wide-spread lateral seawater intrusion as a result of Pleasant Harbor's proposed groundwater withdrawals. Thus Pleasant Harbor must continue to monitor chlorides in production wells and monitoring wells (per Pleasant Harbor's Groundwater monitoring Plan) and selected private domestic wells (per Jefferson County Ordinance 01-0128-08 Neighborhood Water Policy). (See attached documents.)

Chloride/Seawater Intrusion Monitoring Recommendations

Both Ecology and Jefferson County have agreed that monitoring for chloride, electrical conductivity and static water levels is essential for ensuring that Pleasant Harbor will maintain an adequate water supply for the proposed Pleasant Harbor wells and for the existing domestic wells on the coast of the Black Point Peninsula.

As a condition of permit issuance Ecology is requiring monitoring of both onsite production wells and a series of dedicated monitoring wells. With Ecology's input Pleasant Harbor has established a monitoring plan that will monitor for saltwater intrusion in all Pleasant harbor wells and nearby domestic wells. Continued compliance with the **Groundwater Monitoring Plan** is a requirement of the permit issuance. The monitoring plan addresses the location of both dedicated and private monitoring wells, the frequency of data collection and sampling parameters. Pleasant Harbor is required to summarize this data in an annual report with will be submitted to Ecology for review. The plan is intended to be adaptable and can be modified if warranted based on monitoring results.

In addition to the Monitoring Plan, Jefferson County's approval of the FEIS completed for Pleasant Harbor requires the project to be subject to a **Neighborhood Water Policy** which establishes a strategy to protect domestic wells, as well as provide a contingency plan should other water users experience high chloride levels. The **Neighborhood Water Policy** is required by Jefferson County in Ordinance 01-0128-08, and also by this water right permit. The **Neighborhood Water Policy** requires Pleasant Harbor to provide access to its water system by neighboring water users if saltwater intrusion becomes an issue for wells on Black Point peninsula. (see **Neighborhood Water Policy** for details)

CONSISTENCY WITH WATERSHED PLANNING

In 1998, the Washington State Legislature passed the Watershed Management Act, codified in the Revised Code of Washington RCW 90.82. This law focuses on addressing water quantity, water quality, fish habitat, and instream flow at the local level. In the Skokomish-Dosewallips watershed (WRIA 16), the Planning Unit consists of Mason and Jefferson counties, the Skokomish Tribe, the Port of Hoodport, Mason County Public Utility District #1, local community groups, citizen representatives, and other environmental, development, and recreation interests.

The WRIA 16 Planning Unit has been working together on watershed planning since 1999. The WRIA 16 Planning Unit (also known as the Skokomish-Dosewallips Water Resource Inventory Area) prepared a watershed plan for the area which was adopted by the Boards of County Commissioners in both Jefferson and Mason Counties. The plan includes numerous recommendations to protect and enhance the water quality, water resources and habitat throughout the watershed.

While the group has opted not to recommend any specific flows for the watershed and has directed Ecology to work directly with the Skokomish Tribe to formally establish instream flows, there are recommendation in the plan related to this project, specifically:

1. Develop a golf course management plan that addresses both water conservation and use of pesticides and fertilizers (see plan recommendation 3.2.4).
2. Conduct comprehensive water quality monitoring at the site.
3. In partnership with a recognized land trust, permanently protect the shoreline buffer area with a conservation easement to ensure that no structures are developed there and that native vegetation is maximized and retained.
4. Evaluate and address the indirect and cumulative impacts of this development on the Duckabush and Dosewallips River watersheds, including indirect and cumulative impacts to habitat for listed species and to health of Hood Canal.

The project proponents are aware of the goals of the watershed plan, and have expressed intent to develop this project accordingly. Other components of the Statesman project that are addressed by the watershed plan include:

- Exploring water reclamation from wastewater treatment plants. Water from wastewater treatment plants can be treated to such a high level that it can be reused safely for non-drinking purposes such as irrigation, streamflow augmentation, or aquifer recharge. Statesmen intends to use as much non-potable water as possible to meet it's needs.
- Enact low-impact development requirements to minimize impervious surface and maximize onsite management of storm water, Low Impact Development (LID) is an innovative approach to storm water management that strives to manage storm water on-site rather than convey and manage it through large, costly infrastructure investments. The proposed project is designed to maximize storm water recharge, as well as control runoff from the site.

CONSIDERATION OF PROTESTANT'S CONCERNS:

A protest letter received from Mr. Gary Steele on behalf of the Brinnon Group, (Brinnon) raised several issues regarding this project, specifically that:

1. The applications filed by the applicant were incomplete because the locations of the wells are not specified.

PGG notes that these applications were accepted as complete by the Department of Ecology. As required by statute they included information regarding the rate of withdrawal and proposed locations of the production wells and diversion points defined by quarter/quarter section. The applications were supplemented by other planning documents specifically the "Water Management Plan" which is included in the references.

Two wells were originally proposed. The first well (American Campground Well) is already installed and tested. The second well location has not been tested, and PGG/Ecology note that it may not provide favorable hydrogeologic conditions for a production well. In that case, the second (and third) wells can be located adjacent to the American Campground Well site, and the site is expected to provide sufficient yield (see water availability section).

2. The project has not been sufficiently well defined and that it is difficult to assess future water demand. The protestants note discrepancies in the detail of the project between the various planning documents.

PGG agrees that this is a large complicated project and that numerous planning documents have been prepared over the lengthy planning process. While there is some variation in certain figures, the breakdown of the project's various component (potable, non-potable) and the source of that water (groundwater, rain capture, reclaimed water) is found to be generally consistent. Given the lead time needed to secure a water right it is not uncommon for the details of projects to change slightly so long as the original intent remains consistent.

3. That some of the existing water rights characterized as available for the Resort are not valid in the full certificated amount and should not be considered for additional development. The protestants also note that actual water use on the peninsula has not been adequately assessed.

PGG concur with the protestant's comment that not all of the water characterized as available is necessarily in good standing and we have factored that into the overall water budget for this project, as discussed in the section of this ROE entitled Other Water Rights Appurtenant to the Project. Since water use records are not available from the American Campground well, and water use today is modest, the applicants have requested that this water right not be considered as an available source of supply.

4. That there are uncertainties in the hydrogeological assessment conducted for the project and issue of adequate water availability is unresolved.

Prior to the issuance of a water right permit Ecology must be able to make a finding that water is available without impairment to neighboring water users or the surrounding environment. As detailed in this ROE under the section entitled Water Availability, available hydrogeologic information suggest that sufficient groundwater is available for appropriation at the American Campground site..

5. That no analysis of the potential impacts to existing water rights has been done, and that sea water intrusion could occur as a result of this project.

This ROE addresses both the risk to surrounding water users as well as the potential for seawater intrusion. Interference drawdowns on neighboring wells due to pumping are expected to be relatively small and should not impair water availability. Supplemental information detailed in Ecology's seawater intrusion assessment indicate that while coastal areas are always at some risk for seawater intrusion that this project, as proposed, will not withdraw enough water to adversely impact the water balance. The applicants are subject to stringent monitoring requirements as described in Pleasant Harbor's Groundwater Monitoring Plan.

FINDINGS

Under the provisions of RCW 90.03.290 and 90.44, a water right shall be issued upon findings that water is available for appropriation for a beneficial use and that the appropriation thereof, as proposed in the application, will not impair existing rights or be detrimental to the public welfare. Under state law the following four criteria must be met for a permit to be approved:

- Water must be available
- There must be no impairment of existing rights

- The water use must be beneficial
- The water use must not be detrimental to the public interest

Water Availability

Water is available for appropriation. The aquifer in which the Pleasant Harbor wells are completed is reasonably transmissive and capable of supporting the additional withdrawals requested. Use of the proposed new production wells will be contingent on the applicant demonstrating that they are properly constructed and adequately tested. The quantity appropriated reflects the amount needed to meet the needs of the applicant's intended use. Water is therefore judged to be available for appropriation under existing Ecology regulations.

Impairment of Existing Rights

The approval of this application will not impair existing rights. Given the proven transmissivity and yield of the aquifer, the proposed groundwater withdrawals will not impair existing rights.

Beneficial Use\Purpose of Use

These applications were originally filed for a purpose of use designated as Municipal Supply, which encompasses a variety of water uses including domestic, commercial, industrial and irrigation. Since the original filing, the King County Superior Court ruled that several sections of the municipal water bill were unconstitutional. One of the sections that was struck was RCW 90.03.015(4)(a) which defined municipal suppliers and municipal supply purposes. The Attorney General's Office has interpreted the ramifications of this ruling to mean that entities such as Statesmen, and uses of water such as proposed for Pleasant Harbor, do not qualify as municipal rights. Accordingly this permit will be issued for Multiple Domestic Supply, and Irrigation.

According to RCW 90.14.031, both irrigation and multiple domestic supply are considered a beneficial use of water.

Public Interest

The use of the requested allocation of water for public domestic use and irrigation purposes is consistent with the public interest. As additional protection due to the risk of seawater intrusion in coastal areas conditions requiring monitoring will be placed on this water right permit, as well as included in the permits issued by Jefferson County.

RECOMMENDATIONS

Under the provisions of RCW 90.03.290 and 90.44 a water right shall be issued upon findings that water is available for appropriation for a beneficial use and that the appropriation, as proposed in the application, will not impair existing rights or be detrimental to the public welfare.

I recommend approval of this application and issuance of a permit authorizing withdrawal of 300 gpm, and 254 acre-feet per year from 3 wells, (121 acre-feet for domestic supply and 133 for irrigation). The period of use for domestic supply shall be year-round, as needed, while the irrigation portion may be exercised from April 15 to September 30th.

Reviewed by: _____ Date _____

Water Resources Program

If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

REFERENCES

Pearch, J. January 14, 2010, Hydrogeologic Memo Part I: Chloride Sampling in Domestic Wells on the Black Point Peninsula, Jefferson County, Washington

Pearch, J. January 14, 2010, Hydrogeologic Memo Part II, Pleasant Harbor Monitoring requirements and aquifer testing review.

Pacific Groundwater Group (PGG), June 4, 2009, Technical memorandum, Pleasant Harbor Modeling Analysis, To Phil Crane, Ecology; From: Peter Schwartzman, PGG

Subsurface Group, LLC, December 17, 2008, Water Supply and Groundwater Impact Analysis, Pleasant Harbor Marina and Golf Resort, Brinnon, Washington, Prepared for Statesman Group, SDEIS Groundwater v1-4.

DRAFT



PLEASANT HARBOR
MARINA AND GOLF RESORT

MEMORANDUM

To: Phil Crane, Water Resources
Ecology Southwest Regional Office

From: M. Garth Mann, President and CEO
Statesman Group of Companies Ltd.

Date: February 25, 2010

Subject: Pleasant Harbor Golf and Marina Resort Neighborhood Water Supply Program

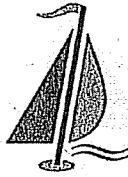
The following four elements are designed to protect existing water rights with regard to water right application no. G2-30436:

1. Monitoring Plan

This monitoring program meets and exceeds all requirements for a High Risk SIPZ zone as defined by Jefferson County. Though Pleasant Harbor is not located in a high-risk zone, the resort has committed these resources to assure its neighbors and the county that the aquifer is being wisely used and protected. A copy of the Pleasant Harbor Golf and Marina Resort Groundwater Monitoring Plan memo is attached and incorporated herein ("monitoring plan").

The following summarizes the monitoring plan.

- (a) Water quality samples will be collected on a quarterly basis.
- (b) Flow meters will be installed.
- (c) Pleasant Harbor will have a very thorough network of monitoring wells (8) which will be used to document drawdown conditions in the aquifer.
- (d) The network will include monitoring aquifer salinity conditions on one-half hour increments.
- (e) The locations of Pleasant Harbor wells will be located over 1,000 feet from any neighboring well or the shoreline.



PLEASANT HARBOR
— MARINA AND GOLF RESORT —

- (f) The existing well has supplied water at similar to proposed rates with no adverse impacts (chlorides = 0).
- (g) Hydrogeologic analysis is completed.
- (h) Pleasant Harbor will route all site water into the aquifer in such a manner that the aquifer will actually be receiving more water than under existing natural conditions.
- (i) This program will be continued for five years or until the resort has achieved full build-out, whichever is longer.

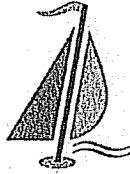
2. **Recharge Areas.** Pleasant Harbor will set aside recharge areas to mitigate an impact scenario or provide access (connect) to neighboring parcels to the Pleasant Harbor water system in the event of a problem with increased chlorides (we also have the option to drill them a new well). The identification of an impact is already presented in the county's SIPZ program.

3. **Initial Mitigation Measures.** If the monitoring plan and evidence of increased chlorides in neighboring wells show a probable salt water intrusion impact on the wells from Pleasant Harbor's withdrawal of groundwater, Pleasant Harbor will implement a plan to mitigate or minimize such impact by considering lower pumping rates and/or adding points of withdrawal, in addition to recharge as provided in paragraph 2 above.

4. **Water Supply Replacement.** In Jefferson County's approval of the FEIS completed for Pleasant Harbor, Jefferson County has included condition P, the Neighborhood Water Policy, which requires Pleasant Harbor to provide access to its water system by any neighboring parcels if salt water intrusion becomes an issue for neighboring wells on Black Point. Pleasant Harbor proposes to expand and define the terms of this policy as a condition of the water rights, as follows.

If the initial mitigation measures stated in paragraphs 2 and 3 above do not correct or resolve the salt water impacts detected by the monitoring plan, Pleasant Harbor will offer, at its cost, sufficient mitigation and/or replacement water for potable water for any existing home on a well that has an increase in chloride levels as follows and under the following conditions:

- (a) The neighboring resident's well is within the radius of influence of the Pleasant Harbor wells. Until such time that Ecology has sufficient evidence to delineate this area of influence, wells located on the Black Point Peninsula in the same aquifer as Pleasant Harbor's wells are covered by this neighborhood policy.

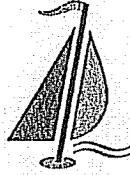


PLEASANT HARBOR
— MARINA AND GOLF RESORT —

- (b) The well owner provides conclusive evidence that, over a statistically relevant period of time, chloride levels have increased over chloride levels in the well prior to Pleasant Harbor's use of groundwater, including but not limited to, evidence that the increase in chloride levels is from the Pleasant Harbor groundwater use and not from the construction of the well owner's well, and the data from the monitoring plan is consistent with the increase in chlorides. As a default standard, Pleasant Harbor will provide an alternative water supply if chlorides in a well exceed baseline (pre-Pleasant Harbor groundwater use) by 15% that results in levels above 200 mg/l, or levels increase by 30% that results in levels above 100 mg/l over a 12-month period (250 mg/l is the SDWA standard).
- (c) Pleasant Harbor has the right to request additional evidence from the resident showing that the Pleasant Harbor groundwater withdrawal is the cause of the increase in chlorides if the increase is isolated to one well, the increase is likely caused by another problem, and the only reasonable water replacement is a new well.
- (d) The monitoring plan will be continued for five years or until the resort has achieved full build-out, whichever is longer. After this period, the level of monitoring may be decreased unless there is significant data showing increased chlorides, and Ecology determines the monitoring plan must be continued.
- (e) If Pleasant Harbor provides replacement water from the Pleasant Harbor system, it may apply for consolidation of the water rights under RCW 90.44.105. The well owner will waive any claims against Ecology or against Pleasant Harbor for any impairment of the water right if Pleasant Harbor offers a reasonable alternative source as provided above.

Sincerely,

M. Garth Mann
President & CEO
The Statesman Group of Companies



PLEASANT HARBOR
MARINA AND GOLF RESORT

MEMORANDUM

To: Phil Crane, Water Resources
Ecology Southwest Regional Office

From: M. Garth Mann, President and CEO
Statesman Group of Companies Ltd.

Date: February 25, 2010

Subject: Pleasant Harbor Golf and Marina Resort Groundwater Monitoring Plan

This memorandum presents the groundwater monitoring plan to be used during construction and operation of the Pleasant Harbor Golf and Marina Resort. The plan is based on several meetings and discussions with the Department of Ecology and Pacific Groundwater Group. Groundwater monitoring will be performed to document water quality and drawdown conditions related to the development.

Figure 1 presents a map of the existing and proposed groundwater monitoring instrumentation. Two additional monitoring wells will be installed, labeled MW-7 and MW-8, as shown on the attached map. These will be standard 2-inch diameter monitoring wells completed to a minimum of 10 feet below the water table. The existing monitoring wells are labeled on the map MW-2, MW-4, and MW-5. Wells labeled VWP-1, VWP-3, and VWP-6 were geotechnical borings with vibrating wire piezometers installed in them to measure groundwater pressures.

The highest groundwater demand at the site will be during site development prior to the construction of the central pond. About one month before construction and during this period, dataloggers will be connected to all of the wells at the site. The program will collect measurements on groundwater pressure and fluid conductivity (which can be correlated to salinity). Dataloggers that record groundwater pressure will be installed at VWP-1, VWP-3, MW-5, and VWP-6. Dataloggers that measure both groundwater pressure and fluid conductivity (which can be correlated to salinity) will be installed at MW-2, MW-4, MW-7, and MW-8. These units will record groundwater measurements on a 0.5-hour basis. The dataloggers will be downloaded every two months during the construction season, estimated from April 1 to November 1, and every three months in the non-construction period, estimated from November 1 to April 1 when there will be minimal well use.



PLEASANT HARBOR
— MARINA AND GOLF RESORT —

During construction, water quality samples will be collected from the two supply wells and MW-4, MW-7, and MW-8 if an anomalous conductivity trend is observed. The samples will be sent to a water quality laboratory for analysis of chloride and nitrates.

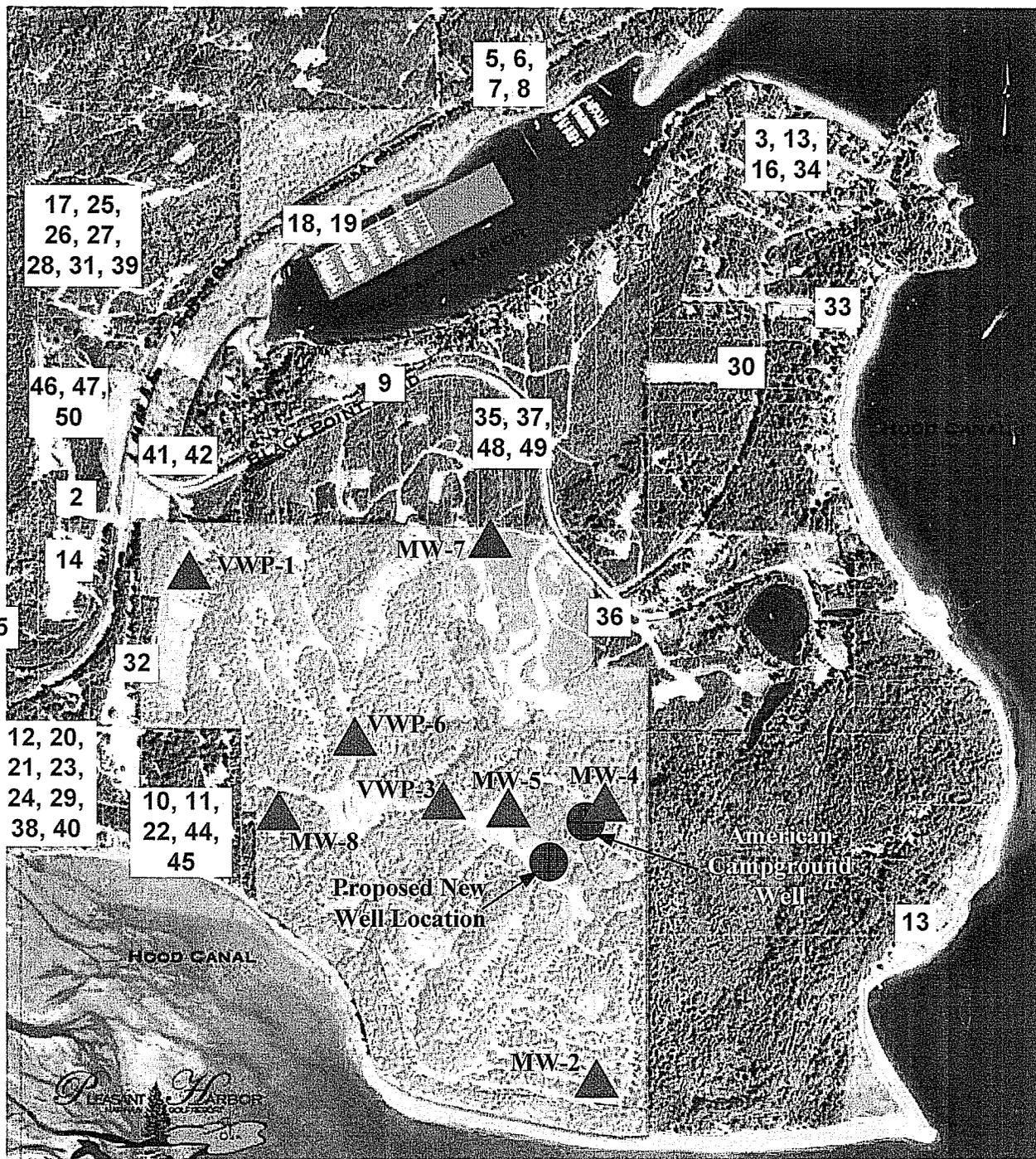
After construction is completed and the occupancy of the resort units commences, all of the dataloggers will be downloaded quarterly. Water quality samples will be collected from the supply wells quarterly. This program will be continued for five years or until the resort has achieved full build-out, whichever is longer, at which time the monitoring plan will be adjusted based on the results of the program. The data will be transmitted to Ecology for its review.

Pleasant Harbor will perform a minimum 72-hour aquifer test at each new water supply well installed for the project. During testing, the wells will be sampled for electrical conductivity and chloride concentrations.

Pleasant Harbor will use its best efforts to sample a minimum of two coastal domestic wells for electrical conductivity and chloride concentrations twice a year in April and August. Sampling will be dependent upon obtaining the permission, cooperation, and availability of the owner of the domestic well. Ecology has identified four potential candidates. Pleasant Harbor will prioritize these wells, and will seek others if the listed wells are not available. For consistency, Pleasant Harbor will attempt to establish a long-term relationship with those well owners.

Sincerely,

M. Garth Mann
President & CEO
The Statesman Group of Companies



Notes:

- 1) Well locations are approximate. Domestic well locations typically to nearest quarter quarter unless better known.
- 2) See Appendix for well logs

- Monitoring Well Location (MW = monitoring well; VWP = vibrating wire piezometer)
- Water Supply Well Location

Subsurface Group, LLC	Pleasant Harbor Marina and Golf Resort Groundwater Impact Evaluation Statesman Corporation	Domestic Well and Monitoring Well Locations	Project Number SG0601-03
			Figure 1

