

Shangri-La Shores 2nd Well Project

18 November 2021

Our Existing Well

- 58 Years Old, Installed Nov 1963
 - Island County Hydrogeologist stated that wells typically last about 50 years and recommended that SLS start work to replace existing well.
 - Approximately 230 yards from beach
- Recent Repairs Completed in August 2021
 - Existing pump failing/failed due to excessive rust from galvanized iron pipe from pump to surface.
 - New stainless steel submersible pump & pump controller, PVC pipe from pump to surface with new stainless steel couplers, electrical wire to pump, well casing/bottom screen assembly brush cleaned, and rust & sediment bailed from the bottom of well.
 - Cost \$27,000

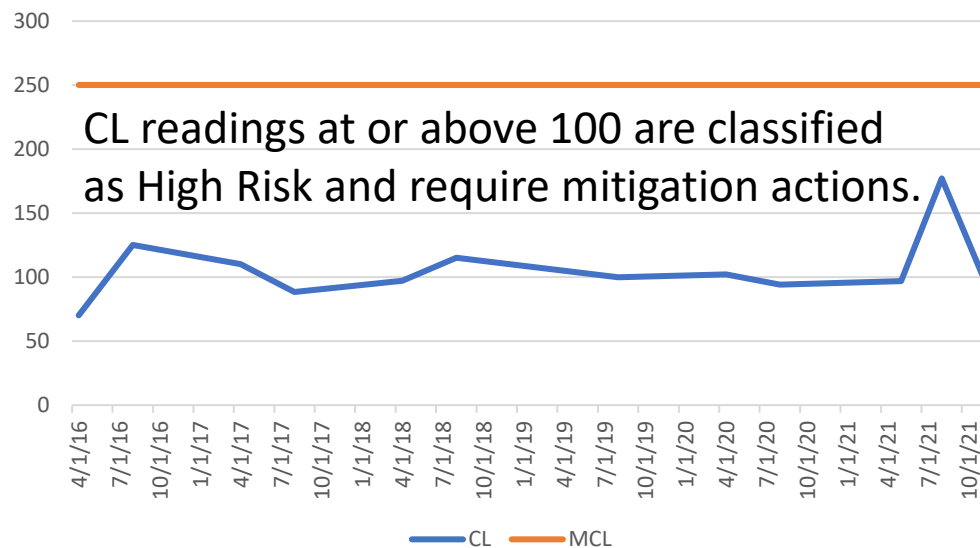
Our Existing Well

- Existing Water Quality Concerns

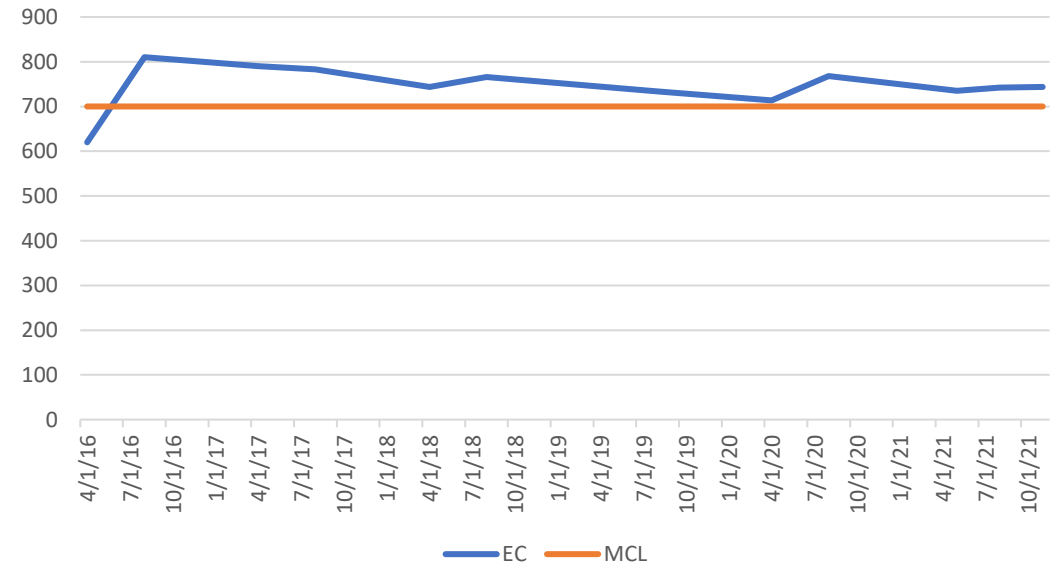
- Conductivity
(Total Dissolved Solids)

- Chloride (CL)

SLS Well Water Chloride (CL) Levels in ml/L



SLS Well Water Conductivity Levels in umhos/cm

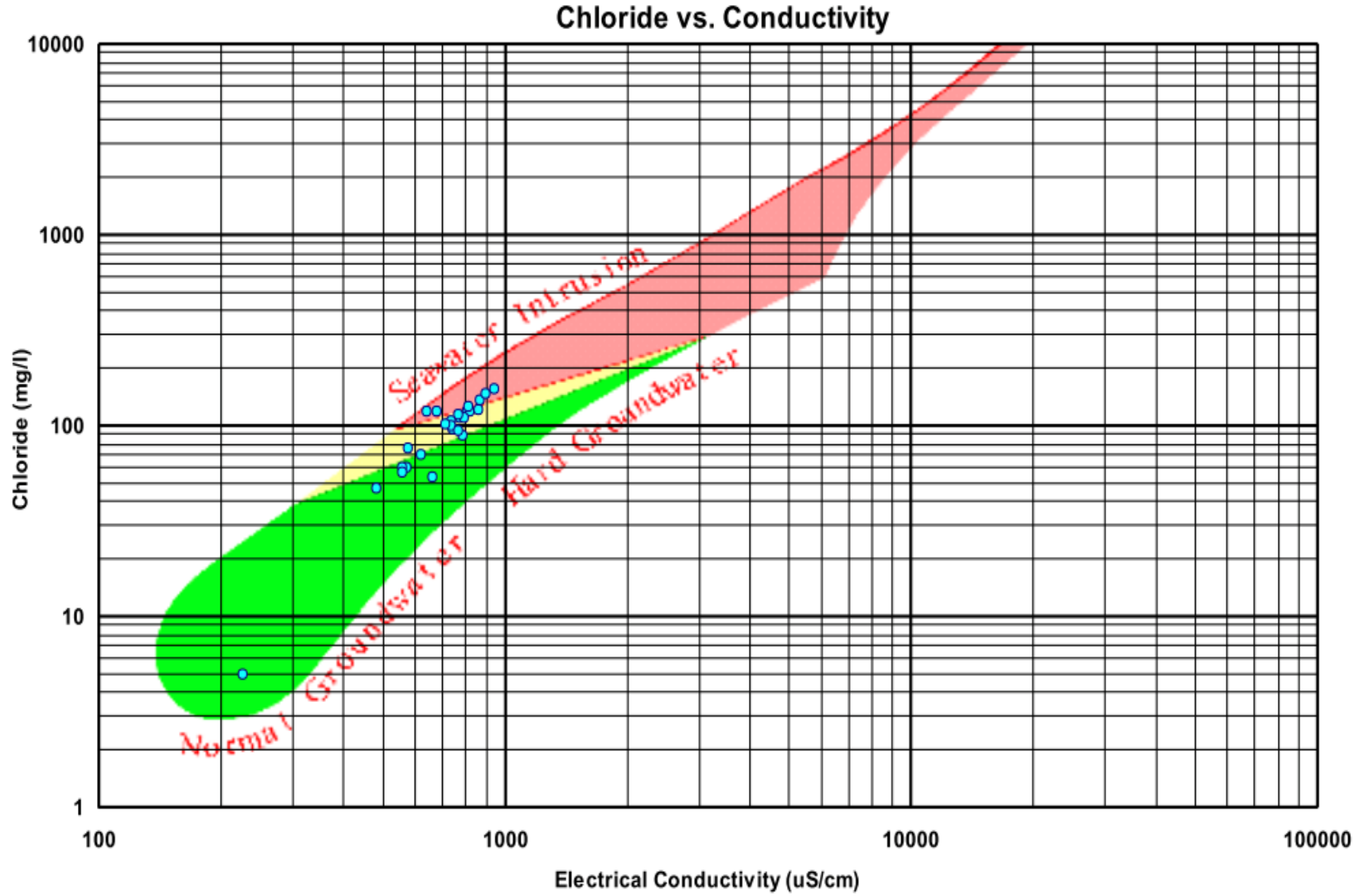


- Sample collected 08/31/2021
- Well may have been significantly disrupted by cleaning & repairs.
- New Sample Collected 11/02/2021

MCL – Maximum Contamination Level



Chloride vs Electrical Conductivity
Well: 34C

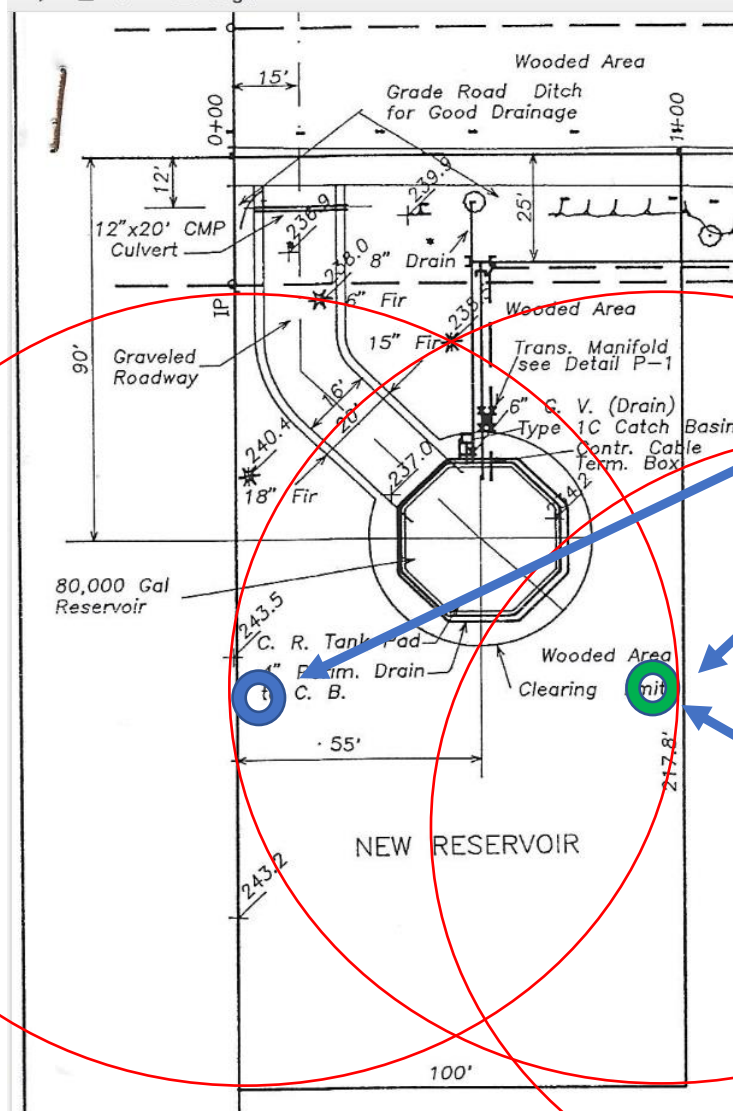


Disclaimer: Data presented has been collected from a variety of sources. Island County makes no guarantee as to the validity or accuracy of this data. Please report any errors to the Island County Hydrogeologist

2nd Well Proposed Location



2nd Well Proposed Location



Proposed New Well Locations

100 Foot Radius Sanitary Control Area

Stewart's Two Party Well

Approx. 35'

DAVIDO CONSULTING

Davido Consulting Group, Inc. (DCG) was founded in 1999 and has grown to four offices in the Puget Sound region. Their projects take them up to the Canadian border and as far south as San Diego. Their mission drives them to work in the best interests of their clients.

DCG provides a full range of routine water system engineering services. These services include:

- Groundwater treatment system design
- Water system comprehensive plans
- * Water system capacity analysis
- Water system expansion designs
- Contract documents to support improvement projects
- Design of transmission lines
- Sizing and design pump stations
- Sizing and configuration of reservoirs
- Sizing and configuration of hydropneumatic tanks
- * Source development and approval
- * Comprehensive planning and analysis
- Operational optimization of existing facilities
- Hydraulic modeling
- Water system mapping
- Review of developer extensions
- Operational support
- * Permit assistance

Below is a list of water services clients DCG has served:

- | | |
|----------------------------------|---------------------------------------|
| Baby Island Heights | North Bluff |
| Bayview Alternative School | Palmer's Mutiny Bay Lane |
| Bayview Beach Water District | Pasado Safe Haven |
| Bonnie View Water System | Race Lagoon Heights |
| Bridge Church | Rodena Beach Water District |
| Bush Point Beach Association | Saratoga Beach Owners |
| Cal Waterworks | Saratoga Water District |
| Camaloch Evergreen Acres | Seattle Public Utilities |
| City of Langley | Sierra Country Club Water Association |
| Fields Water System | Stillaguamish Tribe of Indians |
| Freeland Water District | Summerland Community Association |
| Island County Public Works | Sundin Beach Water System |
| Harrington Lagoon | TEL Water Company |
| Long Point Water Company | Tatoosh Water Company |
| Maple Hill Park | Tyee Beach Water Association |
| National Park Service | USDA Forest Services |
| Naval Air Station Whidbey Island | W&B Waterworks |
| | Warm Beach Water Association |
| | West Beach Road Water Association |
| | Whidbey West Water System |

PACIFIC GROUNDWATER GROUP

Formed in 1987, Pacific Groundwater Group is dedicated to solving the complex water resource and environmental challenges of the Pacific Northwest. With an experienced staff that includes some of the most highly regarded professionals in the industry, they offer their clients a range of diverse and complementary skills.

Pacific Groundwater Group offers water resource and environmental expertise in 13 key areas:

Groundwater development

Property transfer

Cost Allocation

Remedial investigation and cleanup

Expert witness

Wellhead protection

Solid waste compliance

Water rights support

Data management

Groundwater modeling

Watershed assessment

Aquifer storage and recovery

Wastewater and stormwater recharge

Notional Project Schedule

Task/Milestone Description	Category	Assigned to	Progress	Start	Days	Finish
Site Selection Hydrogeologist Analysis	Low Risk	PGG	100%	6/1/20	60	7/31/20
Davido Consulting Group Contracted	Low Risk	SLS HOA Board	100%	8/1/21	32	9/2/21
Pacific Groundwater Group Contract Revision	Low Risk	SLS HOA Board	100%	8/13/21	37	9/19/21
3 Year Project Approval by HOA Board	Milestone	SLS HOA Board	100%	10/23/21	0	10/23/21
Start of Project Year 1	Milestone		100%	10/23/21	0	10/23/21
Develop SLS Desired Project Timeline	On Track	Tom	100%	10/23/21	10	11/2/21
Prepare Island County Public Health Application for Well Site Inspection	High Risk	DCG	90%	11/1/21	10	11/11/21

Notional Project Schedule

Task/Milestone Description	Category	Assigned to	Progress	Start	Days	Finish
Determine Well Location Options within Easement and Select Well Location	Low Risk	DCG	100%	11/4/21	1	11/5/21
Submit Island County Public Health Application for Well Site Inspection	Low Risk	DCG & Brian Pulk	0%	11/5/21	5	11/10/21
Prepare Water Right Application (PGG Task 10)	Low Risk	PGG	0%	11/5/21	60	1/4/22
Draft Restrictive Covenant for Louise Stewart Approval	Low Risk	tbd	0%	11/5/21	30	12/5/21
Obtain Louise Stewart Approval on Restrictive Covenant	High Risk	Brian Pulk	0%	12/5/21	60	2/3/22
Apply for Sanitary Control Area Variance if Needed (PGG Task 4)	High Risk	DCG & PGG	0%	2/3/22	30	3/5/22
SCA Variance Approval Process	High Risk	IC DOH	0%	3/5/22	90	6/3/22

Notional Project Schedule

Task/Milestone Description	Category	Assigned to	Progress	Start	Days	Finish
SCA Variance & Well Site Approval	Milestone	IC DOH	0%	6/3/22	1	6/4/22
Submit Water Right Application to WA DOE & Complete Cost Reimbursement Agreement Process	Low Risk	Brian Pulk & PGG	0%	6/4/22	60	8/3/22
Select Well Driller (DCG Task 3)	Low Risk	DCG	0%	6/4/22	5	6/9/22
Select Pump House Infrastructure Contractor	Low Risk	Tom & Brian	0%	6/4/22	5	6/9/22
WA DOE Water Right Change Request Review	Low Risk	WA DOE/DOH	0%	8/3/22	120	12/1/22
Start of Project Year 2	Milestone			10/23/22	0	10/23/22
Public Notice of SLS Water Right Change (PGG Task 10)	High Risk	PGG	0%	12/1/22	30	12/31/22

Notional Project Schedule

Task/Milestone Description	Category	Assigned to	Progress	Start	Days	Finish
WA DOE Issue Preliminary Permit to Drill	Milestone	WA DOE/DOH	0%	12/31/22	1	1/1/23
Receive/Approve Cost Estimates for Well Drilling, Pump House, & Electrical	Low Risk	SLS HOA Board	0%	1/1/23	5	1/6/23
Obtain Island County Utility Permit to connect to power on Woods Lane	Low Risk	Electrical Contractor	0%	1/6/23	90	4/6/23
Drill Well	Low Risk	Well Driller	0%	1/6/23	30	2/5/23
Well Testing & Analysis (PGG Task 6 & DCG Task 4))	Low Risk	PGG & DCG	0%	2/5/23	90	5/6/23
Prepare Draft Report of Examination (ROE) (PGG Task 10)	Low Risk	PGG	0%	2/5/23	60	4/6/23
Complete Source Approval Project Report (DCG Task 6)	Low Risk	DCG	0%	2/5/23	90	5/6/23

Notional Project Schedule

Task/Milestone Description	Category	Assigned to	Progress	Start	Days	Finish
Complete Water Right Approval Process	Low Risk	PGG & WA DOE	0%	4/6/23	90	7/5/23
Order, purchase & install pump & pipe	Low Risk	DCG & Well Driller	0%	5/6/23	60	7/5/23
Construct Well House	Low Risk	Contractor	0%	5/6/23	90	8/4/23
Complete IC DOH Source Approval Process	High Risk	DCG & IC DOH	0%	5/6/23	90	8/4/23
Seawater Intrusion Modeling if Required by IC (PGG Task 7)	Low Risk	PGG	0%	6/4/22	90	9/2/22
Run/Install Electrical Power to Well House	Low Risk	Electrical Contractor	0%	8/4/23	90	11/2/23
Connect Well to SLS Public Water System	Low Risk	Contractor	0%	8/4/23	90	11/2/23
Start of Project Year 3	Milestone			10/23/23	0	10/23/23

Project Budget

Engineering (Davido Consulting Group)

	Quantity	Unit	Cost/Unit	Est. Cost
Project Management/Admin (DCG Task 1)	1	lump sum	\$ 4,000	\$ 4,000
Site Survey Support (DCG Task 2)	1	lump sum	\$ 2,000	\$ 2,000
Well Drilling Support (DCG Task 3)	1	lump sum	\$ 7,000	\$ 7,000
Well Testing Support (DCG Task 4)	1	lump sum	\$ 3,000	\$ 3,000
Project Plans (DCG Task 5)	1	lump sum	\$ 11,000	\$ 11,000
Source Approval Project Report (DCG Task 6)	1	lump sum	\$ 7,000	\$ 7,000
Construction Assistance & Closeout, and Project Cert (DCG Task 7)	1	lump sum	\$ 20,000	\$ 20,000
			Total Engineering: \$	54,000

Project Budget

Other Costs

	Quantity	Unit	Cost/Unit	Est. Cost
Cultural Survey	1	lump sum	\$ -	\$ -
IC DOH Site Inspection	1	lump sum	\$ 600	\$ 600
WA DOE Water Right Processing & Approval (WA DOE Cost Reimbursement Process)	1	lump sum	\$ 10,000	\$ 10,000
Variance for 100' Sanitary Control Area (PGG Task 4)	1	lump sum	\$ 600	\$ 600
Seawater Intrusion Modeling (PGG Task 7)	1	lump sum	\$ 10,965	\$ 10,965
Hydrogeologist Documentation (PGG Task 8)	1	lump sum	\$ 4,590	\$ 4,590
IC DOH Site Approval Support PGG (Task 9)	1	lump sum	\$ 1,000	\$ 1,000
Site Selection Analysis + Water Right Support (PGG Task 10)	1	lump sum	\$ 7,529	\$ 7,529
Hydrogeologist Project Management (PGG Task 11)	1	lump sum	\$ 4,591	\$ 4,591
Environmental Report	1	lump sum	\$ -	\$ -
Topographical Survey	1	lump sum	\$ -	\$ -
Legal Fees (Restrictive Covenant vs. Variance)	1	lump sum	\$ 5,000	\$ 5,000

Total Other Costs: \$ 44,875

Project Budget

- Estimated Project Cost: \$203,545
- 20% Contingency: \$40,709
- Estimated Total Project Cost: \$244,254

Project Financial Resource Plan

YEAR	BEGINNING BALANCE	PLANNED ASSESSMENT (3% Growth)		SPECIAL SURCHARGE		NEW WELL EXPENSE (and new hookups)	END OF YEAR BALANCE* (1% Investment Growth)
		PER WATER SHARE	TOTAL	PER WATER SHARE	TOTAL		
2022	\$87,235	\$229	\$17,366	\$700	\$53,200	\$82,000	\$76,673
2023	\$76,673	\$235	\$17,887	\$700	\$53,200	\$82,000	\$66,527
2024	\$66,527	\$242	\$18,424	\$700	\$53,200	\$82,000	\$56,816
2025	\$56,816	\$250	\$18,976			\$1,810	\$74,550
2026	\$74,550	\$257	\$19,546				\$94,841
2027	\$94,841	\$265	\$20,132			\$1,902	\$114,020
2028	\$114,020	\$273	\$20,736				\$135,896
2029	\$135,896	\$281	\$21,358			\$1,998	\$156,615
2030	\$156,615	\$289	\$21,999				\$180,180
2031	\$180,180	\$298	\$22,659			\$2,099	\$202,541
						*Covers major repairs, upgrades and capital improvements	