

**COMMISSIONERS PREAGENDA
FOR THE REGULAR MEETING OF
CLALLAM COUNTY PUBLIC UTILITY DISTRICT #1
BOARD OF COMMISSIONERS
MARCH 8, 2021**

Join Zoom Meeting:

<https://zoom.us/j/97282590748?pwd=MzZlRE5kYnRZUXZiVlJoMEhiaVZPQT09>

Meeting ID: 972 8259 0748 | **Passcode:** 591832

One tap mobile: +12532158782,,97282590748#,,, *591832# US (Tacoma)

Find your local number: <https://zoom.us/u/ahLjGdC>

- **Consent Agenda Items**

The Commissioners will consider approving Consent Agenda items.

- **WPAG Presentation on EIM**

Ryan Neale of Washington Public Agencies Group (WPAG) will give a presentation to the board on the Energy Imbalance Market (EIM).

- **Acceptance Memo of Completion for Contract No. 201008**

The Commissioners will consider authorizing Acceptance Memo of Completion for Contract No. 201008 201008 with 2 Grade LLC. The project consisted of installing a water main under Winterhaven Drive, near Mount Pleasant Road, to create a distribution system loop in the Gales Addition water system east of Port Angeles. Work started on December 17, 2020 and was completed on January 29, 2021 for a total contact price of \$92,273.53, including WSST.

Staff recommendation: Staff requests a motion, second, and vote to authorize Acceptance Memo of Completion for Contract No. 201008 201008 with 2 Grade LLC. The project consisted of installing a water main under Winterhaven Drive, near Mount Pleasant Road, to create a distribution system loop in the Gales Addition water system east of Port Angeles. Work started on December 17, 2020 and was completed on January 29, 2021 for a total contact price of \$92,273.53, including WSST.

The Commissioners will also consider the customary business matters associated with approval of payments, minutes of the previous meeting, reports from Commissioners and staff, comments from the public, and other items of information or general business. Items may be added to, or removed from, the agenda at the meeting.

AGENDA
FOR THE REGULAR MEETING OF
CLALLAM COUNTY PUBLIC UTILITY DISTRICT #1
BOARD OF COMMISSIONERS
MARCH 8, 2021

Join Zoom Meeting:

<https://zoom.us/j/97282590748?pwd=MzZlRE5kYnRZUXZiVlJoMEhiaVZPOT09>

Meeting ID: 972 8259 0748 | **Passcode:** 591832

One tap mobile: +12532158782,,97282590748#,,,,*591832# US (Tacoma)

Find your local number: <https://zoom.us/u/ahLjGdC>

1. CALL TO ORDER

2. APPROVAL OF CONSENT AGENDA

- a. Minutes of the February 8, 2021 regular meeting;
- b. Claim vouchers for February 8 through March 1, 2021 for a total of \$6,244,188.58;
- c. Payroll vouchers for the period of January 16 through February 15, 2021; and
- d. Removal of delinquent accounts from March 2021 active accounts receivable totaling \$20,648.36, including a 30% collection fee.

3. AGENDA REVISIONS

4. COMMENTS FROM THE PUBLIC

5. BUSINESS ITEMS

- a. Washington Public Agencies Group (WPAG) Presentation on the Energy Imbalance Market (EIM) Ryan Neale
- b. Acceptance Memo of Completion for Contract No. 201008 Tom Martin

6. CORRESPONDENCE/COMMUNICATIONS

- a. Pacific Northwest National Laboratory (PNNL) letter Colin Young

7. COMMISSIONER REPORTS

8. STAFF REPORTS

- a. Transmission System Overview and Design of the Airport Rd to BPA Port Angeles Transmission Rebuild and Voltage Upgrade Ben Phillips

9. BOARD'S ACTION ITEMS FOR STAFF

10. COMMENTS FROM THE PUBLIC

11. EXECUTIVE SESSION

12. ADJOURN

CLALLAM COUNTY PUBLIC UTILITY DISTRICT #1

Minutes of the Regular Meeting of the Board of Commissioners

Main Office | 104 Hooker Road | Sequim, WA 98382

February 8, 2021 – This meeting was held remotely via ZOOM

Commissioners Present

Will Purser, President

Rick Paschall, Vice President (partial attendance)

Jim Waddell, Secretary

Staff Present

Doug Nass, General Manager

John Purvis, Assistant General Manager

Sean Worthington, Finance Manager/Treasurer

Terry Lind, Operations Superintendent

Ben Phillips, Engineer III

Mike Hill, Engineering Manager

Tom Martin, Water/Wastewater Manager

Nicole Hartman, Communications Manager

Steve Schopfer, IT Manager

Lori Carter, Controller/Auditing Officer

Rebecca Turner, Sr. Accountant

Ruth Kuch, Financial Analyst II

Tyler King, Power Analyst

Jamie Spence, HR Manager

Larry Morris, Safety Manager

Teresa Lyn, Executive Assistant

Others Present as Identified

Patti Morris

Richard DeBusman

Krestine Reed

Paula Simpson-Barnes

Janet Marx

The meeting commenced at 1:30 PM.

CONSENT AGENDA 6:20

Upon recommendation of staff, and upon motion of Commissioner Waddell seconded by Commissioner Purser and carried, the Commissioners approved the following consent agenda items:

- a. Minutes of the January 11, 2021 regular meeting;
- b. Minutes of the January 25, 2021 regular meeting;
- c. Claim vouchers for January 25 through February 1, 2021 for a total of \$954,531.16;
- d. Payroll vouchers for the period of January 1 through January 15, 2021; and
- e. Removal of delinquent accounts from February 2021 active accounts receivable totaling \$7609.12 including a 30% collection fee.

AGENDA REVISIONS 7:03

- a. Resolution 2193-21 was added to the agenda under Business items as item c;
- b. Ben Phillips will present Recommendation for Bid# 210801 (now item d); and
- c. Sean Worthington will present Resolution 2191-21 in lieu of Shawn Delplain.

COMMENTS FROM THE PUBLIC 8:08

Comment was heard from an individual regarding the removal of the Snake River dams.

BUSINESS ITEMS 12:17

Upon recommendation of staff, and upon motion of Commissioner Waddell, seconded by Commissioner Purser and carried, the Board passed RESOLUTION 2191-21 Establishing Excess Capacity Network Access Charges.

Upon recommendation of staff, and upon motion of Commissioner Waddell, seconded by Commissioner Purser and carried, the Board passed RESOLUTION 2192-21 Authorizing the Disposal of Surplus Material.

Upon recommendation of staff, and upon motion of Commissioner Purvis, seconded by Commissioner Waddell and carried, the Board passed RESOLUTION 2193-21 In support of undergrounding a span of overhead electric line to reduce avian and power line interactions.

Upon recommendation of staff, and upon motion of Commissioner Waddell, seconded by Commissioner Purser and carried, the Board authorized Recommendation Memo to Bid #210801 for a transmission pole replacement project with distribution and fiber from Airport Road to Cherry Street, Port Angeles, WA. The engineer's estimate for the work under this contract is \$850,000.

CORRESPONDENCE/COMMUNICATIONS 25:19

General Manager Doug Nass shared a letter provided by WPUDA's Executive Director George Caan from eighteen private-sector companies and national organizations in support of House Bill 1336, which, if passed, will provide authority for public entities to provide broadband service to end-users.

COMMISSIONER REPORTS 28:27

Commissioner Waddell attended a North Olympic Development Council (NODC) meeting and a Forks Chamber of Commerce meeting.

Commissioner Purser attended several Energy Northwest (ENW) meetings.

STAFF REPORTS 44:14

Assistant General Manager John Purvis provided a summary of the District's January 27th meeting with BPA to discuss transmission reliability in our territory. Communications Manager Nicole Hartman discussed messaging plans for educating the public on how BPA and District crews address outages, and communication plans for sharing more detailed and timely information to customers while outages are actually occurring.

BOARD'S ACTION ITEMS FOR STAFF 1:12:02

1. Krestine Reed was added as a meeting attendee to the January 25, meeting minutes.

COMMENTS 1:13:01

Comment was heard from an individual expressing appreciation for PUDs sharing of information with the public.

ADJOURN

There being no further business to come before the Commission, the meeting adjourned at 2:44 PM.

ATTEST:

President

Vice President

Secretary

A detailed transcript of this meeting via audio recording is available to the public on the Commission Meetings page of the PUD website here: <https://clallampud.net/commission-meetings/>.

February 8, 2021

PUD#1 OF CLALLAM COUNTY, WASHINGTON

MARCH 2021

**DELINQUENT ACCOUNTS TO BE REMOVED
FROM ACTIVE ACCOUNTS RECEIVABLE**

Delinquent accounts listed for electricity and water on the attached pages are approved to be removed from the active accounts receivable. All accounts to be removed are grouped and total as follows:

03/01/21	Clallam Bay – Evergreen	\$	-
03/01/21	Forks – Evergreen	\$	2,887.93
03/01/21	Port Angeles – Evergreen	\$	5,562.26
03/01/21	Sequim – Evergreen	\$	7,429.29
03/01/21	All Area-Direct W/O Bankruptcy	\$	-
03/01/21	All Area-Direct W/O Deceased	\$	-
03/01/21	All Area-Direct W/O Small Balance	\$	5.05
	SUBTOTAL	\$	15,884.53
03/01/21	30% Collection Fee	\$	4,763.83
	TOTAL	\$	20,648.36
	Previous Debt Collected in February 2021	\$	1,390.51
	Previous Debt Collected Year To Date 2021	\$	2,319.53

Dated this _____ day of _____, 20_____.

President

Secretary

Vice-President

SW:kw

Attachments

These lists comply with our CIS software which removes accounts from the active accounts receivable when placed with a collection agency (classifies them as bad debt). The exceptions are bankruptcies, deceased customers and customer accounts with small balances under \$20. These are removed under the categories of All-Area Direct W/O, but not placed with a collection agency.

Briefing Materials for Clallam PUD

March 8, 2021

Presented by:

Ryan Neale
Marsh Mundorf Pratt Sullivan & McKenzie, PSC

Agenda

2

- BPA Post-2028 Power Contract Process
- Energy Imbalance Market Update

PROCESS FOR DEVELOPING BPA'S POST-2028 POWER CONTRACTS



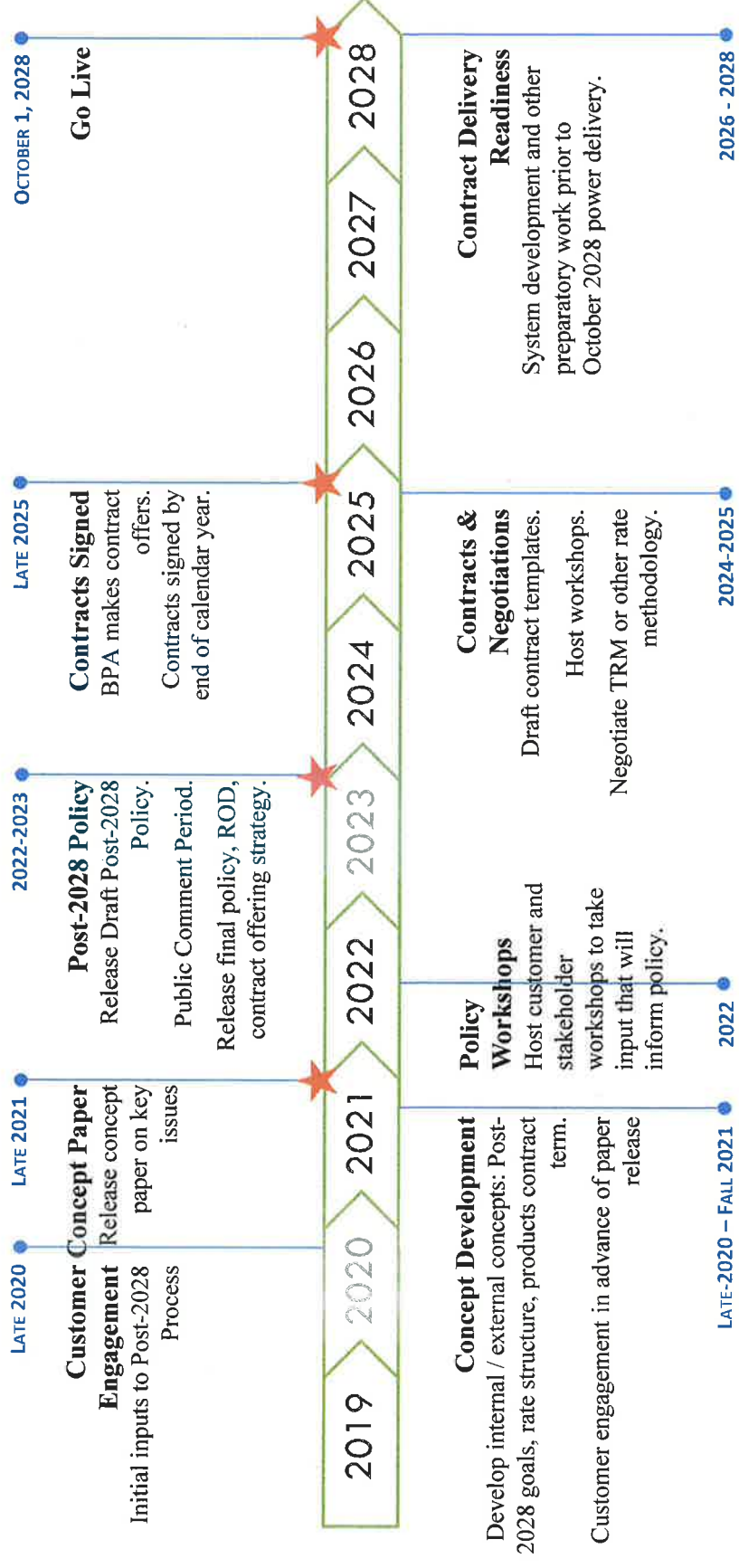
BPA's Provider of Choice Process

4

- **BPA's current 20-year power contracts with its preference customers are set to expire September 30, 2028**
- **BPA and power customers are starting to think about what the post-2028 contracts might look like**
- **BPA has labeled the process for developing the post-2028 power policy, rates, and contracts the Provider of Choice Process**
 - BPA's website for the Provider of Choice Process can be found [here](#)
- **BPA's Provider of Choice Process is being led by its Northwest Requirements Marketing workgroup – Kim Thompson, VP**
- **BPA's Provider of Choice Timeline (next page) largely mirrors the process BPA undertook in the development of the current Regional Dialogue Contracts**
 - That process, the “Regional Dialogue Process”, began in 2002 even though the then current contracts were not set to expire until the end of FY 2011
 - Revisiting how the Regional Dialogue Process played out from 2002-2011 can give us a good idea of what we can expect from the current Provider of Choice Process between now and 2028



Provider of Choice: Post-2028 Power Policy, Rates, and Contract Timeline



- Timeline outlines BPA's current expectation for the path to signed post-2028 power sales contract. This timeline is subject to adjustment.
- Customer engagement presumed throughout process. Formal engagements precede each formal deliverable, as noted with ★



Regional Dialogue Process Recap

6

- **Based on BPA's Provider of Choice Timeline and our experience under the Regional Dialogue Process, we can reasonably divide BPA's contract development process into eight phases:**
 - Phase 1: Policy Development
 - Phase 2: Development of Product Definitions and Contract Templates
 - Phase 3: Execution of the Long-Term Contracts
 - Phase 4: BPA and Customer Preparation for Implementation
 - Phase 5: Development/Refinement of Tiered Rates Methodology or other rate methodology
 - Phase 6: Residential Exchange Program Implementation/Settlement
 - Phase 7: 1st Rate Case Under New Contract
 - Phase 8: Taking Actual Service Under New Contract

Phase 1: Policy Development

7

- **Regional Dialogue Process - April of 2002 – July of 2007**
 - Began in April of 2002 when a group of preference customers submitted a “joint customer proposal” to BPA
 - Ended in July of 2007 with BPA’s adoption of its Long-Term Regional Dialogue Final Policy and associated Record of Decision
 - A whole series of proposals, meetings and workshops during the intervening five years
- **Provider of Choice Process – Began in 2019 and expected to end in 2023**
 - We are at the beginning of Phase 1 – Policy Development right now
 - According to BPA, Phase 1 began in 2016 with BPA talking with preference customers to learn about their needs and interests for post-2028 service
 - In 2019, BPA initiated a second round of discussions with customers and memorialized these findings in the Provider of Choice [Customer Engagement Summary](#)
 - In 2021, BPA plans to start to collaborate with customers to formulate a policy framework to for post-2028 Provider of Choice contracts and rates
 - This work will culminate in BPA’s release of a concept paper, planned for late 2021
 - The concept paper will then be taken into a more detailed policy development process that will likely end with a Long-Term Provider of Choice Final Policy and Record of Decision in late 2023

Phase 2: Development of Product Definitions and Contract Templates

- **Regional Dialogue Process – July of 2007 – October of 2008**
 - Started after BPA’s adoption of the Long-Term Regional Dialogue Final Policy and ended with BPA’s adoption and approval of the Regional Dialogue Contract templates in BPA’s Long-Term Regional Dialogue Contract Record of Decision on October 31, 2008
 - Product of many workshops and drafting meetings between BPA and its customers
 - This is where the actual contract terms were negotiated and decided and many of the policy decisions made in Phase 1 transitioned from conceptual to technically and legally binding
- **Provider of Choice Process – Expected to commence at the beginning of 2024 and continue into late 2025**
 - Draft and negotiate contract templates
 - Will likely use a similar framework as that used in the Regional Dialogue Process including
 - Many, many workshops and drafting meetings
 - Will start after BPA’s adoption of the Long-Term Provider of Choice Final Policy
 - Will end with BPA adopting Provider of Choice Contract templates in a Long-Term Provider of Choice Contract Record of Decision towards the end of 2025

Phase 3: Execution of Long-Term Contracts

- **Regional Dialogue Process – November and December of 2008**
 - BPA and its customers executed the Regional Dialogue Contracts three years before the expiration of the then existing power sales contracts and three years before customers would take service under the Regional Dialogue Contracts
 - Actual service commenced October 1, 2011
 - This meant that although the Regional Dialogue Contracts are for a 20-year term, customers will only receive actual power deliveries under the contracts for 17 years
- **Provider of Choice Process – Expected execution in late 2025**
 - Similar to the Regional Dialogue Contracts in that execution will take place three years before expiration of the current power sales contracts and three years before customers will take service under the Provider of Choice Contracts
 - Actual service will start October 1, 2028
 - Unknown at this time if the new contracts will be for 20-year terms, but whatever the term subtract three years to determine the length of service under the contract

Phase 4: Preparation to Take Service Under Contract

- **Regional Dialogue Process – December 2008 to October 2011**
 - BPA and customers believed this timing to be critical to afford BPA’s customers a reasonable amount of time between the execution of the new contracts to make informed decisions regarding how to serve their load, and load growth after the expiration of their existing BPA power sales contracts
 - To give adequate lead time to acquire power and/or develop new generation resources
 - This also included the 2011 Contract High Water Mark (CHWM) Process that established each customer’s CHWM
 - CHWM determines how much “Tier 1” power a customer is entitled to purchase from BPA
- **Provider of Choice Process – January 2026 to September 2028**
 - System development and other preparatory work prior to initial power delivery under new contract on October 1, 2028
 - This *might* include, for example, calculation of new CHWMs for customers if it is determined in Phase 1 – Policy Development that BPA will use a similar Tiered Rate Methodology and that new CHWMs should be calculated

Phase 5: Development of Tiered Rates Methodology or Other Rate Methodology

- **Regional Dialogue Process – July 2007 to July 2011**
 - BPA started developing its Tiered Rates Methodology (TRM) after BPA’s adoption of the Long-Term Regional Dialogue Final Policy in July of 2007
 - Held a series of workshops as well as two rate case like processes under section 7(i) of the Northwest Power Act specific to the TRM’s development and adoption
 - Tiered Rates Methodology Record of Decision (November 2008)
 - Tiered Rates Methodology Supplemental Record of Decision (Sept. 2009)
 - Also further revised the TRM in the BP-12 Rate Case Record of Decision (July 2011)
 - The TRM expires when the Regional Dialogue Contracts expire on Sept. 30, 2028
- **Provider of Choice Process – 2024 to 2025**
 - BPA’s current Provider of Choice Process Timeline anticipates negotiations regarding the TRM or other rate methodology to occur concurrently with Phase 2 - Development of Product Definitions and Contract Templates
 - This is likely possible if we retain the salient features of the current TRM
 - This may take longer if BPA and customers decide to either make wholesale changes to the current TRM or to replace the TRM with a different rate methodology altogether

Phase 6: Residential Exchange Program Implementation/Settlement

12

■ **Regional Dialogue Process – 2000 to July 2011**

- From approximately 2000 to 2010, BPA and its customers were locked in a series of very contentious legal battles regarding BPA's Residential Exchange Program (REP) and its various earlier attempts to unlawfully settle it
- Settlement of the REP and associated litigation was one of BPA's top priorities in the Regional Dialogue Process
- In July of 2011, the BPA Administrator adopted the Residential Exchange Program Settlement Agreement Proceeding (REP 12) Record of Decision and executed the 2012 Residential Exchange Program Settlement Agreement
- The Agreement essentially settled the REP and associated litigation whereby the parties to the settlement agreed that the Investor Owned Utilities (IOUs) would receive a stream of payments through FY 2028 to be funded by preference customers through their Tier 1 rates
- The REP Settlement expires when the Regional Dialogue Contracts expire on Sept. 30, 2028

■ **Provider of Choice Process – TBD**

- This issue will need to be addressed again for post-2028 and is likely to be contentious
- If there is no new settlement, BPA will need to determine how it intends to implement the REP under its statutory obligations post-2028
- Any new settlement of the REP would involve the IOUs and will likely take considerable time to negotiate

Phase 7: First Rate Case Under New Contract

Phase 8: Taking Actual Service Under Contract

13

Phase 7: First Rate Case Under New Contract

- **Regional Dialogue Process – Late 2009 to July 2011**
 - Commenced with workshops in late 2009 into early 2010 and finished with a final record of decision in July 2011
 - Addressed a wide range of issues related to the implementation of the TRM in BPA's ratemaking
 - Established precedent for how BPA continues to implement the TRM today for things like the Demand Charge (for example)

- **Provider of Choice Process – 2027 to July 2028**

- Will set precedent for implementation of the new TRM or other rate methodology
- Start with workshops in 2026/2027 and end with a record of decision in July 2028

Phase 8: Taking Actual Service Under Contract

- **Regional Dialogue Process – October 1, 2011**
- **Provider of Choice Process – October 1, 2028**

Provider of Choice Engagement Opportunities

14

- **BPA Account Executives**
- **BPA Provider of Choice Process**
 - Workshops
 - Drafting Sessions
 - Filing Formal Comments
 - Settlement Discussions (if any)
- **Participation in trade associations like WPUA, WPAG, etc.**
- **Engagement and dialogue with other BPA customers**

ENERGY IMBALANCE MARKET (EIM) UPDATE



Energy Imbalance Market

16

- In September 2019, BPA signed an implementation agreement with the California Independent System Operator (CAISO) and a record of decision in a move toward joining the Western Energy Imbalance Market (EIM) in March/April of 2022
- This marked the close of Phase 2 of BPA's five phase EIM decision making process

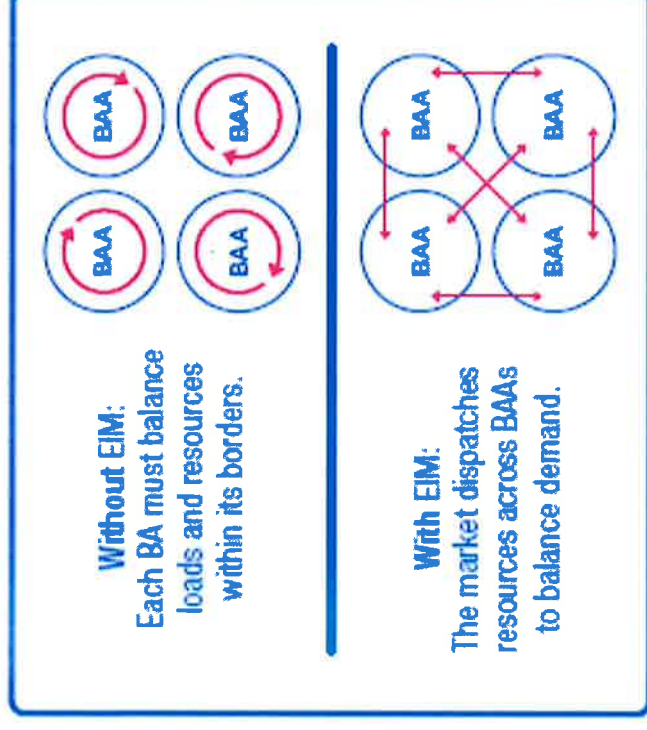
Five phases to decide whether to join the EIM and next steps



Exploration July 2018 – June 2019
Implementation agreement June –Sept. 2019
Policy decisions Oct. 2019–Oct. 2020
BP-22 & TC-22 Dec. 2020 – July 2021
Close-out Aug.–Sept. 2021

What is the EIM?

- An EIM is a centralized, voluntary market that provides a sub-hourly economic dispatch of participating resources for balancing supply and demand every 5 minutes
- The market is security-constrained, meaning transmission and reliability constraints are honored



Why is BPA Considering Joining the EIM?

18

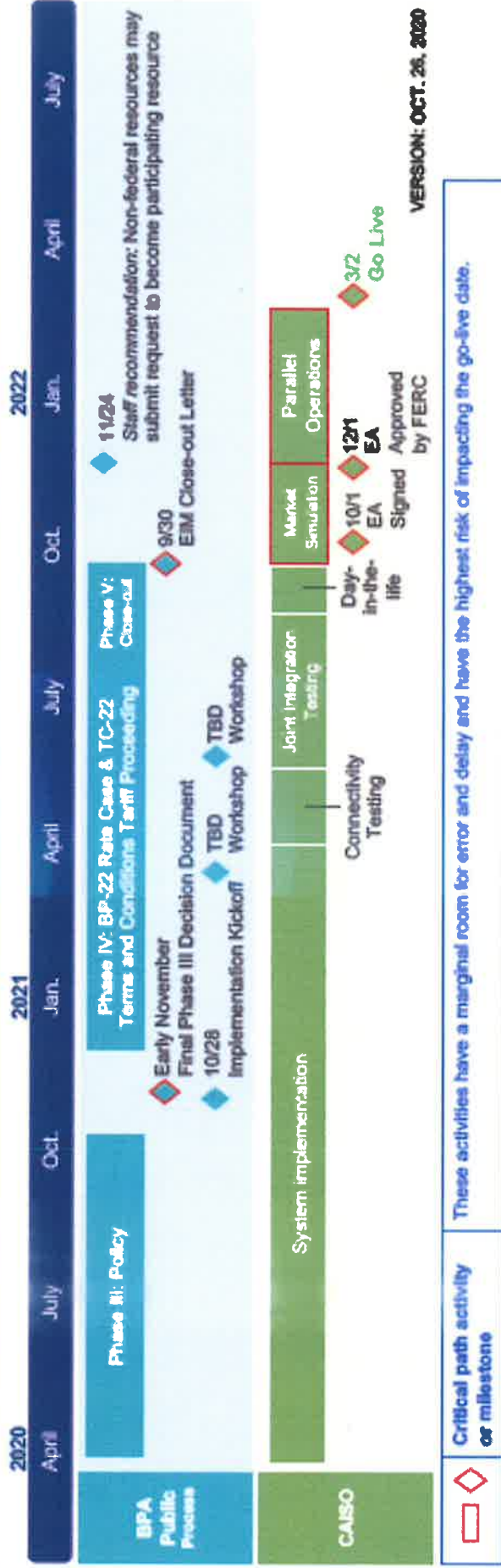
- **Offers BPA a new market for federal hydropower**
 - BPA expects that EIM participation could result in annual net benefits of \$29 million to \$34 million a year
 - If/when realized, this additional revenue should lower power rates
- **BPA believes that participation would improve transmission operations and more efficiently mitigate congestion along transmission corridors**

Where is BPA in the Process of Joining the EIM?

- **The BP-22 rate case and TC-22 transmission tariff case currently underway represent Phase 4 of BPA's EIM decision making process**
 - BPA is establishing the rate and transmission tariff mechanisms that will need to be in place if BPA ultimately decides to join the EIM
 - This will conclude in July of 2021 and will be followed by Phase 5 – Final Decision whether to join the EIM in September of 2021
- **BPA also recently commenced its EIM implementation process to be held through June of 2021 to start to develop the business practices and other policies for following EIM related topics:**
 - ✓ Metering Requirements
 - ✓ Settlements Processes
 - ✓ Settlement Sub-allocation
 - ✓ Losses for EIM transfers
 - Participating Resources
 - Generators in EIM
 - Resource Sufficiency
 - EI For Load
 - EI For Generation
 - Over / Under Scheduling Charges
 - VER Scheduling
 - Scheduling Timing
 - Intentional Deviation
 - Persistent Deviation
 - Transfer Service Costs

Where is BPA in the Process of Joining the EIM

Cont'd?




BPA's EIM implementation timeline. The complete timeline and updates are available at www.bpa.gov/goto/eim.

Concluding Remarks on the EIM

- **BPA has not yet made the decision of whether to join the EIM**
 - This will be made in September 2021
- **BPA nonetheless is marching forward in amending its policies, rates, transmission tariff, business practices, billing, etc. and modernizing its transmission grid to facilitate joining the EIM in March/April of 2022 if the decision to join is made**
- **While the final decision to join has not been made, it would be extraordinary if BPA were to go through all this effort over the last 3+ years and decide not to join**
 - Although BPA did something similar in the early 2000s when it ultimately decided not to move forward with RTO West
- **BPA's load following customers, like Clallam PUD, are unlikely to see much of a difference whether BPA is in or out of the EIM because BPA power services will handle most of the changes under their power contract on their behalf**
- **The long-term, high-level for BPA and its preference customers is where this initial foray in CAISO's organized markets (of which the EIM is just one part) could lead to, e.g., CAISO's Extended Day Ahead Market, and what implications it could have in relation to the Northwest Power Pool's Resource Adequacy program**



MEMORANDUM

Date: February 22, 2020
From: Tom Martin, Water Wastewater Systems Manager 
To: Doug Nass, General Manager
Re: ACCEPTANCE MEMO OF COMPLETION
QUOTATION DUE DATE DECEMBER 1, 2020
WINTERHAVEN WATER MAIN CONSTRUCTION
CONTRACT NUMBER 201008

Work under the above-referenced contract with **2 Grade LLC**, has been completed. It is recommended this contract be accepted as complete.

The project consisted of installing a water main under Winterhaven Drive, near Mount Pleasant Road, to create a distribution system loop in the Gales Addition water system east of Port Angeles.

The Contractor started the project on December 17, 2020, and completed work on January 29, 2021. The total contract cost is as follows:

Item	Total
Contract Cost	\$81,000.00
Change Order #1	\$4,044.73
WSST (8.5%)	\$7,228.80
Total COST	\$92,273.53

TM/jk

Accepted by Board of Commissioners at meeting of: _____, 20__.

Doug Nass, General Manager

CLALLAM COUNTY

TM



Bringing Energy To Life™

BPA CLALLAM COUNTY TRANSMISSION LINE



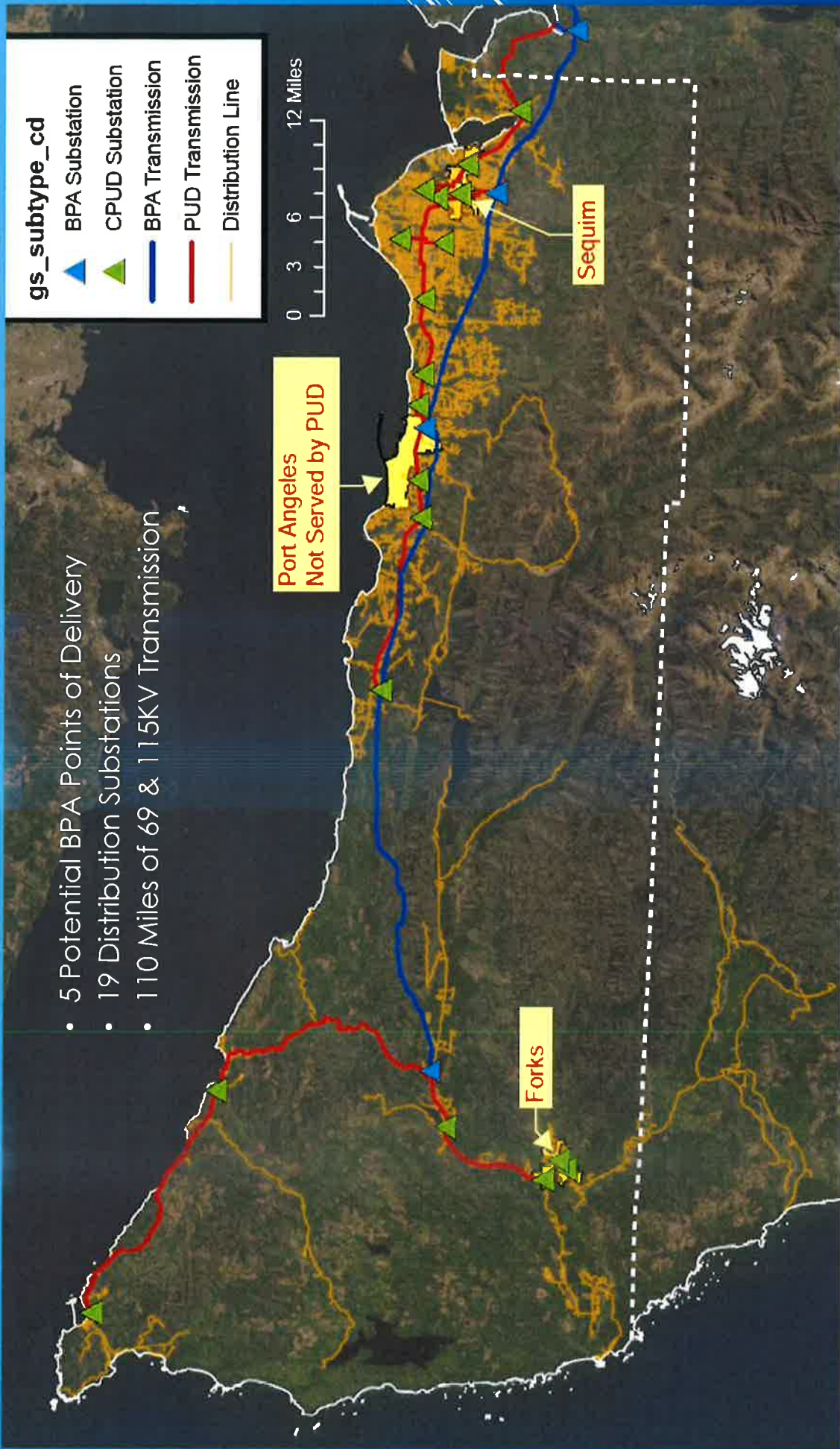
BPA SAPPHO

FORKS

BPA SHELTON

○ Clallam county

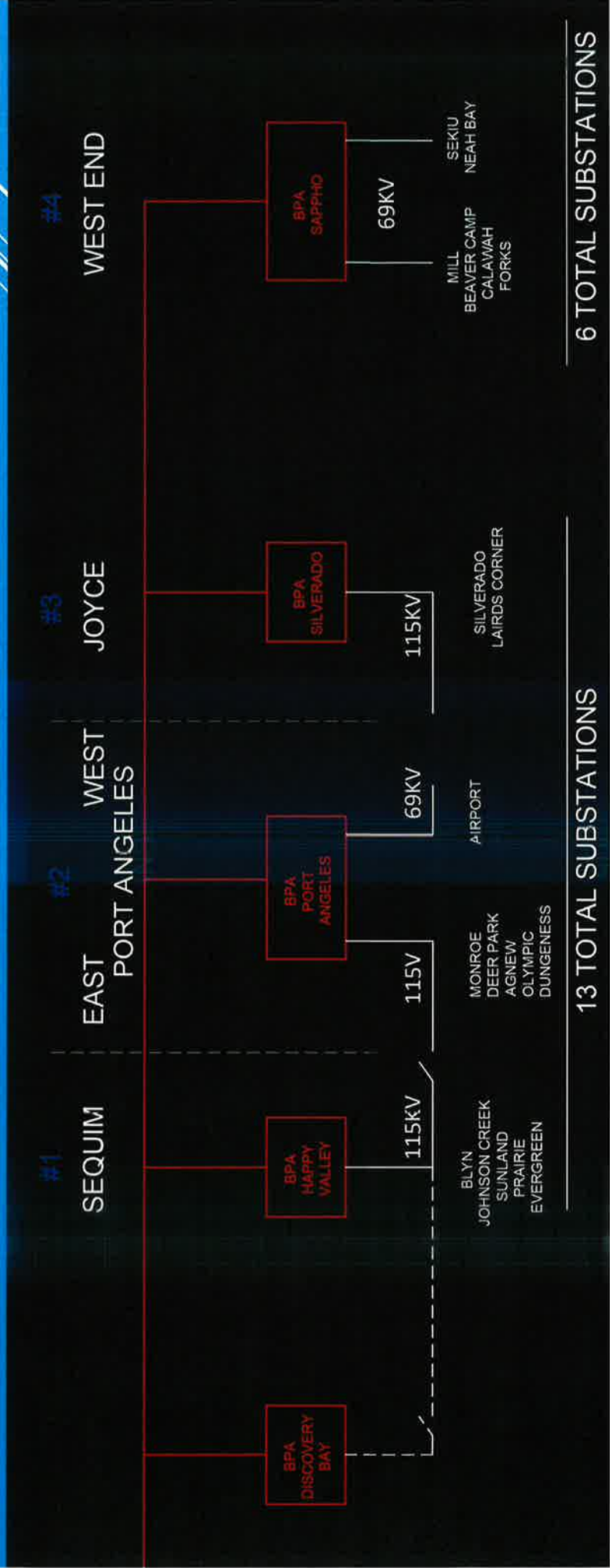
- 5 Potential BPA Points of Delivery
- 19 Distribution Substations
- 110 Miles of 69 & 115KV Transmission



NORMAL CLALLAM TRANSMISSION SYSTEM CONFIGURATION

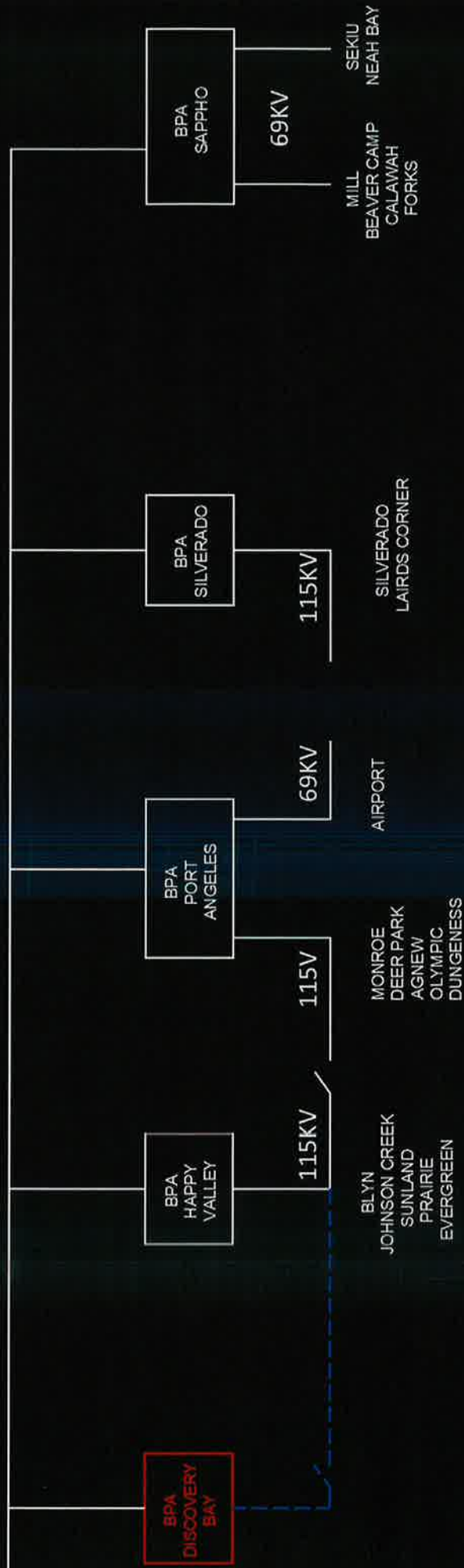
(4) SEPARATE TRANSMISSION SERVICE AREAS

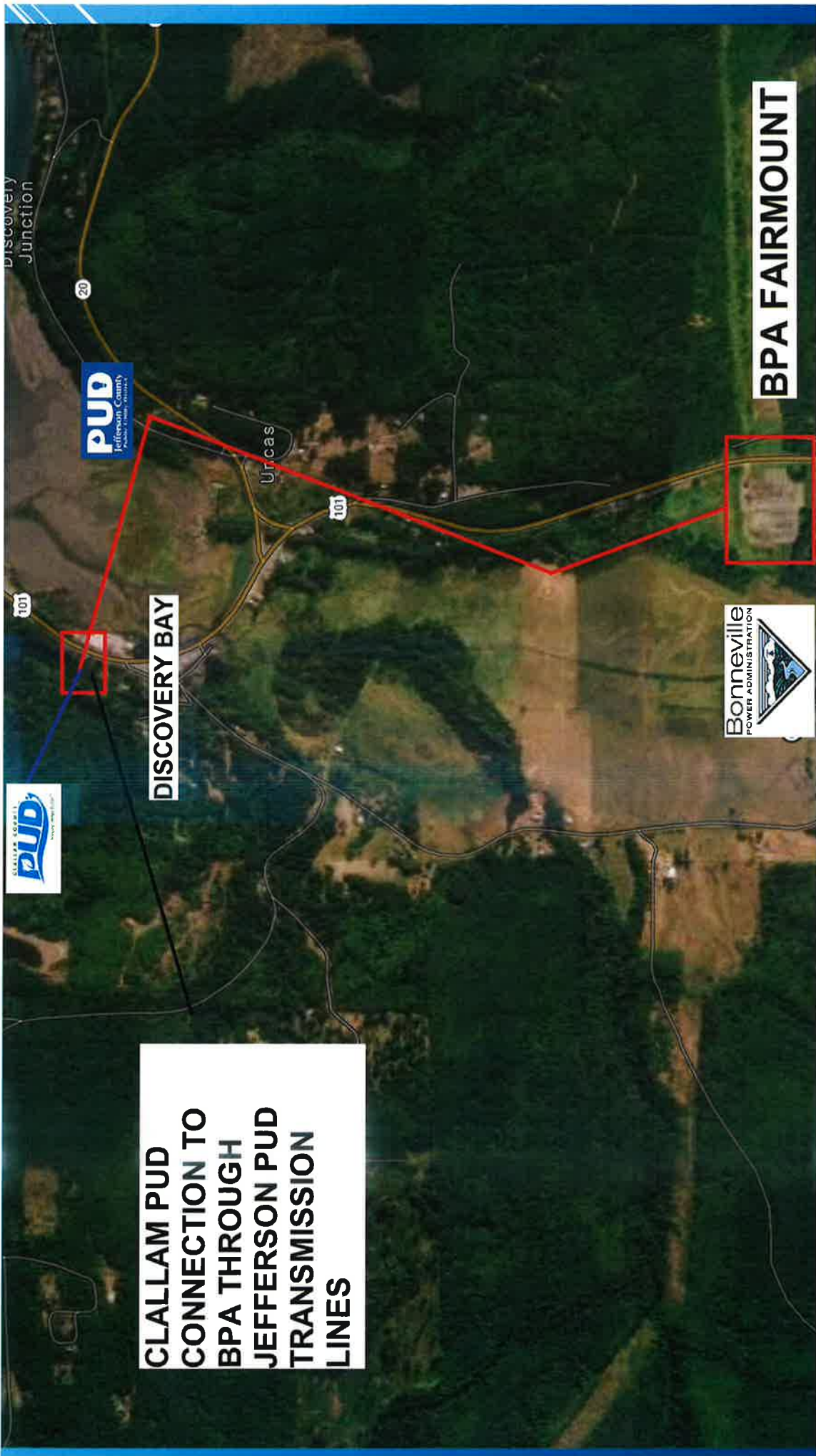
(5) POTENTIAL BPA POINTS OF DELIVERY



BPA DISCOVERY BAY

ONLY USED AS ALTERNATE OR EMERGENCY





**CLALLAM PUD
CONNECTION TO
BPA THROUGH
JEFFERSON PUD
TRANSMISSION
LINES**

BPA FAIRMOUNT

DISCOVERY BAY

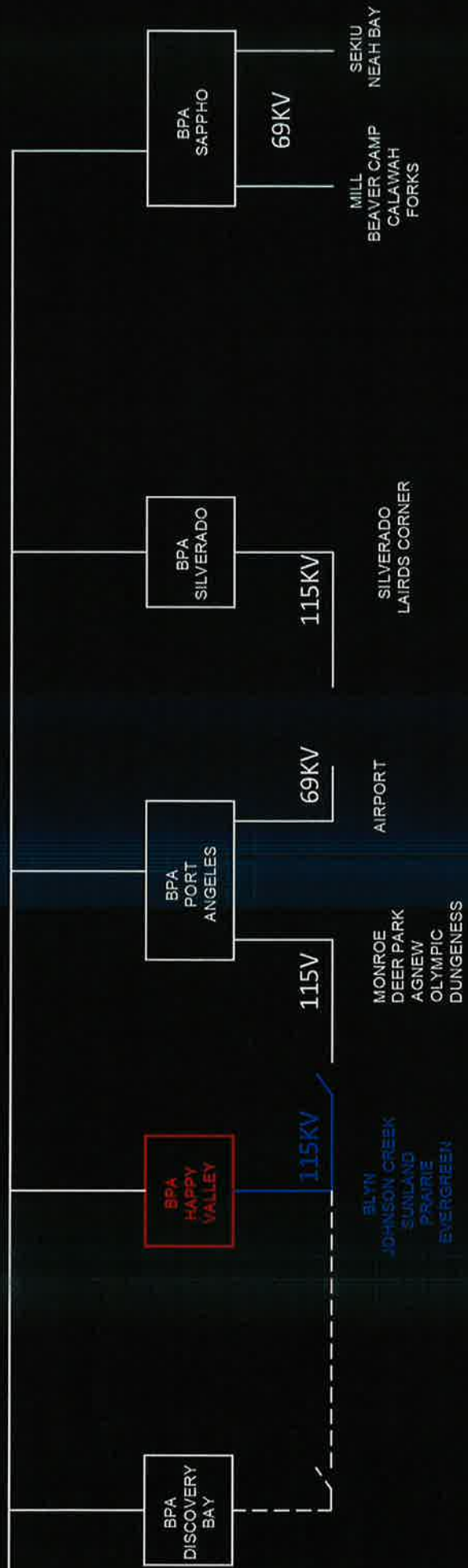
PUD
Jefferson County
Public Utility District

CLALLAM PUD
QUALITY OF SERVICE
Public Utility District

Bonneville
POWER ADMINISTRATION

BPA HAPPY VALLEY

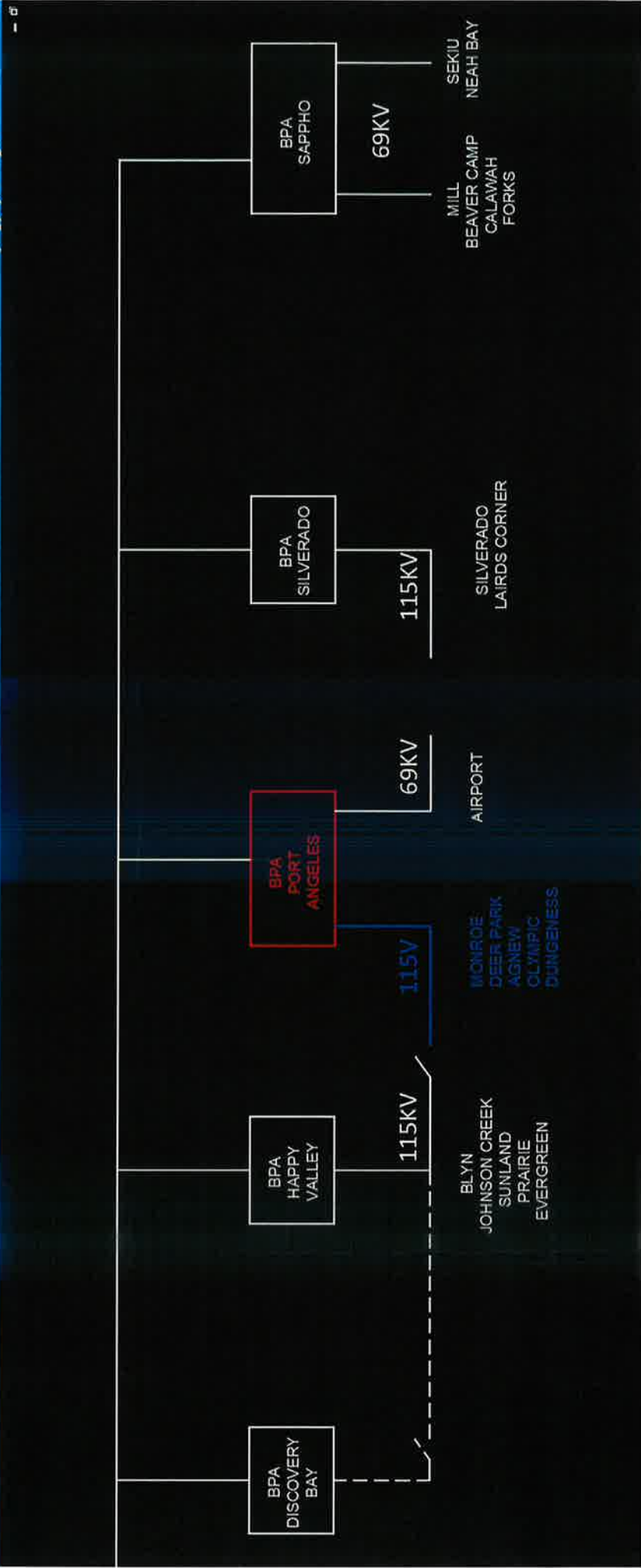
115KV: (5) PUD SUBSTATIONS



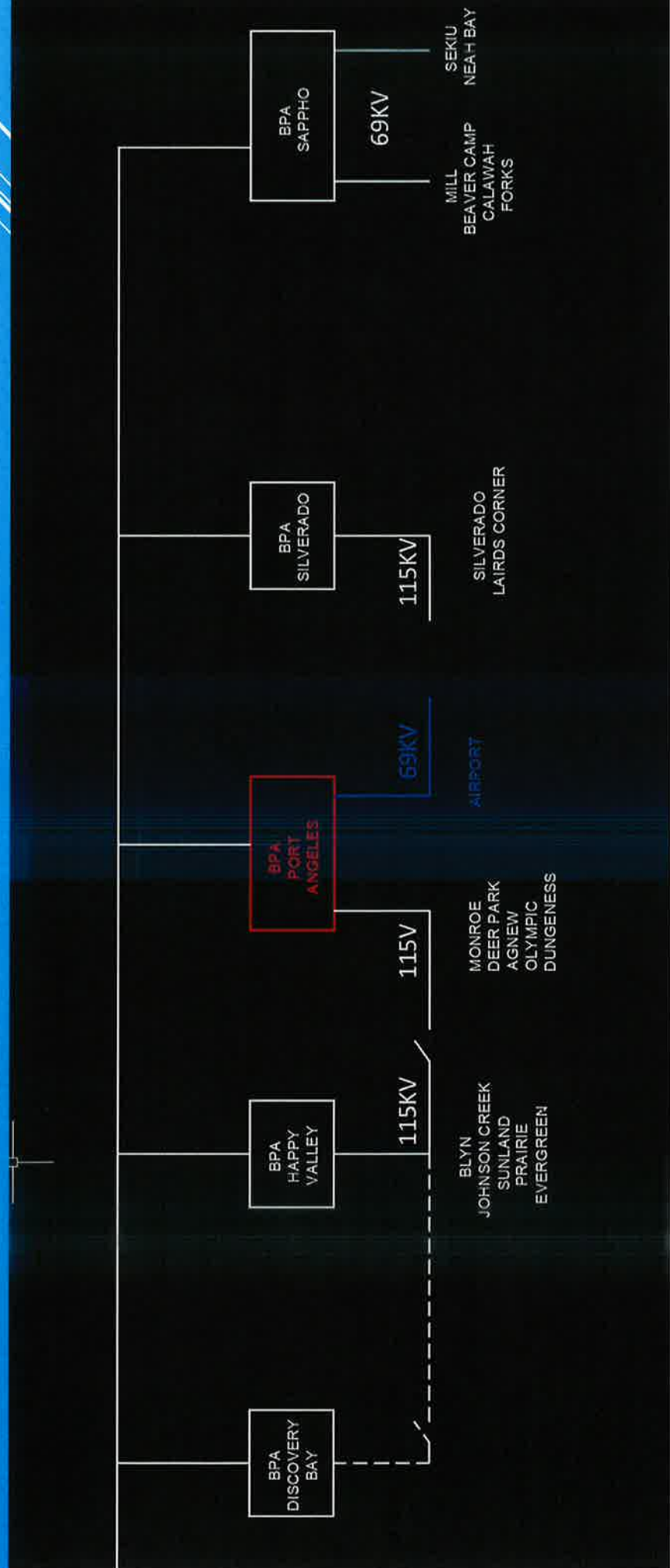
BPA PORT ANGELES

115KV-EASTERN FEEDER

(5) PUD SUBSTATIONS



BPA PORT ANGELES 69KV - CENTRAL FEEDER (1) PUD SUBSTATION





**CLALLAM PUD
115 KV EASTERN
FEEDER**

**CLALLAM PUD
69KV CENTRAL
FEEDER**

**BPA
PORT
ANGELES**

**PENINSULA
COLLEGE**

Google

S Alder St

S Ennis St

E 7th St

E 8th St

S Liberty St

E Lauridsen Blvd

S Liberty St

E Park Ave

Port Angeles
Fine Arts Center

E 9th St

Crestwood Health
and Rehab

Laurel Place

Aurora Aircraft
Maintenance &...

E Park Ave

Highland St

Grant Ave

Grant Ave

Mt Angeles Rd

S Race St

E 10th St

First Christian Church

S Race St

E Park Ave

National
ance sign

National
Center

Faculty Administrati
Building

Peninsula College

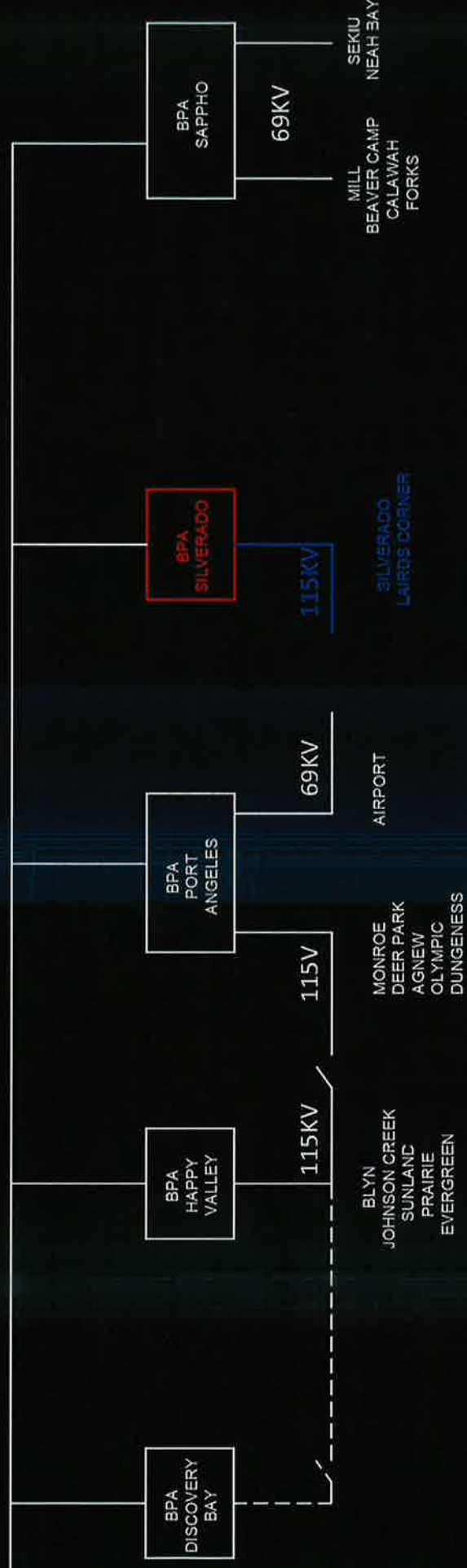
Western Washington
University Extended...

University Center

BPA SILVERADO (JOYCE)

115KV: (2) PUD SUBSTATIONS

INTERMEDIATE CONFIGURATION





**CLALLAM PUD
115KV
SILVERADO FEEDER**

JOYCE

**CLALLAM PUD
SILVERADO SUBSTATION**

**BPA
SILVERADO**

Google

Strait Of Juan de Fuca Hwy

Blackberry Cafe

Joyce General Store

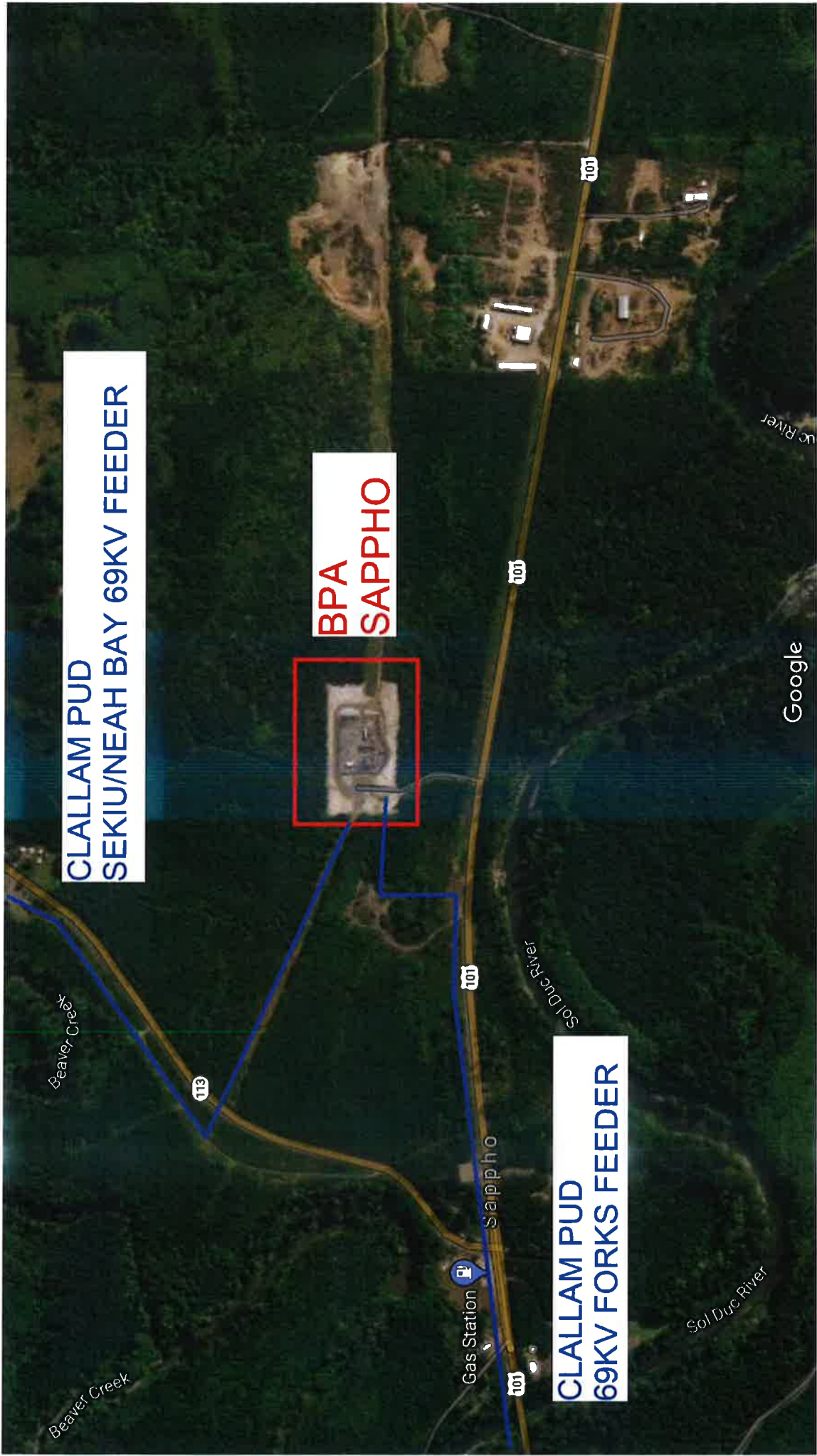
Crescent School District

Joyce

mpout
entals

Whiskey C

Whiskey C



**CLALLAM PUD
SEKIU/NEAH BAY 69KV FEEDER**

**BPA
SAPPHO**

**CLALLAM PUD
69KV FORKS FEEDER**

Beaver Creek

113

Gas Station

Sappho

101

101

101

101

Sol Duc River

Sol Duc River

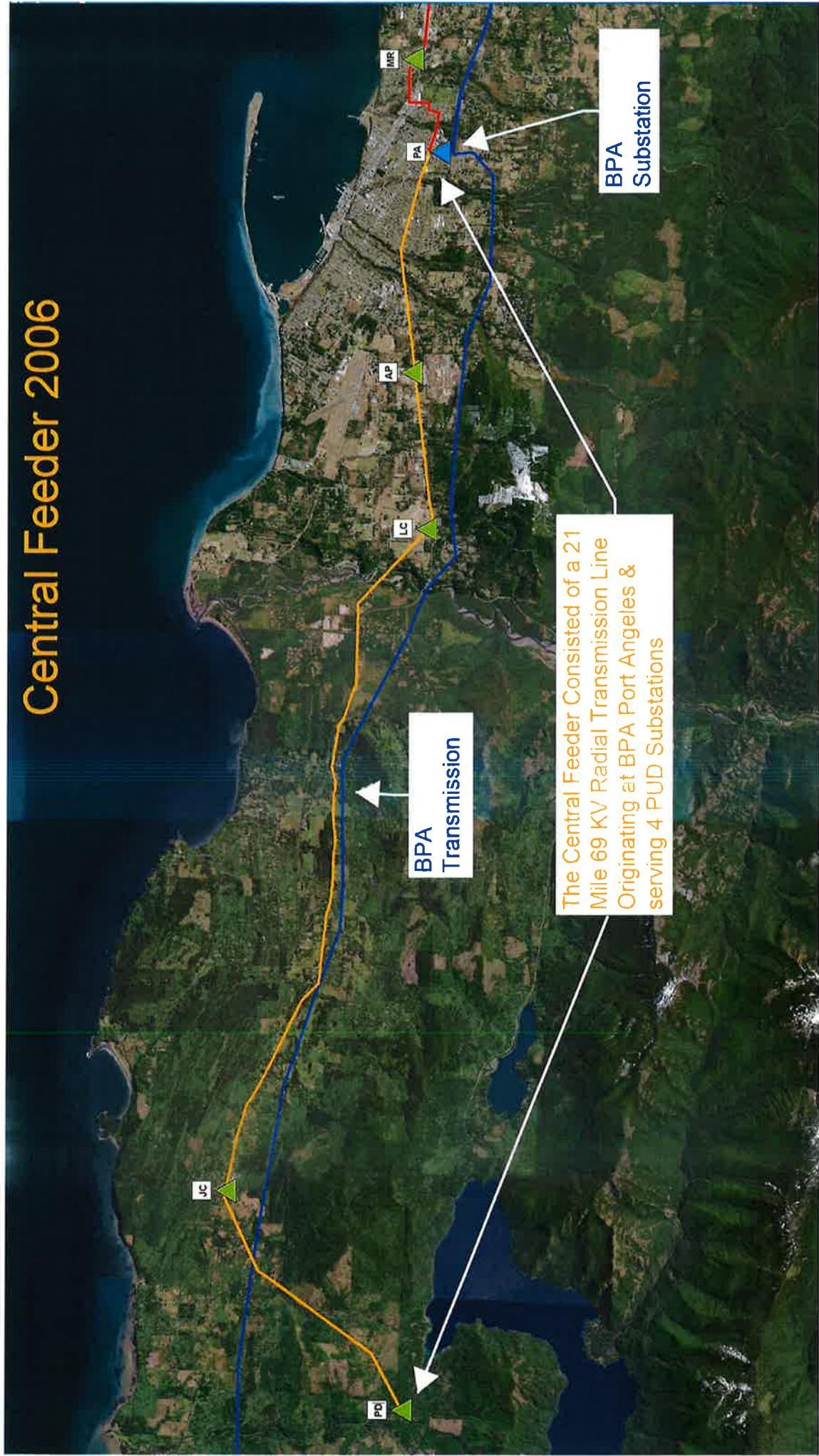
Sol Duc River

Google

CENTRAL FEEDER UPGRADES

- **COMPLETELY LOOPED 115KV
TRANSMISSION FOR EASTERN CLALLAM**
- **FULL BPA SOURCE REDUNDENCY**

Central Feeder 2006



BPA
Transmission

The Central Feeder Consisted of a 21
Mile 69 KV Radial Transmission Line
Originating at BPA Port Angeles &
serving 4 PUD Substations

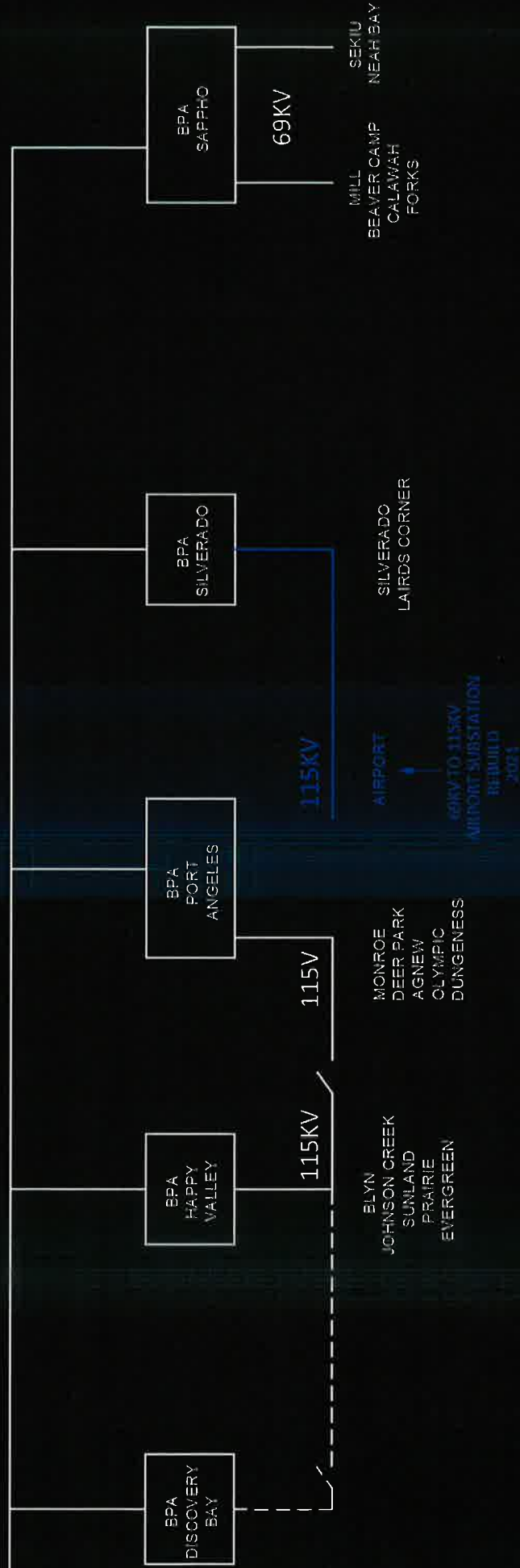
BPA
Substation

Central Feeder 2020

Completion of projects will establish a looped PUD transmission system with full BPA source redundancy for eastern Clallam County



115KV AIRPORT SUBSTATION REBUILD: 2021



69KV TO 115KV TRANSMISSION LINE REBUILD: 2021/2022



69KV TO 115KV
TRANSMISSION LINE
REBUILD
2021/2022

AIRPORT ROAD TO BPA PORT ANGELES (2) PROJECT PHASES LEFT TO REBUILD TO 115KV



**CLALLAM PUD
AIRPORT
SUBSTATION**

**PHASE II
2022**

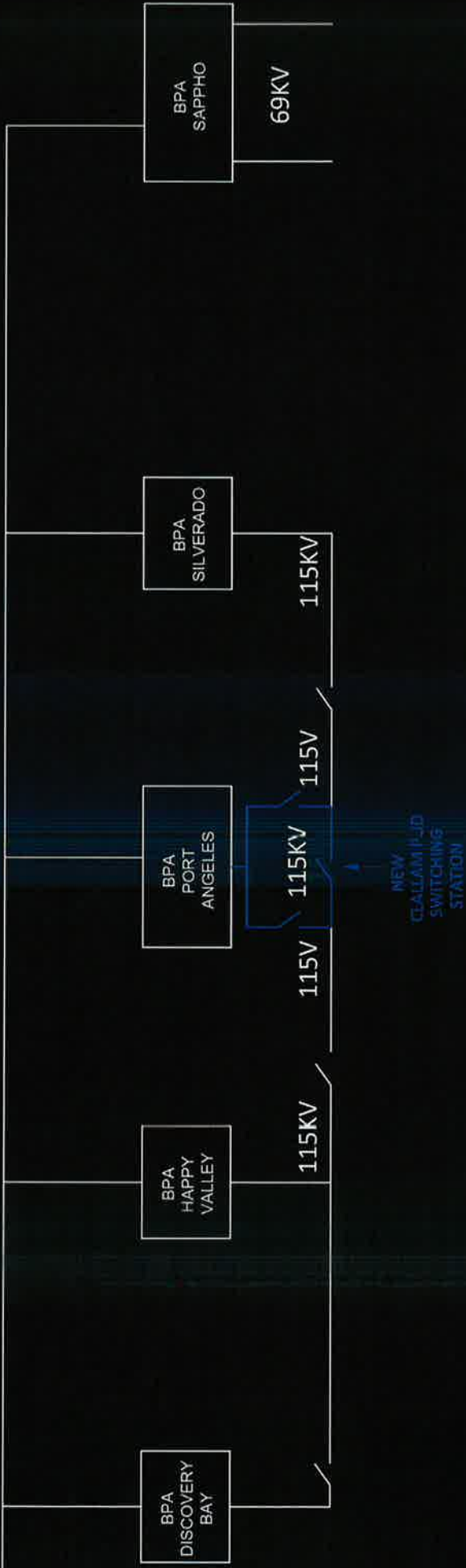
**PHASE I
2021**

**BPA
PORT ANGELES**



Google

115KV CLALLAM PUD SWITCHING STATION: 2022/2023



CLALLAM PUD 115KV PORT ANGELES SWITCH YARD



UPON COMPLETION, CAN SUPPLY ENTIRE SEQUIM/PORT ANGELES SYSTEM FROM ANY (1) OF (4) BPA SOURCES



VIDEO PRESENTATION USING PLS-CADD SOFTWARE FOR TRANSMISSION LINE DESIGN

CENTRAL FEEDER 2021/2022 69KV TO 115KV REBUILD

