- *Meetings may be viewed on the City of Anacortes website, on the City of Anacortes YouTube Channel, or on TV Channel 10.*
- *To watch, listen to, or participate in the meeting live, visit https://us02web.zoom.us/j/84685300609 or telephone 1-253-215-8782 and enter Meeting ID 846 8530 0609.*
- *The public is encouraged to comment via email to pced@cityofanacortes.org, via written comment addressed to PCED, P.O. Box 547, Anacortes, WA 98221. Public comments received prior to 3:00 p.m. the day of the meeting will become part of the record for the meeting, just as if presented in person.*
- *Complete guidelines for virtual participation in Anacortes Planning Commission meetings are available here (page 2). View the quick video example for connecting to the meeting here.*

Anacortes Planning Commission

Municipal Building - Council Chambers
904 6th Street

November 13, 2024
6:00 PM

PRELIMINARY AGENDA
Packet Materials / Watch Meeting

1. **Roll Call**
2. **Minutes**
   a. Minutes of 08/28/2024 were submitted for approval.
3. **Public Comment**
4. **Public Hearings**
   a. SDP-2024-0005: Port of Anacortes T Dock - Shoreline substantial development permit application - Open record public hearing and recommendation to City Council
   b. 2025 Comprehensive Plan Update - Proposed amendments to the Future Land Use Map, urban growth area boundaries, and the goals and policies in the Land Use, Housing, and Transportation elements.
5. **Other Business**
6. **Planning Department Update**
7. **Adjournment**

**Citizens wishing to comment on items not on the agenda may do so under Public Comment. Citizens wishing to comment during a public hearing may do so as those items are considered by the Planning Commission during the course of the meeting.*

The City of Anacortes is committed to making public meetings available and accessible to all members of the community. For assistance with special needs, please contact the City Clerk at 360-299-1960 in advance of the meeting.

Anacortes Planning Commission Minutes - August 28, 2024

Roll Call

Chairperson Linda Martin called to order the Anacortes Planning Commission meeting of August 28, 2024 at 6:00 p.m. Commissioners Jim Stoneman, William McCombs, Frank Jeretzky, Paul Ryan, and Mike Mills were present.

Commissioner Luke Currier was absent.

Minutes

Minutes of 05/22/2024 were submitted for approval.

Linda Martin referenced page 2, paragraph starts "Commissioner Martin referenced SCOG population methodology...". She asked to change 10% to 90%. Mike Mills moved to approve the minutes as amended on page 2. William McCombs seconded. All Ayes.

Public Comment

Bill Turner, 2812 I Ave Anacortes, addressed RCW 95A. It clearly states to me that the City should adopt 95A and the Planning Commission should be under that instead of being under 95. The Planning Commission is an essential part of the Comprehensive Plan update. He moved on to ADU's and the new regulations from the State. In his opinion, there are too many unanswered questions, especially regarding wetlands, zoning, etc. He recommended that the Planning Commission flush that out. We need clear direction on where they can be located.

Ian Munce, 1711 Quail Dr Anacortes, stated that the area he lives in is zoned R1. This area is primed for accepting additional development. Over half of the R1 zoned area is wetlands, streams and buffers. During the last Comp Plan update, the City provided some protections for aquifer areas. There is very little development potential in this area. The City wants to make everything "permitted outright" which excludes the neighborhood from providing input on the projects in their area. I appreciate the Conditional Use permit process. I am in favor of more density and more affordable housing, but it needs to be done correctly. In his opinion, the City Council is taking everything away from the public and giving the decision to the Planning Department and hope they get it right. Neighborhood input is invaluable and makes people feel a part of the community. Lastly, he feels that some of the recent cottage housing does not look like a true cottage housing development.

John Wilkenson, Anacortes, tried to provide comment on the website and received a notification that I was permanently blocked. He would like that checked out. He referenced the recent proposal for the Port of Anacortes electrification and the map associated with that project. He wonders if the Comp Plan recognizes the interface areas between residents and industry. Noise pollution has been an ongoing issue for the Cap Sante area. He recommends transitions between these areas and enforcing noise pollution.

Public Hearings

Other Business

2025 Comp Plan Update: Land Use and Housing Regulatory Concepts presentation and discussion

Libby Grage reviewed where we are in the Comprehensive Plan update and upcoming events.
Bob Bengford with Makers said he will be reviewing the Land Use and Regulatory Concepts for the Comprehensive Plan update. Anacortes is projected to have an additional 5,000 residents by 2045, which equates to almost 3,000 housing units and just over 3,100 new jobs. Permitting in Anacortes over the past few years has declined. We aren't meeting the housing needs annually. To be able to house the projected growth we need 128 new units permitted per year, but we are permitting on average 101 per year. Washington HB 1110

addresses middle housing and Anacortes fits most closest Tier 3. In those cites you must allow duplexes by right in all residential zones.
Jim Stoneman clarified that Anacortes is not actually in Tier 3, but we are close to the size of city addressed in Tier 3.
Mr. Bengford reviewed the action items from the Housing Action Plan (HAP). HAP strategy 2.1.1 is to allow cottage housing in the R1 zone. Currently the process for allowing cottage housing in that zone is not defined. The HAP proposed cottages to be a permitted use with a limit of 1,200 sf and a minimum of 3 units required. HAP 2.1.3 refers to allowing triplexes and townhomes in R2A as a permitted use with a floor area maximum of 1000-1200 sf and 4 units per building. He moved on to HAP 2.1.5 which suggests reducing barriers for group living uses; such as assisted living and nursing homes. The intent is to remove some of the barriers to this type of development. HAP 2.1.6 addresses the new state legislation that provides a way for adult family homes to have 7-8 beds. He moved on to HAP 2.1.7 which prohibits new large-lot single family uses in medium and high density zones, such as R3 & R4 where the highest allowed densities are located. If you allow these low density uses, you are limiting the capacity for infill. The recommended starting point is to prohibit new single family uses in the R3A, R4 and R4A zones. Attached duplex cottages are discussed in HAP 2.1.8. They are currently allowed in R3, R3A, R4 and R4A zones. The suggestion is to allow duplex cottages in all zones where cottage housing is allowed. HAP 2.1.9 discusses single room occupancy housing and the suggestion is to change that language to "co-living housing". Co-living is a lower-cost housing option where each resident has a small, private unit with kitchenettes and private bathrooms. New state law, HB 1998, states that jurisdictions must allow co-living housing on any lot within an urban growth area where at least 6 multi-family units are allowed. HAP 2.1.10 refers to Supported Housing, such as emergency shelters, transitional housing, emergency housing and permanent supported housing. The recommendation is to add a supportive housing category and allow by right in R4, R4A, CBD, C and MMU zones. He moved on to HAP 2.3 for ADU regulations. HB 1337 requires jurisdictions to allow 2 ADU's per lot in all primary residential zones, remove the owner occupancy requirement and clearly state that one parking space is required per ADU, which is also in the HAP.
Bob Bengford switched gears to duplexes. The HAP spent a lot of time on duplexes. We recommend allowing duplexes by right on the same lot size as single family dwellings in R2A (6000 sf) instead of the current requirement of 9000 sf minimum for a duplex. There are not many locations that can currently meet the minimum of 9000 sf. The city has some design standards already in place that could be updated. He reminded us that this type of development will not happen all at once. The recommendation is similar for the R3 zone, which is to allow by right on the same lot size as single family dwellings (4500 sf) and allow additional units for every 1500 sf. For triplexes and fourplexes, you may want to consider having floor area ratios or unit size limits to keep in line with the scale of the neighborhood. For the R4 and R4A zones, we recommend reducing the minimum lot size for duplexes from 4200 sf to 3000 sf, elimination the reference for requiring additional lot area for additional dwelling units beyond duplex, and consider raising the base maximum height in R4 to 45 feet and the bonus to 55 feet. This allows for more flexibility. Lastly, we looked at Neighborhood Commercial options. Anacortes has a policy in the current comprehensive plan to allow for some compatible non-residential uses in residential zones. The current code allows for these with a Conditional Use Permit in all zones except R1. The recommendations are to allow small scale corner stores by right in all zones except R1; limit the uses to neighborhood-serving retail uses, cafes, personal service uses and offices; limit the floor area in R2, but allow for larger in R3 and R4; limit the hours of operation; allow only where on-street parking is available; and possibly other building design standards to ensure neighborhood compatibility. This can be accomplished by creating a neighborhood commercial overlay that allows for these commercial uses, but doesn't change the underlying zoning.

The Planning Commission started review of the HAP recommendations one at a time.
Paul Ryan asked if Mr. Bengford if there was a reason for the low number in 2023 for issuing permits.
Bob Bengford stated it could be the construction costs combined with the high interest rates.
Mr. Ryan agreed that the cost to build is extremely high.
Commissioner Jeretzky asked what the figures are looking like for 2024.

John Coleman stated that there's been an increase from 2023, but not sure we are on target for the 2022 figures.
Jim Stoneman asked staff if the recommendations should be broken into things we have to do versus things that we think are a good idea.
Mr. Coleman suggested staff could put an asterisk next to the recommendations that need to be done.
Will McCombs reference the slide for allowing more housing types asking if those are required.
John Coleman clarified that most of them are suggestions to make construction more affordable, thus increasing the range of housing types in Anacortes.
Commissioner Ryan understands that we are removing the term rooming house and switching to co-living. He wondered if co-living is stated in the Internation Maintenance Property Codes.
Mr. Bengford was not sure if it's included, but will check.
Paul Ryan asked if the recommendation is to remove the CUP process in regard to HAP strategy 2.1.3. He expressed concern that this would take the voice away from the community.
Bob Bengford commented that there are good standards in place, so we need to decide if they need to be allowed outright. He clarified that you would need a double lot to be able to build these.
Mr. Ryan pointed out that many residents chose to live in Anacortes because of the views. Allowing these outright without community input opens things up for more neighbor disputes.
John Coleman said there are provisions that need to be met. We can add regulations if needed. He reminded the Commissioners that homeowners should understand the zoning regulations for their property and the surrounding area so they understand what potentially can be developed in their neighborhood.
Mr. Bengford commented that a new single family residence, which is allowed outright, can be of a square footage that could have the same impact that Commissioner Ryan is concerned about. A duplex or triplex could not be built any bigger due to the zoning.
Linda Martin moved on to HAP 2.1.5 regarding Group Living uses. She expressed concern about allowing these outright in neighborhoods. She moved on to duplex cottages. This allows for more usable open space, but the units themselves are still limited in size.
John Coleman clarified that the duplex cottage is not currently allowed in code, but if we include this, it would allow for more flexibility in development.
Commissioner Martin stated she feels that a duplex cottage may have a look that is more similar to a single family home and fit better in the neighborhood. She moved on to updating language from single room occupancy to co-living. This is consistent with changes to state law. Another required element from state law is allowing supportive housing, per HAP 2.1.10. The next HAP strategy 2.3 addressed ADU regulations.
Mike Mills asked for clarification regarding removing the owner occupancy requirement.
John Coleman stated the city removed that requirement already. Now we need to change code to allow 2 ADU's by right in primary residential zones, to clearly state that one parking space is required per ADU and to change th limit from 900 sq ft to 1000 sq ft.
Paul Ryan asked if we require the property owner to have requirements; such as being a resident of Anacortes and have lived on the property for the 2 years prior.
Mr. Coleman clarified that the state legislation states we cannot have an owner occupancy requirement.
Jim Stoneman expressed his preference to encourage incremental implementation for these changes.
Mr. Coleman liked that idea. We haven't seen changes to laws to allow for more infill, so that type change would make it more palatable. He is unsure how we can require incremental implementation, but we will look into options.
They moved on to the HAP strategy 2.4.1, which suggests updating the minimum lot sizes and heights for R4 and R4A.
Commissioner Ryan expressed concern at increasing the height to 45 feet.
Linda Martin moved on to the Neighborhood Commercial overlay. She wonders what precipitated the need for commercial stores in the neighborhoods.
Mr. Bengford stated that it's already in the current Comprehensive Plan and would promote walkable neighborhoods/communities. Allowing them does not mean that they will be developed.
Linda Martin asked for all of these suggested regulations if there is an HOA for that area which prevails.

Bob Bengford clarified that these cannot override existing CC&R's or HOA rules. The HOA cannot enact new rules to disallow new regulations.

Linda Martin asked staff for next steps.
John Coleman said there are more HAP recommendations that the Planning Commission would need to review. After that, we will bring the code changes before the Planning Commission for a public hearing.
Commissioner Martin suggested that they could keep the public hearing open if needed to allow more time to receive public comment.
Mike Mills pointed out the Planning Commission can hold work sessions. He wonders if that would be more productive.

Planning Department Update

Adjournment

Chairperson Martin adjourned the meeting at 8:05 p.m.

Planning Commission Agenda Bill

Meeting Date: November 13, 2024 **Agenda Item:** 4.a.

Subject: SDP-2024-0005: Port of Anacortes T Dock - Shoreline substantial development permit application - Open record public hearing and recommendation to City Council

Staff Contact: Grace Pollard

Approved for Submittal to Commission by	**Action Type**
Libby Grage John Coleman	Public Hearing

Summary Statement: The Port of Anacortes is seeking approval of a Shoreline Substantial Development Permit to demolish and rebuild the aging commercial marine "T-Dock" at Cap Sante Marina. The replacement of the existing creosote timber dock structure will be a rectangular concrete pier. Also included in the project is updated utility services, improved stormwater handling, and updated electrical and lighting. The design proposes widening the central vehicular access point by enlarging the dock's footprint along the shoreline to provide a 145-foot vehicle approach entrance.

Background: See attached staff report.

Previous Action: None

Competing Viewpoints Considered: To be heard at the open-record public hearing.

Recommended Motion: I move that the Planning Commission recommend approval to City Council concerning Shoreline Substantial Development Permit SDP-2024-0005 subject to conditions of approval 1-11 as they were written in the staff report dated November 7, 2024.

Alternative Actions: Approve the permit with additional or revised conditions, or deny the permit.

Attachments (listed in order presented):

1. Exhibit A - Staff Report SDP-2024-0005
2. Exhibit B - Application Materials
3. Exhibit C - Noticing Materials

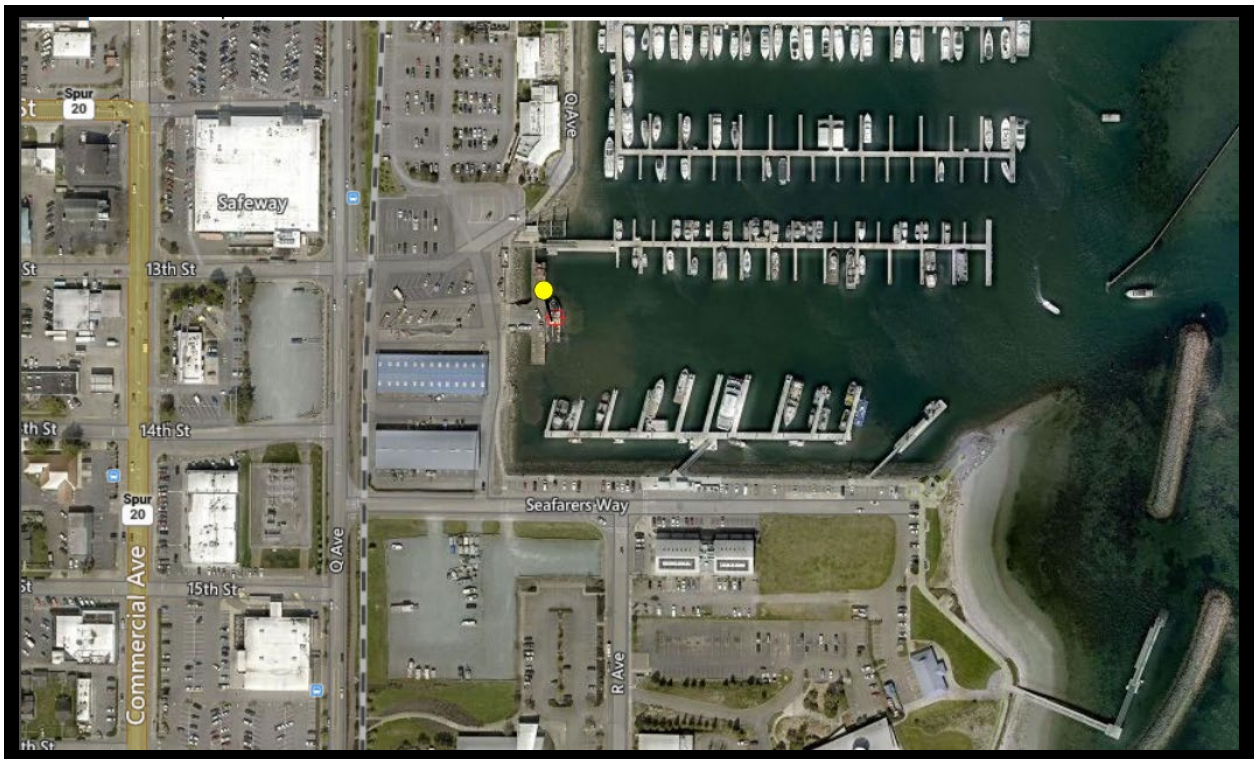
CITY OF ANACORTES

PLANNING, COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT

SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT: STAFF REPORT

PROJECT FILE NUMBER	SDP-2024-0005	DATE OF STAFF REPORT	November 7, 2024
PROJECT TITLE	T-Dock	RELATED FILE(S)	PRE-2023-0035
PROJECT LOCATION	1315 Q Avenue, Anacortes, WA 98221 (APN: P32984)		
PROJECT REQUEST	The Port of Anacortes is seeking approval of a Shoreline Substantial Development Permit to demolish and rebuild the aging commercial marine "T-Dock" at Cap Sante Marina. The replacement of the existing creosote timber dock structure will be a rectangular concrete pier constructed of pre-cast concrete panels, cast in place pile caps, steel pipe piles, and sheet piles. Also included in the project is updated utility services, improved stormwater handling, and updated electrical and lighting. The design proposes widening the central vehicular access point by enlarging the dock's footprint along the shoreline to provide a 145-foot vehicle approach entrance. The proposed compensatory mitigation action is to install large woody debris (LWD) on the beach in the northeast area of Cap Sante Marina. LWD is a known shoreline habitat feature.		
PROPERTY OWNER / APPLICANT	Port of Anacortes, Kevin Anderson – 100 Commercial Avenue Kevin.anderson@portofanacortes.com / 360.770.5194		
PUBLIC HEARING BODY & DATE	Planning Commission - Wednesday, November 13, 2024 @ 6pm		
DECISION BODY & DATE	Anacortes City Council - Monday, November 25, 2024 @ 6pm		
STAFF REPORT PREPARED BY	Grace Pollard, Senior Planner – gracep@anacorteswa.gov		
EXHIBITS	A. Staff Report B. Application Materials C. Noticing Materials		

PROJECT LOCATION & SURROUNDING USES



	ZONING DESIGNATION	COMPREHENSIVE PLAN DESIGNATION	CURRENT LAND USE
NORTH	Commercial (C) Commercial Marine (CM)	Commercial (C) Commercial Marine (CM)	Boat Travel Lift, Marina & Restaurant
SOUTH	Commercial Marine (CM) Marine Mixed Use (MMU)	Commercial Marine (CM) Marine Mixed Use (MMU)	Marina slips & Seafarer's Way
EAST	Commercial Marine (CM)	Commercial Marine (CM)	Marina & Fidalgo Bay
WEST	Commercial (C)	Commercial (C)	Parking, Warehouse & Q Avenue

SITE INFORMATION

ADJACENT BODY OF WATER	Cap Sante Marina & Fidalgo Bay
FLOOD ZONE(S)	Waterward of top of bank = Zone AE / Upland = Zone X
SHORELINE ENVIRONMENT(S)	Urban & Aquatic Environment Designations
PRESENT USE OF PROPERTY	A Commercial Marine Dock

I. PROCEDURAL

A. REVIEW TYPE. According to AMC 19.20.030(1) and 18.16.100(B), shoreline substantial development permit applications for projects valued greater than $1 million are considered a Type 4 – City Council level review. Type 4-CC review process requires the Planning Commission hold an open-record pre-decision public hearing, collect all findings of fact and conclusions of law, and provide City Council with their recommendation of approval/approval with conditions/denial. During a closed-record public decision meeting, City Council will make the final decision on the proposed Shoreline Substantial Development Permit.

B. PROJECT HISTORY. The below confirms the project's procedural timestamps.

• Preapplication Conference	September 12, 2023
• Preapplication Neighborhood Meeting	October 8, 2024
• Application Submitted	May 31, 2024
• Determination of Completeness	June 28, 2024
• Dual Notice of Application & Notice of Hearing with 30-day public comment period	September 25, 2024
• Planning Commission Open-Record Pre-Decision Hearing	November 13, 2024
• City Council Closed-Record Decision Hearing	November 25, 2024

C. INTEGRATION OF ENVIRONMENTAL REVIEW. SEPA lead agency shall be the agency with the main responsibility for complying with SEPA's procedural requirements and shall be the only agency responsible for the threshold determination.

Per WAC 197-11-926, when a local government agency (i.e. Port of Anacortes) initiates a proposal requiring permit approval, the SEPA lead agency will be the local agency seeking permit permission.

The Port of Anacortes, as lead agency, issued a Mitigated Determination of Non-Significance (MDNS) on April 14, 2024. A copy of this determination was submitted with the application materials. The mitigation measures of the SEPA determination will be incorporated as conditions of approval under this shoreline substantial development permit.

D. PUBLIC NOTICES. A joint notice of application with a 30-day public comment period and a notice of hearing were distributed as follows per AMC 19.20.080:

- Publication in the city's official newspaper, Anacortes American;
- Electronic mail or first class mail to:
    - The applicant;
    - Any agencies with jurisdiction over the application;
    - To owners of property within 300 feet of the subject property
- Posted on the project site.

And additionally:

- Posted at the Anacortes Municipal Building & Anacortes Public Library;

- Distributed via the City's "Notify Me" email subscription service.

E. REVIEWING DEPARTMENTS / AGENCIES. The project application was routed for review to applicable agencies and City departments.

REVIEWING DEPARTMENTS & AGENCIES		
City of Anacortes	State & Federal	Tribes & Others
• Building Division • Fire Department • Floodplain Manager • PW – Operations • PW – Stormwater • PW – Engineering • PW – Water • PW - Wastewater • Planning Division	• United States Army Corp. of Engineers • WA Dept. of Archaeology & Historical Preservation • WA Dept. of Ecology • WA Dept. of Fish & Wildlife • WA Dept. Natural Resources • NW Clean Air Agency	• Samish Indian Nation • Sauk-Suiattle Tribe • Stillaguamish Tribe • Swinomish Tribe • Upper Skagit Tribe • Skagit System Cooperative

F. CONSIDERATION OF TIMELY RECEIVED COMMENTS. The 30-day written public comment period ended on October 25, 2024. In making recommendations, staff and the PCED Director considered timely received written comments and the applicant's responses, if any, as required under AMC 19.20.130(C).

1. Comments from City Departments have been incorporated into this staff report.
2. No outside agency or tribal comments were received during the 30-day written public comment period.

INTENTIONALLY LEFT BLANK; CONTINUE TO NEXT PAGE.

II. DEPARTMENT REVIEW – FINDINGS OF FACT

A. SITE HISTORY. Cap Sante Marina was established in 1927. In 1977 the existing creosote timber "T-Dock" structure was constructed in the west basin. The dock has supported maritime enterprises for more than four decades and currently provides the only location within the marina with the ability to load and unload vessels.

Photo cira 1977. "T-Dock" under construction.

ENVIRONMENTAL RESTRICTIVE COVENANT

An area adjacent to T-Dock is part of the Cap Sante Marine Cleanup site, a Model Toxics Control Act (MTCA) cleanup site managed by the Department of Ecology. The subject property contains an Environmental Restrictive Covenant (AFN: 201408050034) because residual contamination remains on the property after the completion of remedial action. The restrictive areas being monitored are shown below.

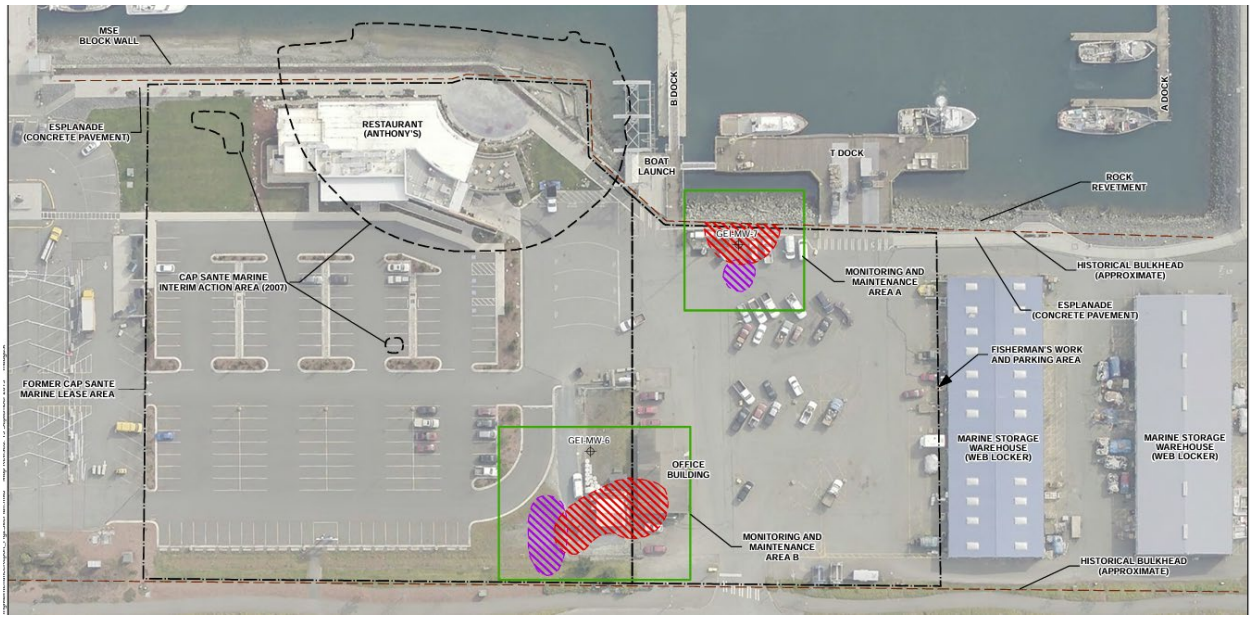


Image taken from the 2022 Year-8 Monitoring Report

PUBLIC ESPLANADE

Running through the subject property along the edge of the shoreline is a public esplanade connecting Seafarer's Park to the Cap Sante breakwater at Rotary Park. This public esplanade is a public access development requirement of the Shoreline Master Program (SMP).

B. PROJECT DETAIL SUMMARY.

STRUCTURAL FEATURES	EXISTING	PROPOSED
Overwater Coverage:	7,175 square feet	12,575 square feet
Vehicular Approach:	55' W	145' W
Decking Material:	Creosote timber planks	Concrete deck panels
Pile Supports:	One hundred fifteen (115) creosote treated timber piles	Thirty-five (35) 24-inch & five (5) 30-inch galvanized steel pipe piles
Fender Piles:	Twenty-nine (29) pressure treated fender piles	Twenty-four (24) 10-inch galvanized steel pipe fender piles
Elevation of Dock / Pier:	+13.5' MLLW	+12.88' to +14.2' MLLW
Bulkhead / Retaining Wall:	55-foot-long concrete retaining wall	210-foot-long Steel Z-Sheet pile bulkhead

Additional project details include:

- New stormwater system to route stormwater from the dock surface into the sanitary sewer system.
- Replacement of the current electrical service.
- Replacement of water and fire suppression systems.
- Excavation of ~1.3-feet by 190-feet of riprap from top of bank.

- No proposed dredging.
- No proposed fill waterward of the ordinary high water mark (OHWM).
- Substrate disturbance limited to pile extractions and new pile driving.
- See application materials for full details.

C. ***T Dock Reconfiguration 60% Submittal Plan Set***, by PND Engineers, Inc., dated May 2024. In addition to the engineering plans showing existing T-Dock details and proposed concrete pier details on sheet E-400 is a photometric plan showing the level of light illumination on the pier and immediate vicinity proposed with their new lighting plan. (Illumination levels are shown in foot-candles; one (1) foot-candle is defined as enough light to saturate a one-foot square with one lumen of light).

Artificial night lighting on and from overwater structures must be minimized by focusing the light on the dock surface. Shading should minimize illumination of the surrounding environment and reduce glare on the water's surface.

D. CONSTRUCTION TECHNIQUES: Land-based and/or barge-mounted vibratory pile driving hammer to extract existing creosote piles; Land-based and/or barge-mounted impact hammer pile driver, if necessary, to install new piles; A bubble curtain and wooden block will be utilized during all impact pile driving to attenuate noise and minimize impacts to aquatic species. Land-based excavator and excavator-mounted jackhammer for the demolition of concrete slab, retaining wall and sidewalk. For the mitigation portion of the project a rubber tracked mini-excavator, hand tools, and powered hand tools will be used to place and affix the large woody debris (LWD) along the northeast shoreline of Cap Sante Marina.

E. OVERWATER COVERAGE & CRITICAL SALTWATER HABITAT IMPACTS: The project will result in ~5,400 square feet of additional overwater coverage and an additional 46 square feet of pile under the dock. The aquatic habitat around the existing riprap is low quality degraded habitat. Though the increase of shading by the enlarged pier will have an impact on the saltwater habitat, it was assessed that this impact will be minimal.

F. LARGE WOODY DEBRIS (LWD). Ten (10) 16-20-foot-long logs with rootwads 18-30 inches in diameter will be anchored with screw anchors and cables at depths of between +8.2ft and +5ft MLLW along the beach on the northeast side of Cap Sante Marina.

Per the applicant's Habitat Improvement Plan (HIP) the T-Dock Reconfiguration Project has been designed to provide net habitat benefits by offsetting impacts to degraded habitat with improvements to quality habitat at a 1 to 1 ratio of square footage. Habitat improvements will occur within-basin and will provide long-term and widespread benefits to Cap Sante Marina, forage fish, and any predators that rely on those stocks of forage fish.

Large woody debris (LWD) provides refuge for planktonic prey, and the area in which placement will occur is largely devoid of such refuge. The beach has a

healthy riparian zone at the base of a feeder bluff and is stated to provide good habitat for Chinook salmon prey. Further, LWD provides nutrients to the nearshore, and habitat for insects and other small prey items for juvenile Chinook salmon.

G. MITIGATION: Mitigation sequencing is the process necessary to avoid, minimize or reduce, or compensate for the environmental impacts(s) of a proposal. Mitigation or mitigation sequencing means the following sequence of steps listed in order of priority.

1. **Avoid.** Avoiding the impact altogether by not taking a certain action or parts of an action.

   STAFF COMMENTS: Work will begin only after the in-water work window for the area opens, to avoid key migration periods for protected aquatic species.

   The new pier will not extend further into the marina than the existing location of T-Dock. The new pier will not be widened beyond the existing width of T-Dock.

   The process of installing the LWD pieces will make necessary measures to avoid impacting any existing salt marsh vegetation.

2. **Minimize.** Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts.

   STAFF COMMENTS: The area of increased overwater coverage will be limited to areas above existing degraded and dredged shoreline and existing riprap armor.

   The removal of ~11.35 tons of creosote timber from the upper shore zone and ~119.01 tons from the lower shore zone will improve water quality within the marina. Removing creosote treated lumber from the shoreline removes toxic chemicals, known to cause high mortality and developmental abnormalities in herring eggs, from further leaching into the sediments and surrounding waterbody. (Herring are an important forage fish and a critical food source for our migrating salmon, which are the sole food source of the Southern Resident Killer Whale. People can also be exposed to creosote vapors on a hot day or through direct contact.)

3. **Rectify.** Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

   STAFF COMMENTS: Improvements to stormwater management on T-Dock will improve water quality within the marina. Removal of additional miscellaneous submerged timber debris including four (4) to five (5) 12-14 inch creosote treated timber pile stubs will also improve water quality within the marina.

4. **Reduce.** Reducing or eliminating the impact over time by preservation and maintenance operations.

   STAFF COMMENTS: The proposed mitigation of the ten (10) large woody debris (LWD) pieces will be located adjacent to a another Port mitigation area

where twelve (12) LWD pieces were installed also in the northeast portion of Cap Sante Marina.

5. **Compensate.** Compensating for the impact by replacing, enhancing, or providing substitute resources or environment.

   STAFF COMMENTS: Installation of approximately ten (10), 16-20-foot-long pieces of large woody debris (LWD) across 6,000 square feet of beach along the northeast shoreline of Cap Sante Marina.

6. **Monitor.** Monitoring the impact and the compensation projects and taking appropriate corrective measures.

   STAFF COMMENTS: The SMP requires periodic monitoring for up to five years from the date of completed development to ensure the success of required mitigation. (DR-6.3.10)

H. NO NET LOSS. All shoreline projects must demonstrate the ability to achieve no net loss of shoreline ecological functions. This shall be accomplished by the use of Mitigation Sequencing, as defined in the Anacortes Shoreline Master Program, and as provided by WAC 173-26-201(2)(e).

STAFF COMMENT: As described in the critical area reports submitted the proposal achieves no net loss primarily through the following actions. 1) Updating stormwater management functions. 2) Removal of an expected 130 tons of creosote timber from the site. 3) Placing and securing ten (10) large woody debris (LWD) pieces over approximately 6,000 square feet of beach at the northeast side of Cap Sante Marina providing new shoreline habitat.

I. ANACORTES SHORELINE MASTER PROGRAM (SMP). The SMP is a planning document that outlines goals and policies for the use, development, protection, and restoration of shorelines of the City. It is also a regulatory ordinance with regulations for development intended to implement the goals and policies.

Not every goal, policy, and regulation are applicable to every Shoreline Substantial Development Permit project. Listed in the following pages are the goals, policies, and regulations believed to be the most relevant to this project and for which the project proposal was reviewed against. All applicable regulations of the SMP apply even if not specifically noted below.

INTENTIONALLY LEFT BLANK; CONTINUE TO NEXT PAGE.

1. **SMP Section 5.12 Shoreline Use and Modification Matrix and Development Standards.**

The chart is coded according to the following legend. **P = Permitted**; when meeting requirements for that use and shoreline area, may be subject to Shoreline Substantial Development Permit. **C = Conditional Use**, when approved by the City and Department of Ecology. **X = Prohibited**; the use is not eligible for a Variance or Conditional Use Permit.	**Urban Environment**	**Aquatic Environment**
Shoreline Uses		
Industrial and Port Facilities		
Water-Dependent	**P**	**P**
Shoreline Modifications		
Docks, Piers, and Floats		
Public/Private	**P**	**P**
Shoreline Stabilization		
Hard structural stabilization	**P**	**P**
Fill		
In-Water or Upland Restoration	**P**	**P**
Other In-Water Fill	**C**	**C**
Other Upland Fill	**P**	**--**

STAFF COMMENT: The uses and modifications proposed are permitted, provided no in-water fill takes place. In-water fill (waterward of the OHWM) requires a Shoreline Conditional Use Permit.

1.1. Section 5.12 Table 5.2 Shoreline Development Standards Matrix.

Environment Designation	Min. Resid. Lot Size (sq.ft.)	Max. % of Lot Coverage[1]	Max. Height	Setback	
				Water-Dependent	Non-Water-Dependent
Urban	NA	50%	50-ft	0-ft.	25-ft.
Aquatic	NA	NA	--[5]	NA	NA

[5] See adjacent upland designation.

2. **SMP Chapter 6: Environmental Protection General Regulations.**

2.1. Section 6.3 Impacts, Mitigation, and Bonding

2.1.1. General [Development Regulation] DR-6.3.1 All shoreline development and activity shall be located, designed, constructed, and managed in a manner that avoids, minimizes and/or mitigates adverse impacts to the environment. The

preferred mitigation sequence (avoid, minimize, rectify, reduce, or compensate for the environmental impact) shall follow that listed in WAC 173-26-201(2)(e), see also definition of "Mitigation" listed in this Master Program, Chapter 12.

2.1.2. Mitigation DR-6.3.6 Compensatory mitigation in the immediate vicinity of the impact shall be the preferred mitigation option, except where off-site mitigation can be demonstrated to be more beneficial to shoreline ecological functions; for example, mitigation off-site may be the better choice if large, cohesive areas are available off-site while only small, fragmented areas are available on-site for mitigation.

STAFF COMMENT: The proposal to establish large woody debris (LWD) along the northeast beach of Cap Sante Marina is not necessarily in the "immediate vicinity" of the impact, however it is not considered to be "off-site" mitigation either. The location is a better choice as the northeast beach of Cap Sante Marina is a large cohesive area that can benefit from shoreline enhancement.

2.1.3. Mitigation DR-6.3.8 Where feasible, replacement mitigation shall be required prior to impact and, at a minimum, prior to occupancy.

STAFF COMMENT: The applicant has stated that the large woody debris (LWD) installation will happen prior to or concurrently with the reconstruction of T-Dock. This will be a recommended condition of approval.

2.1.4. Bonding DR-6.3.9 Except for projects undertaken by public entities, performance or maintenance bonds or other security shall be required by the City to assure that work is completed, monitored, and maintained.

STAFF COMMENT: The Port of Anacortes is not required to bond for any portion of the project.

2.1.5. Monitoring DR-6.3.10 As a condition of approval, the City shall require periodic monitoring for up to five years from the date of completed development to ensure the success of required mitigation. The monitoring period may be extended if the success criteria set forth in the approved mitigation plan fail to be accomplished, or the mitigation plan has a longer horizon.

STAFF COMMENT: Throughout the application materials the applicant has stated that they will not provide monitoring, monitoring is a Shoreline Master Program condition of approval and is recommended by staff.

2.2. Section 6.7 Fish and Wildlife Habitat Conservation Areas (FWHCAs) Section A-5 of the shoreline-specific Critical Areas Regulations contained in Appendix A provides protections for critical salt-water

habitats that are described in the *Northern Skagit County Bays and Shoreline Habitat Conservation and Restoration Blueprint 2005 Update*.

2.2.1. FWHCA [Development Regulation] DR-6.7.1 Water-dependent development and uses, including […] docks, piers, mooring areas […], shall not intrude into or be built over critical saltwater habitat unless the applicant can show that all of the following criteria can be met:

a. The use preference listing in RCW 90.58.020 for uses in Shorelines of Statewide Significance shall be adhered to.
b. The public's need for such a structure is clearly demonstrated and an alternative alignment or location on the applicant's property that would avoid impacts to critical saltwater habitats is not feasible or would result in unreasonable and disproportionate cost to accomplish that same general purpose. An alternatives analysis will be required for any non-exempt project proposed within FWHCAs.
c. The project is consistent with the state's interest in resource protection and species recovery.
d. Impacts to critical saltwater habitat functions are mitigated to result in equal or better ecological function.

STAFF COMMENT: The applicant has adequately shown that the above criteria can be met.

2.3. Section 6.9 Geologically Hazardous Areas

2.3.1. Special Reports and Determination of Buffers DR-6.9.2 The geotechnical engineering report shall be prepared by a Washington State licensed professional civil engineer with a specialty in geotechnical engineering or an engineering geologist with a Washington specialty license in engineering geology as specified in RCW 18.220. The report shall be based upon the best available science, existing and proposed uses, risks of slope failure, and coastal erosion rates over at least 75 years, if applicable.

STAFF COMMENT: The author of the geotechnical report is Siew L. Tan, P.E., a principal geotechnical engineer with PanGEO, Inc.

3. SMP Chapter 7: Shoreline Public Access.

3.1. General Requirements DR-7.4.1 Developments, uses, and activities shall be designed and operated to avoid significantly blocking, reducing, or adversely interfering with the public's visual or physical access to the water and the shorelines.

3.2. Physical Access and Easements DR-7.4.15 Future actions by the applicant or other parties shall not diminish the usefulness or value of the public access site.

STAFF COMMENT: The proposed T-Dock reconfiguration proposal will not diminish the usefulness or value of the public access esplanade on the site.

4. **SMP Chapter 8 Specific Use Policies and Development Regulations.** Development and use proposals may involve a number of *uses* and shoreline *modifications* and must comply with the policies and regulations for each.

    4.1. Section 8.6 Industrial and Port Facilities.

    4.1.1. General Development Regulation DR-8.6.3 Only water-dependent industrial and water-dependent port facilities shall be permitted over water.

    4.1.2. Public Access DR-8.6.8 Port and industrial facilities shall provide public access to shoreline areas in accordance with Chapter 7, Public Access, taking into consideration constitutional and statutory limitations, public safety, health, and security. Where industrial use is proposed for location on land in public ownership, public access shall be required in the general vicinity of the impact. Such provisions could be the preservation of shoreline views, the establishment of public access easements across and to the shoreline, enhancement of an adjacent street-end or park or other consideration commensurate with the degree of impact caused by the development. In this regard the *Port of Anacortes' Integrated Approach to Marine Public Access*, October 2003 is incorporated by reference into this SMP.

    STAFF COMMENT: As per the referenced "*Integrated Approach to Marine Public Access*" plan, the existing public esplanade that crosses the subject property and connects Seafarer's Park to Rotary Park was listed by the Port of Anacortes as "Area 1: Cap Sante Boat Haven Esplanade." This improvement was installed in 2009 under the shoreline permit for Anthony's restaurant. The esplanade will be slightly enhanced under the T-Dock Reconfiguration project by the construction of a concrete connection.

5. **SMP Chapter 9: Specific Shoreline Modification Policies and Development Regulations.** Shoreline modification activities are structures or actions that permanently change the physical configuration or quality of the shoreline, particularly at the point where land and water meet.

    5.1. Section 9.5 Docks, Piers, and Floats

    5.1.1. Docks, Piers, and Floats [Development Regulations] DR-9.5.1 The following dock, pier, and float developments are prohibited in the shoreline jurisdiction:

    a. […]
    b. Fill waterward of the ordinary high water mark [OHWM] or within a wetland to accommodate a dock, pier, or float.
    c. – e. […]

5.1.2. Docks, Piers, and Floats DR-9.5.2 Prior to granting a permit for a pier, dock, or float, the effects of the structure upon adjacent shoreline shall be determined, and disposition of the permit by the City shall reflect such determination.

5.1.3. Docks, Piers, and Floats DR-9.5.3 Design and construction of all piers and docks (and floats) are required to mitigate for impacts to ecological processes and functions.

5.1.4. Docks, Piers, and Floats DR-9.5.4 The design, location, and construction of docks, floats, and piers, as well as their subsequent use and operation, shall:

a. Minimize adverse effects on fish, shellfish, wildlife, water quality, and geohydraulic processes. Methods include but are not limited to: limiting the footprint of the structure to that which is necessary to serve the intended water-dependent use and minimizing the use of materials hazardous to the environment.
b. Be capable of withstanding expected environmental conditions.
c. Minimize interference with adjacent water uses and navigation.

5.1.5. Docks, Piers, and Floats DR-9.5.11 Pier and dock construction shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. For piers, docks and floats not associated with a single-family residence, the applicant must demonstrate that there is a specific need for the new or expanded pier, dock, or float. Dimensional requirements for the structure will be based upon that need and the general criteria included in this section.

STAFF COMMENT: The Applicant has demonstrated that the proposed size is the minimum necessary to meet the needs of the existing water-dependent use.

5.2. Section 9.7 Fill

5.2.1. Fill Development Regulations DR-9.7.3 Fill waterward of the ordinary high water mark (OHWM) should be permitted only by Shoreline Conditional Use Permit when necessary to accommodate water-dependent uses […].

STAFF COMMENT: The Applicant has stated that there will be no fill waterward of the OHWM.

5.3. Section 9.11 Shoreline Stabilization As applied to shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function when an existing structure can no longer adequately serve its purpose.

Additions to or increases in size of existing shoreline stabilization measures are considered "new" structures under the Anacortes Shoreline Master Program (SMP).

5.3.1. Shoreline Stabilization [Development Regulation] DR-9.11.7 Shoreline stabilization works, including revetments and bulkheads, shall be located, designed and constructed in such a manner that will:

a. Minimize alterations of the natural shoreline and shoreline processes including sediment transport.
b. Minimize damage to ecological functions including wildlife, fish and shellfish habitats.
c. Provide for the long term multiple use of shoreline resources and public access to public shorelines. In the design of publicly financed or subsidized works, consideration shall be given to providing pedestrian access to shorelines for low intensity outdoor recreation.
d. The shoreline defense structure shall mitigate adverse impacts to the extent feasible, blend with the surroundings, and not distract from the aesthetic qualities of the shoreline.
e. Achieve the policy of no net loss of ecological functions necessary to sustain shoreline resources.

5.3.2. Shoreline Stabilization – Regulations for "Hard" Stabilization Structures SD-9.11.11 "Hard" Stabilization structures may be allowed only when evidence is presented which conclusively demonstrates that at least *one* of the following conditions exist:

a. […]

b. Structural stabilization is necessary to the operation and location of a […], or a water-dependent use consistent with this Master Program; provided that all other alternative methods of shoreline protection have proven infeasible or insufficient through a geotechnical report.

c. […]

5.3.3. Shoreline Stabilization – Public Access Provisions DR-9.11.25 Public access is required as part of any publicly financed shoreline erosion control measures.

STAFF COMMENT: The location of the proposed steel Z-sheet pile bulkhead is within the existing riprap hard shore armoring. The project does not propose to extend or enlarge any shoreline stabilization waterward of the existing riprap bulkhead.

6. SMP Appendix A: Shoreline Critical Areas Regulations.

6.1. A-5 Fish and Wildlife Habitat Conservation Areas (FWHCAs).

6.1.1. A-5.2 FWHCA Critical Areas Report Critical area reports for fish and wildlife habitat conservation areas must meet the requirements of Section A-5.2.

6.1.1.1. Preparation by a Qualified Professional. A critical areas report for a habitat conservation area shall be prepared by a qualified professional who is a biologist with experience preparing reports for the relevant type of habitat.

6.1.1.2. A critical area report for a habitat conservation area shall contain a habitat assessment […].

6.1.2. A-5.3 Performance Standards – General Requirements.

6.1.2.1. (A) Alterations. A habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat.

6.1.2.2. (C) Mitigation and Contiguous Corridors. Mitigation sites shall be located wherever practicable to preserve or achieve contiguous wildlife habitat corridors in accordance with a mitigation plan that is part of an approved critical are report to minimize the isolating effects of development on habitat areas.

6.1.2.3. (E) Mitigation and Equivalent or Greater Biological Functions. Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

6.1.2.4. (F) Scientific Basis for Approval. Any approval of alterations or impacts to a habitat conservation area shall be supported by the professional scientific analysis.

7. SMP Appendix B: Shoreline Restoration Plan.

7.1. B-3 Restoration Goals and Objectives. *Restoration Vision:* Degraded ecological processes and habitats of the Anacortes shoreline are to be restored so that, when combined with protection of existing resources, a net improvement to the shoreline ecosystem is obtained to benefit native fish and wildlife and the people of Anacortes. Restoration occurs over time through a combination of public and private ventures and leverages opportunities presented by shoreline development in a way

that enhances the environment and is compatible with planned shoreline uses.

Goals for restoring the Anacortes shoreline are derived from analysis of watershed function, water quality, habitat and other ecological studies. General goals are as follows;

Goal 1 – To improve water, seabed, and sediment quality;
Goal 2 – To restore degraded and lost habitat and corridors;
Goal 3 – To improve connectivity of the shoreline environments in terms of both space and time;
Goal 4 – To balance the protection and enhancement of shoreline ecological functions with the desire of the community to preserve and improve public access and passive recreation opportunities in this unique environment.

STAFF'S COMMENT: The project proposal is in line with the SMP's shoreline restoration goals.

J. ANACORTES MUNICIPAL CODE (AMC) TITLE 19: UNIFIED DEVELOPMENT CODE.

1. Section 19.60.020 Project Design - Level II Improvements.

Level II improvements include all improvements that cumulatively increase the gross floor area on a site by 50 to 100 percent, within three years of the date of permit issuance. All standards that do not involve repositioning the building or reconfiguring site development must apply to Level II improvements.

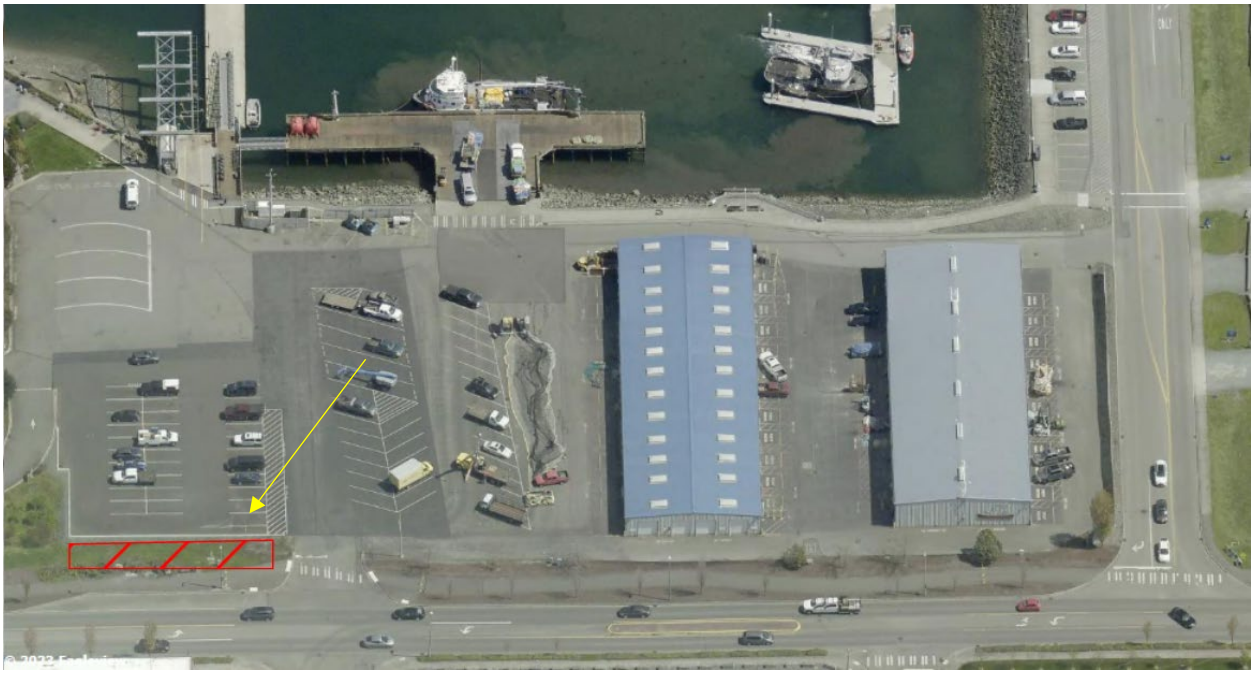
Level II projects must comply with the standards of:

- AMC 19.61, Block Frontage Standards;
- AMC 19.62, Site Planning;
- AMC 19.63, Building Design;
- AMC 19.64, Parking;
- AMC 19.65, Landscaping, and
- AMC 19.67, Signs.

STAFF COMMENTS: The application materials did not provide a site plan showing the location of property lines and so staff were unable to determine what Title 19, Division 6 project design elements may be required for this project.

On Sheet G-101 of the "T-Dock 60%" Plan Set an approx. 2,000 square foot area is delineated along the east side of Q Avenue adjacent to T-Dock in which Type 2 Landscaping is proposed. The AMC does not have a landscape Type "2", however it has been assumed that Type B Landscaping was intended to be proposed.

A site plan review will be conducted concurrently with the building permit application required for this project. Once a site plan is submitted staff can review the project against Unified Development Code Standards, AMC 19, to confirm if any of the above code sections will apply.



III. CONCLUSIONS OF LAW

1. This Shoreline Substantial Development Permit application was reviewed for conformance with all applicable Shoreline Master Program regulations, including but not limited to, the above list.
2. With the adoption and approval of the recommended conditions of approval, the subject proposal shall be consistent with the Washington State's Shoreline Management Act and City of Anacortes' 2010 Shoreline Master Program.
4. Staff reserves the right to supplement the record of the case to respond to matters and information raised subsequent to the writing of this report.
5. The Planning Commission bases its Findings of Fact, Conclusions of Law & Recommendation on the entire record, including all testimony and exhibits. Any finding, which would be deemed a Conclusion of Law, and any Conclusion of Law which should be deemed a finding is hereby adopted as such.

IV. STAFF RECOMMENDATION

The Department of Planning, Community, and Economic Development (PCED) recommends that the Planning Commission make a recommendation of approval to City Council regarding the subject shoreline substantial development permit (SDP) subject to staff's suggested conditions of approval listed below.

V. PLANNING COMMISSION RECOMMENDATIONS:

Based upon the foregoing information and analysis, the environmental documents submitted by the applicant, and the City regulatory authority to implement the policies, standards, and the regulations of the Shoreline Master Plan, Comprehensive Plan, and the Anacortes Municipal Code (AMC), the Planning Commission hereby recommends approval to City Council concerning the subject shoreline substantial development permit subject to staff's conditions of approval as listed below.

1. As is required under SMP DR-6.3.10 the applicant shall provide annual mitigation monitoring reports for up to five (5) years from the date of completed development to ensure the success of required mitigation if the mitigation success cannot be assessed at the time of final building inspection.
2. The proposed mitigation to place ten (10) large woody debris (LWD) structures consisting of 16' to 20' long logs with root-wads 18" to 30" in diameter in the northeast beach area of Cap Sante Marina shall be completed and in place prior to use and final inspection of reconfigured T-Dock.
3. The scope of the project shall not exceed that as set out in the shoreline permit application (including attachments) and shall be valid only for the improvements described within the application materials, except as modified by this decision or other jurisdictional agencies.
4. The Applicant shall obtain a City of Anacortes building permit and shall comply with all applicable City codes, manuals, and standards. Site plan review shall be performed concurrently with the building permit application.
5. The Applicant and their contractors shall comply with all applicable state law requirements regarding preservation of archaeological and historic resources, including provisions to stop work and notify the appropriate agencies should protected resources be uncovered during excavation.
6. All applicable permits (local, state, & federal) shall be secured before any construction activities begin onsite. Copies shall be provided to the City of Anacortes' at time of building permit application submittal.
7. The applicant and their contractors shall comply with federal statutes including but not limited to: Endangered Species Act, Clean Water Act, Marine Mammal Protection Act, and other federal statutes.
8. The project shall comply with all applicable Shoreline Master Program regulations, including but not limited to those listed in the staff report dated November 7, 2024.
9. All lighting shall be the minimum necessary to locate the dock at night, shall be designed to minimize glare, and shall incorporate cut-off shields or otherwise shall be directed downward toward the dock.
10. Prior to on-site construction commencing, an alternative pedestrian access plan for the portion of the shoreline esplanade trail impacted during construction shall be provided and clearly marked and maintained during construction.

11. Development shall comply with the mitigation measures listed in the SEPA MDNS issued on April 14, 2024, by the Port of Anacortes.

These Findings of Fact, Conclusions of Law, and Recommendations were adopted by the City of Anacortes' Planning Commission on: _____.

CITY OF ANACORTES, WASHINGTON
PLANNING COMMISSION

By: _____
Linda Martin, Planning Commission Chair

VI. INFORMATION FOR DEVELOPER:

1. Development shall comply with AMC 18.16.130 regulating the time limit for shoreline permits as follows:
    a. TIME LIMIT FOR SUBSTANTIAL PROGRESS. Construction, or substantial progress toward completion, must begin within two (2) years after approval of the permit. Substantial progress toward construction shall include, but not limited to, the letting of bids, making of contracts, purchasing of materials involved in development, but shall not include development or uses which are inconsistent with the Shoreline Management Act or the city's master program. In determining the running two-year period hereof, there shall not be included the time during which development was not actually pursued by construction and the pendency of litigation reasonably related thereto made it reasonable not to so pursue; provided, that the city may, in its discretion, extend the two-year time period for a reasonable time based on factors, including the inability to expeditiously obtain other governmental permits which are required prior to the commencement of construction.
    b. 5-YEAR PERMIT AUTHORIZATION: If construction has not been completed within five years of approval by the City of Anacortes, the city will review the permit, with prior notice to parties of record, and, upon showing of good cause, either extend the permit for one additional year, or terminate the permit. Prior to the city authorizing any permit extensions, it shall notify any parties of record and the Department of Ecology. Note: Only one single extension is permitted.
    c. The effective date of a shoreline permit shall be the date of the last action required on the shoreline permit and all other government permits and approvals that authorize the development to proceed, including all administrative and legal actions on any such permit or approval. It is the responsibility of the applicant to inform the local government of the pendency of other permit applications filed with the agencies other than the local government and of any related administrative and legal actions on any permit or approval. If no notice of the pendency of the permits or approvals is given to the local government prior to the date established by the shoreline permit or the provisions of this section, the expiration of a permit shall be based on the shoreline permit.
2. It is the Applicant's responsibility to see that all parties to this project, including the designer, contractor, subcontractors, etc., are made aware of all the special studies and professional reports associated with this project, in their entirety.
3. Provide and maintain proper safety measures for pedestrian access per MUTCD.
4. A Flood Development Permit will be required for the proposed reconstruction of the dock.

100 Commercial Ave., Anacortes, WA 98221 | (360) 293-3134 | www.portofanacortes.com

5/29/2024

Libby Grage, Planning Manager
PCED
City of Anacortes

RE: T-Dock Shoreline Substantial Development Permit Submittal Cover Letter

Dear Ms. Grage,

This letter is to help you better navigate our submittal package. The submittals for the T-Dock Reconfiguration Project are broad in scope. However, there are a few items that meet more than one requirement for submittals.

We draw your attention to the Habitat Improvement Plan. This document was developed to meet requirements of ESA review at the federal level. The contents of this document also satisfy the requirements of a biological evaluation, mitigation plan, and No Net Loss Analysis and Mitigation Plan (NNLAMP). To avoid confusion, this document is only uploaded to the Biological Evaluation portion of the permitting portal.

Submittal Item	Notes
Checklists	1) SSDP Submittal Checklist and Design Techniques for avoiding and minimizing shoreline buffer impacts. 2) T-Dock Habitat Improvement Plan & Addendum (Satisfies the DOE NNLMP & Checklist)
Project Description	A narrative description of the project and how it satisfies the requirements of the Anacortes SMP.
Shoreline Site Development Plan Set	60% Plan Set—some mechanical and electrical details are not fully designed and will be complete for the building permit submittals.
Stormwater Minimum Requirements #1-2	The project is below the threshold area for MR 1-9. This submittal requirement was verified by City Stormwater Staff.
SEPA Checklist	T-Dock SEPA Checklist and MDNS Determination
JARPA Application Form	JARPA Application with site photos
Supplemental studies	1) Cultural Resources Reviews 2) Geotechnical Studies

If you have any questions about our permit application or need further information, please contact me directly and we will do our best to provide you with updated information.

Best Regards,
Kevin Anderson

CITY OF ANACORTES

PLANNING, COMMUNITY, and ECONOMIC DEVELOPMENT DEPARTMENT

Application Submittal Checklist

Shoreline Permit

To be used for the following permit types:

· Substantial Development · Shoreline Variance · Shoreline Conditional Use

REQUIRED SUBMITTAL DOCUMENTS

ALL APPLICATION TYPES:

☒ This checklist, completed and signed
☐ Agent Authorization Form, *if applicable*
☒ Project Description
☒ Shoreline Site Development Plan Set
☐ Stormwater Minimum Requirements (MR-1 to 9)
☒ Stormwater Minimum Requirement 2 (SWPPP), **only if** MR 1 to 9 are not required.
☒ State Environmental Policy Act SEPA checklist (if not exempt per WAC 197-11-800 and AMC 18.04.120)
☒ JARPA, for projects that include work below the OHWM or if another agency permit is required (links to State ORIA permitting website).
☒ Supplemental studies and reports, if applicable (e.g., habitat assessment, biological assessment, critical areas report, geotechnical study, mitigation plan, view impact analysis, cultural resource survey, etc.)

CONDITIONAL USE OR VARIANCE PERMITS ONLY:

☐ Conditional Use Permit Responses to Criteria - SMP Section 3.1(D)
☐ Variance Permit Responses to Criteria – SMP Section 3.2

IF APPLICABLE:

For projects occurring 1) Waterward of the OHWM. 2) Within the shoreline setback. 3) On a site containing a critical area or buffer. 4) Requiring a CUP or Variance. 5) Otherwise required to do so by the Anacortes SMP.

☒ A Shoreline No Net Loss Analysis and Mitigation Plan (including DOE-recommended components) **See T-Dock Habitat Improvement Plan Addendum**
☒ Completed checklist: Design techniques for avoiding and minimizing shoreline buffer impacts (for projects proposing development within a shoreline buffer, setback, or vegetation conservation area)

DOCUMENT REQUIREMENTS

- ☒ Shoreline Site Development Plan Set:
  - ☒ Requirements per WAC 173-27-180(9)
  - ☒ Stormwater Site Plan
  - ☒ Elevation Drawings and Cross-Section Views.
    - ☒ Elevation of existing and proposed structures if project includes additional structures on land.
    - ☒ A cross section, showing structure height and water depth if the proposal involves piers, other in-water structures, bulkheads or other shoreline protective structures.
    - ☒ Building elevation drawings in relation to mean sea level. Show the lowest floor, including basements, of all structures (for projects within special flood hazard areas).
  - ☒ Shoreline revegetation plan per ASMP DR-6.5.7 (for projects involving vegetation removal and/or earth disturbance)
  - ☒ Shoreline landscape plan per ASMP DR-6.5.8 (for non-water-dependent uses involving new development, expansion, or redevelopment)
  - ☒ Erosion and Sediment Control Plan (ESCP) (not required if proposal does not include any earth disturbance including stockpiling).

DEFERRED SUBMITTALS

- ☐ Copies of Federal, State, and Local Permits and Approvals (required prior to building permit issuance).
- ☐ Financial guarantees for performance or maintenance.
- ☐ As-built drawings of infrastructure and/or mitigation installation (Ecology DIY template can be used for residential and other small mitigation projects).
- ☐ Mitigation monitoring report (Ecology DIY template can be used for residential and other small mitigation projects).
- ☐ Title notice documents.

X

Applicant's eSignature (electronic / digital) verifying all application submittal checklist items are complete.

Design Considerations for Avoiding and Minimizing Shoreline Buffer Impacts

The following design techniques can contribute to the avoidance and minimization of impacts to shoreline buffers or areas set aside for the conservation of vegetation. This checklist is a resource for local governments and should be completed by applicants proposing development within a shoreline buffer, setback, or vegetation conservation area. Check 'yes' for all design techniques that have been incorporated.

Yes	Design technique	Notes on how project incorporates technique
☐	Use alternative, space-saving septic design (non-conventional)	NA
☐	Reposition structures and/or access to the lot	NA
☒	Cluster structures	Project is within a highly developed marina with many overwater structures, shoreline developments, and modified shorelines.
☐	Decrease building footprint (e.g. add stories, reduce total square footage, reduce deck area, etc.)	NA
☐	Reduce the width of access roads or driveways	NA
☒	Build a road pull off for extra parking where it will reduce the amount of new impervious surfaces within the buffer	NA-Project surface is 100% impervious already and not-suitable for conversion to permeable surface or LID installations due to subsurface conditions.
☐	Request variances from common property line setbacks if it will help avoid or minimize impacts	NA
☒	Focus development in existing disturbed areas	Project site is a heavily disturbed and highly modified site already. The marina basin was created by dredging more than 100 years ago and is highly developed with armored shorelines, overwater structures, and other developments.

Yes	Design technique	Notes on how project incorporates technique
☒	Use no-excavation or minimal-excavation technologies for building foundations (e.g., pin foundations)	Excavation is minimal with the abutment bearing on driven sheet piles instead of deep foundations.
☐	Avoid grading by incorporating natural topography into site design	NA
☐	Avoid or minimize the removal of native trees and shrubs through site design and by incorporating plants already on site into landscape design	NA-no native vegetation on site on the rip-rap shoreline.
☐	Use pervious materials for construction of hard surfaces	Not suitable for the use case of the development or the handling of stormwater.
☒	Disperse downspouts to vegetated areas or into rain gardens instead of impervious surfaces	No downspouts proposed. Stormwater will be treated with OWS or Hydrodynamic separator suitably sized for the development and wash water will be diverted to the POTW for treatment.
☐	Install signage and/or wildlife-permeable fencing at boundaries of protected areas	NA

Planning, Community, & Economic Development Department
904 6th St. / P.O. Box 947, Anacortes, WA 98221
360-293-1984

AGENT AUTHORIZATION FORM

Use this form to authorize someone other than the property owner to apply for permits for the subject property.

Project Name: T-Dock Reconfiguration

Property Address: 1019 Q Ave

City, State, Zip: Anacortes, WA 98221

AUTHORIZATION STATEMENT

I / we, as the owners of the property identified above, authorize the below listed individual to act as our agent to submit applications, receive correspondence regarding the above-listed application, and sign and to receive notices on my/our behalf.

DESIGNATED AGENT

Agent Name: _____

Agent Address: _____

Agent City, State, Zip: _____

PROPERTY OWNER SIGNATURE(S)**

Signature:		**Signature:**	
Printed Name:	Kevin Anderson	**Printed Name:**	
Title:	Environmental Specialist	**Title:**	
Company:	Port of Anacortes	**Company:**	
Date:	3/4/24	**Date:**	

****Each property owner listed must have their signature notarized.

STATE OF WASHINGTON)
) ss.
COUNTY OF SKAGIT

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, and acknowledged it as a free and voluntary act for the uses and purposes mentioned in this instrument.

Given under my hand and official seal this _____ day of _____, 20_____

_____
Notary Public

(SEAL) Residing at _____

My appointment expires _____

STATE OF WASHINGTON)
) ss.
COUNTY OF SKAGIT

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, and acknowledged it as a free and voluntary act for the uses and purposes mentioned in this instrument.

Given under my hand and official seal this _____ day of _____, 20_____

_____
Notary Public

(SEAL) Residing at _____

My appointment expires _____

5/31/2024

PROJECT NARRATIVE: Shoreline Substantial Development Permit
T-Dock Reconfiguration

Summary:

The Port of Anacortes (Port) proposes replacing an existing aging commercial dock (T-Dock) within its Cap Sante Marina located in downtown Anacortes. The existing T-Dock was constructed in 1977 and is an aged creosote timber dock structure with its load capacity reduced by approximately one-third after more than four decades supporting maritime enterprises. Moreover, the current configuration of the dock forms bottlenecks to existing traffic volumes; the proposed reconfiguration alleviates vehicular access concerns and provides additional deck area for commercial marine activities. T-Dock is a vital component to operations as it is the only dock within the marina with the ability to load and unload vessels. The Port proposes demolishing the existing T-Dock and replacing it with a reconfigured dock that will better meet the existing and future uses. The reconfigured T-Dock is an enlarged footprint structure comprised of pre-cast concrete panels, cast in place pile caps, steel pipe piles, and sheet piles, updated utility services, improved stormwater handling, landscaping, and updated lighting.

The Port has been working closely with the commercial and tribal users, as well as Federal and State regulators and with the City of Anacortes, to develop a project design based on existing and future needs and to permit this important improvement project. Please see the table below regarding the status of each individual permit. The Port's approach to mitigation for the expanded footprint of the reconfigured T-Dock is to install large woody debris (LWD) in Cap Sante Marina to provide improved habitat within the marina basin. The proposed compensatory mitigation was developed, finalized, and approved following extensive coordination with Washington Department of Fish and Wildlife (WDFW), National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS; as part of the Army Corps of Engineers Section 10 permit process). The Port plans on installing the mitigation LWD prior to the construction phase of T-dock reconfiguration.

The project has been designed to meet the criteria of the City of Anacortes Shoreline Master Program including no net loss, shoreline access, and supporting the unique industries of a working waterfront. Below the specifics of the project are detailed by phase of construction. The Port plans to construct the mitigation portion of the project prior to demolition and reconfiguration meeting requirements as advance mitigation.

Table 1: T-Dock Reconfiguration Permitting Status

Permit	Status
Washington State Department of Fish and Wildlife-HPA	HPA 2023-4-534+01 issued 9/26/2023
US Army Corps of Engineers	Submitted 8/2/2023 Individual Permit NWS-2023-582 in review. Awaiting Department of Ecology 401 WQC Certification and CZM Certification
Department of Ecology 401 Water Quality Certification	Submitted 4/15/2024 in review
Department of Ecology Coastal Zone Management Consistency Review	Submitted 1/3/2024, stayed until 11/18/2024 (dependent on local shoreline permitting for review)

Project Description: Existing T-Dock Removal

The existing T-Dock is T-shaped and extends perpendicular (eastward) from the existing upland parking area. The elevation of the dock is slightly higher than the adjacent asphalt parking area (existing top of deck +13.5 MLLW) and access to T-Dock is provided over a concrete approach slab. The Cap Sante Marina Esplanade continues north and south of the concrete slab with a painted pedestrian walkway marked out. The existing T-Dock has approximately 7,175 sq ft of overwater coverage (below OHW; +10.2 ft elevation MLLW).

The proposed project would demolish T-Dock and remove riprap from the top of bank and the existing sidewalk. Initial demolition will include removal and salvage of the existing deck gear including two functional jib cranes that will be reinstalled in the completed project. The catwalk at the northern end of the dock that spans the gap from the T-Dock to the B Dock entrance pier will be removed and stored for reinstallation. Prior to demolition of T-Dock, a silt curtain will be installed around the dock to ensure that all demolition debris and turbidity are contained. The demolition will begin by removing the existing creosote timber decking, stringers, and bullrails. The decking consists of 4 inch x 12 inch planks spaced with approximately 1/4 inch gaps. Once the surface of the dock is removed, the existing timber pile caps (12 inch by 14 inch) will be removed. Demolition will be completed using hand tools and either a land or barge mounted crane and/or land-based equipment.

The proposed demolition would then remove the existing 112 creosote treated timber piles supporting the dock. In addition, the 29 pressure treated fender piles along the mooring face will be removed. The proposed project would also remove three submerged timber pile stubs located to the south of the dock that extend approximately 1-5 ft above the mudline on the south end of the dock. All piles will be completely removed using a vibratory hammer; however, if any break they will be cut off below the mudline. All demolished material will be loaded into dump trucks or disposal barges, and disposed of at an appropriate upland disposal site, after appropriate processing.

The existing concrete approach slab will be demolished and removed using a land-based excavator. The proposed project will also remove the asphalt and concrete sidewalk immediately landward of the OHW and to the north and south of the dock access. The concrete slab is supported by a concrete retaining wall; this wall is only present under the concrete slab and will be removed using a land-based excavator. During removal of the retaining wall, the existing riprap shoreline at the top of the bank will also be removed to facilitate the installation of the proposed sheet pile bulkhead and concrete backwall, both of which will be installed landward of highest astronomical tide (HAT). This will remove riprap from below HAT to prepare the shoreline for the proposed T-Dock Reconfiguration. A flat bench will be located at an elevation of approximately +8.2 ft to +8.5 ft MLLW and will range in width based on the contours of the shoreline. All excavated material will be loaded into dump trucks and disposed of at an appropriate upland disposal site.

Project Description: Proposed T-Dock Reconfiguration

The proposed T-Dock will be 190 ft wide and will extend between 59 ft and 71 ft waterward of the MHHW. The variation is due to the existing shoreline. The proposed T-Dock will not extend any further into the marina than the existing T-Dock. To meet needs of the user groups and to address the existing bottleneck at the vehicle approach entrance to the T-Dock, the proposed reconfigured T-Dock's entrance will be expanded. Specifically, T-Dock will be rectangular shaped instead of a tee-shape and the entire dock will be 190 ft in length with approximately 145 ft of vehicle approach entrance. This will result in an increase of approximately 5,400 sq ft of overwater coverage as the proposed reconfigured T-Dock area is approximately 12,575 sq ft (below OHW; +10.2 ft elevation MLLW).

A primary concern with the design of the proposed project are the elevations of the dock to ensure functional

vehicle access from the parking area. The elevation of the existing parking area is approximately +12.5 ft MLLW and the proposed dock would need to tie into that elevation. As a result, the elevation of the proposed T-Dock would be approximately +12.88 ft MLLW at the landward end of the dock and approximately +14.2 ft MLLW at the waterward end of the dock. These elevations will allow for rinse water to flow towards the landward end of the dock, collected within a trench drain and delivered to the existing sanitary sewer system. This approach has been discussed with City of Anacortes Public Works and conceptually approved. An approved stormwater BMP facility will also be installed to collect and treat stormwater prior to discharge into the marina basin.

The proposed T-Dock will include a concrete slab transition from the parking area to the dock. The concrete slab will be installed in roughly the same location as the existing concrete slab, although the new slab will extend to the full 190 ft width. To support the waterward end of the concrete slab and provide a stable transition, the proposed project will install a new steel Z-Sheet pile bulkhead wall along the entire 190 ft of the dock, and extend 20 ft further to the north, to the existing B Dock pier. The sheet pile bulkhead wall will be 210 ft long and will be installed landward of the existing OHW. The sheet pile wall will be driven into place in the dry and will avoid the existing buried timber bulkhead located waterward and the existing upland contaminated soil located to the west of the wall. The sheet pile wall will be installed below grade (approximately 4-5 ft below) using land or barge-based pile driving equipment. A concrete backwall will be cast in place on top of the sheet pile bulkhead wall and extend to an elevation of approximately +12 ft MLLW. A concrete transition slab will be installed on top of the backwall and will provide the transition between the parking area and the surface of the proposed reconfigured T-Dock.

The proposed reconfigured T-Dock will be supported by thirty-five (35) 24-inch diameter galvanized steel pipe piles and five (5) 30-inch diameter galvanized steel pipe piles. The larger piles will be installed at the locations where the cranes will be reinstalled, which will be determined prior to construction. The piles will be installed in pile cap rows with a spacing of approximately 21 ft. Pile spacing within the pile cap rows will vary between 17 ft and 22 ft depending on location. Piles will be driven with land based or barge-mounted pile driving equipment. It is anticipated that a vibratory hammer will drive the piles, however an impact hammer will be required for bearing piles to reach design pile tip elevation, as well as to confirm the design bearing capacity. For impact hammer use, sound attenuation measures (bubble curtain and wood block) will be used to minimize underwater noise. For piles installed within the riprap shoreline, riprap may be required to be shifted aside to allow for pile installation. Moved riprap will be replaced as near to their original location as possible. Pile caps will be installed following pile installation. The cast-in-place pile caps will be installed perpendicular to OHW and will connect the pile within each row. Special care will be taken to ensure that no uncured concrete enters the water. The size of the pile cap is slightly larger on four of the caps to support the reinstallation of the cranes. As stated above, a trench drain will be installed between the new T-Dock pier and the upland transition slab to collect stormwater and rinse water; rinse water from the dock surface will be collected and discharged to the existing sanitary sewer system with a bypass system.

Once the cast-in-place concrete beams and pile caps have cured, precast concrete deck panels will be installed as decking for the proposed T-Dock. The concrete deck panels will be installed at a slope of 2.0% from the waterward edge of the dock to the landward edge, and the trench drain system. The precast panels will be anchored to the structure with cast-in-place concrete closures between the panel ends located above the concrete pile caps. Additionally, the longitudinal gaps between adjacent panels will be grouted to complete the congruent structure and final deck surface.

A steel pipe bullrail, electrical lines, and water lines will be installed around the perimeter of the proposed T-

Dock. Improvements to the on-dock utilities will include modernizing and increasing the electrical services; replacing the existing dock lighting from high-pressure sodium fixtures to more effective light-emitting diode (LED) lighting; and replacement of the dock water system. The proposed dock will also be equipped with safety ladders. The salvaged cranes will be reinstalled after the electrical system is complete. The final aspect of this project is installation of 10-inch diameter galvanized steel pipe fender piles along the eastern and southern edges of the new dock. An HDPE pipe fender sleeve will be installed over each fender pile. A total of 24 fender piles will be installed. Piles will be driven with a barge-mounted vibratory hammer and do not require impact driving. The project also includes the installation of an impressed current cathodic protection system to provide corrosion control to the submerged surfaces of the dock support elements. Above the water line, corrosion control will be provided using a combination of protective coatings and linings.

The proposed project will not require any dredging and will not result in a modification of substrates below the OHW (+8.2 ft MLLW). Above the MHHW, the proposed project will result in the removal of riprap at the top of the bank to remove the existing concrete retaining wall and footing and for the installation of the new sheet pile wall and concrete backwall. The proposed backwall will be installed landward of the existing MHHW and OHW and the project will not result in the loss of aquatic habitat. The removal of riprap will result in a narrow, nearly flat bench between +8.2 ft and +8.5 ft MLLW. The width of the bench will vary from between 2 ft and 12 ft depending on the location along the shoreline. However, there will be no loss of aquatic habitat and the proposed project will only result in disturbance to riprap substrates to facilitate sheet pile driving. The expansion of the proposed T-Dock Reconfiguration will result in an increase in overwater coverage between the OHW down to an elevation of approximately -2 ft MLLW. Although none of the substrates within this area will be disturbed, the proposed project will result in an increase of approximately 5,400 sq ft of overwater coverage (below OHW). Overall, the proposed project will result in minimal impacts to the aquatic environment.

Project Description: Habitat Improvements & Mitigation Installation

Habitat improvements proposed for this project includes removal of approximately 130 tons of creosote from the marine environment and miscellaneous debris (including additional creosote-treated timber pile stubs) from the shoreline. These removals will permanently eliminate the continued leaching of contaminants from the creosote into the marine environment. Further, ~210 linear feet of shoreline will be reconfigured as part of the installation of a new sheet pile wall that will be installed landward of the OHWM. This will provide a permanent barrier between the aquatic habitat and contaminated upland sites. The reconfiguration of the shoreline will result in no net loss of habitat functions and values due to the existing condition of the shoreline (riprap).

The Port proposes installation of large woody debris (LWD) to offset potential habitat impacts associated with T-Dock reconfiguration (increase in overwater coverage). The installation of the LWD within the intertidal habitat will enhance the aquatic and shoreline habitat functions and values providing compensatory mitigation for the remaining balance of potential adverse impacts associated with the increase of overwater coverage. The location, species, and number of LWD structures were coordinated with and approved by the NMFS, USFWS, and the WDFW. The location of the proposed LWD was selected for the northeastern corner of Cap Sante Marina where it will provide the greatest level of habitat improvement. Were LWD placed adjacent to T-Dock, it would provide a lower level of habitat improvement to nearshore migrating fish species. Additionally, placement of LWD would provide a level of habitat benefits that exceeds the habitat provided at the project location where the increase in overwater coverage will occur. The Port intends to install the LWD the year prior (2025) to the demolition and of T-Dock.

To offset remaining impacts, the Port proposes to install approximately 18 pieces of LWD over approximately 8,000 square feet on the beach along the northeast shoreline of Cap Sante Marina. This equates to

approximately 1.5:1 ratio of square footage of impacts with square footage of benefits. The marina basin currently provides limited habitat for fish species, although the proposed LWD locations are within the only portion of the basin where fish and wildlife species are expected to utilize at a greater level than the rest of the marina basin. Cap Sante basin provides critical habitat for Puget Sound Chinook salmon and bocaccio. According to WDFW's forage fish spawning online mapper (accessed June 12, 2023), the beach along the breakwater that extends to the south of the east beach is mapped for smelt spawning. Herring spawning is mapped just outside of Cap Sante Marina in Fidalgo Bay (WDFW 2023). The beach is also below a feeder bluff and in a transport zone (Ecology 2023). The northeastern shoreline has riparian and saltmarsh vegetation in the upper intertidal area and eelgrass below +2 ft MLLW. LWD is a habitat feature that is currently not present in this part of the marina and this location will provide the greatest level of habitat enhancement.

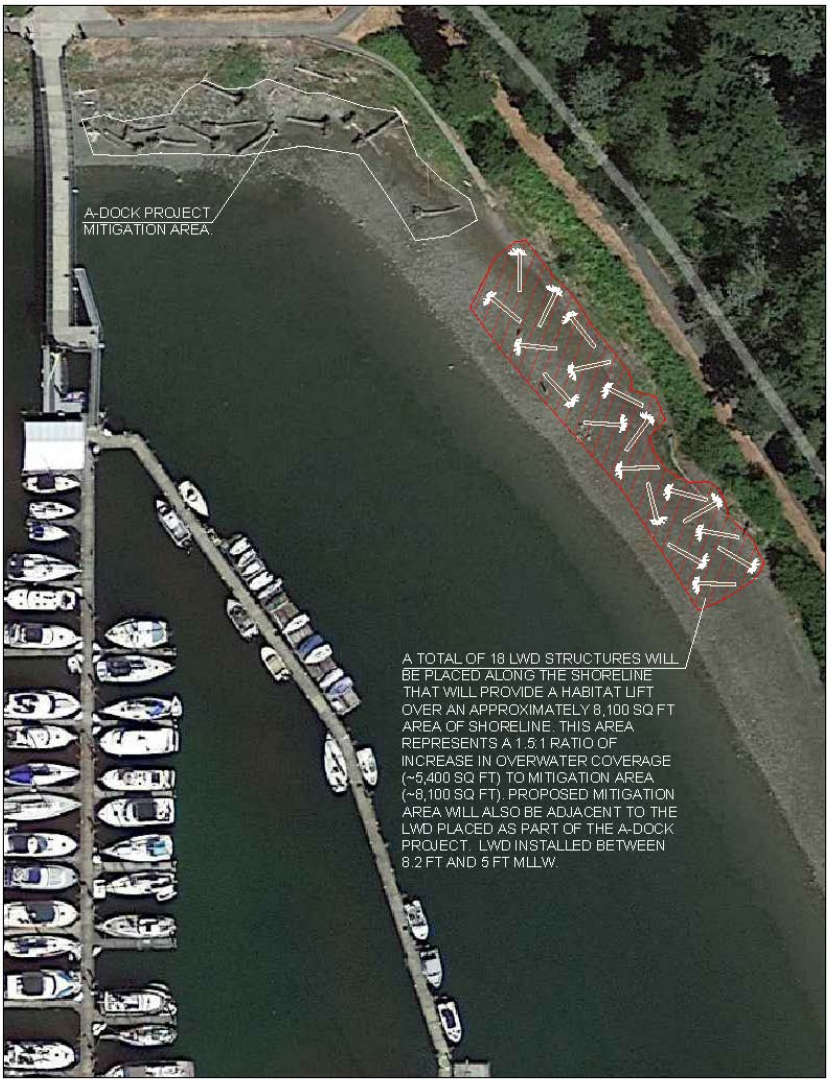


Figure 1: Proposed Large Woody Debris Installation in Cap Sante Marina

LWD structures will consist of 16-20-foot logs with rootwads (18-30-inch diameter) anchored with screw anchors and cables. The LWD structures will be installed at an elevation of between +5 feet and +8.2 feet MLLW. Existing substrates where the LWD structures will be installed consist of a combination of sand and gravel at the upper elevations and gravel and cobble at the lower elevations. The LWD structures will be installed on the boundary between the gravel and cobble and the finer, sand and silt substrates, at lower elevations. Care will

be taken to avoid any existing saltmarsh vegetation. The rootwads will likely be installed with land-based equipment such as rubber tracked mini-excavators, hand tools, and powered hand tools. LWD placement will occur as part of the T-Dock Reconfiguration Project; habitat improvements are proposed to be installed prior to the demolition and reconfiguration of T-Dock. There would be no delay in habitat benefits.

Shoreline Master Program Designation
The proposed T-Dock reconfiguration is within an "Urban" designation.

Critical Areas
The site is mapped as a FEMA flood hazard zone. However, the surveyed elevations do put the site outside of the flood hazard zone. See the Floodplain Memo included in application materials. The site is mapped as a tsunami hazard zone.

Interplay between Cap Sante Marine MTCA Site and T-Dock Reconfiguration
The Cap Sante Marine cleanup was conducted under the formal regulatory framework of the Model Toxic Control Act (MTCA) in partnership with the Department of Ecology (Ecology) and Port. This process included a cleanup study and evaluation of cleanup options under an Agreed Order. Ecology prepared a final cleanup plan for the site based on the evaluated options. The cleanup was implemented under a Consent Decree with Ecology and the Port; through disproportionate cost analysis the decision to leave some contamination in place was made. These formal processes meet Ecology requirements with considerations of federal requirements. Operations on the site are limited by a Restrictive Covenant which requires consultation with Ecology when ground disturbing activities are proposed.

The Port has been in consultation with Ecology about the T-Dock Reconfiguration project. Ecology has approved of the project with the understanding that though the project isn't located within an area of contamination; if construction activities encounter contaminated soils, then they will be handled appropriately. Project construction will be monitored for evidence of contamination. If encountered, contaminated materials will be segregated, characterized, and disposed of at an Ecology approved landfill. Ecology will be consulted if contamination is encountered.

Site-specific BMPs will be implemented during the construction to prevent releases. The final BMPs have yet to be finalized, but these will include measures such as TESCs, having spill materials on site, a documented Spill Prevention Control and Countermeasures plan in place, and isolating the water with floating boom. Site workers will be trained to identify materials suspected of being contaminated with hydrocarbons by evidence of staining, aroma, or sheens on water. If potentially contaminated materials are encountered, they will be segregated, characterized, and appropriately disposed of at an upland landfill.

As design progresses, we are still in consultation with Ecology and they will have an opportunity to review the project prior to construction. We hope to receive written approval of the project once the design and BMPs have been finalized. We can supply the City of Anacortes with this information when available.

Consistency with SMP Goals, Policies and Regulations
T-Dock is a compliant water dependent structure supporting the unique requirements of waterborne commerce and fisheries. The existing and future use along with the proposed realignment is consistent with the SMP goals, policies, and regulations. Please see the matrix (Tables 2-6) below for how the project complies with the SMP.

Table 1: Chapter 4 Shoreline Master Program Elements and T-Dock Reconfiguration

CHAPTER 4	MASTER PROGRAM ELEMENTS	*RESPONSE*
4.7.1	Preserve, protect, enhance, and restore critical areas and shoreline ecological processes and functions through regulatory and non- regulatory means that may include required vegetated shoreline setbacks, acquisition of key properties, regulation of development, and incentives to encourage ecologically sound design and maintenance.	*The project site is a highly modified commercial waterfront. The project will not adversely impact existing shoreline vegetation or other existing conditions or uses. This is due to the fact that the existing conditions are providing negligible habitat functions and values.*
4.7.3	Achieve no net loss of shoreline ecological functions. This shall be accomplished by the use of Mitigation Sequencing, as defined in this master program, and as provided by WAC 173-26-201(2)(e).	*The project will not result in the loss of shoreline ecological functions. The project may reduce impacts to shoreline function by reducing pollutant loads in stormwater. The compensatory mitigation will provide an overall increase in shoreline ecological functions.*
4.7.4	Identify unique and sensitive shoreline areas for permanent protection.	*No known unique or sensitive areas are located within the project footprint; none will be impacted.*
4.7.7	Develop and design performance standards which will minimize detrimental impacts of development upon the shoreline.	*Applicable performance standards will be followed.*
4.7.8	Encourage study and monitoring of waters and shoreline habitats; maintain awareness of existing conditions and future alterations.	*The proposed project will occur within a heavily utilized marina and this location represents a significant avoidance and minimization over alternative location. As a result, these are beyond the scope of this project.*
4.7.11	All soils disturbed by use activities, and which are potentially erodible or unstable should be stabilized through seeding, mulching, terracing or other effective means.	*TESC measures will be used to prevent sedimentation of the construction runoff during construction of the project.*
4.7.12	Development on unique or fragile shoreline areas should be avoided unless it can be shown in the proposal that development will not degrade the shoreline, or that the development will enhance public use of shoreline resources while fully mitigating for impacts to fragile areas.	*The proposed project will occur within a heavily utilized marina and this location represents a significant avoidance and minimization measures. The existing shoreline is significantly degraded and the proposed project will not degrade the shoreline or negatively impact public use of the area. Additionally, the proposed project will not impact fish or wildlife use of the project area.*
4.7.13	Shorelines are to be kept free of discarded waste materials.	*Contractors will practice good housekeeping BMPs and keep the project area clean and prevent waste from reaching the shoreline.*
4.7.18	The maximum width for either the wetland buffer or the shoreline setback must be applied for the portion of the wetland that lies within the shoreline setback.	*The project area, including the shoreline, does not contain any wetlands or wetland buffers.*

Table 2: Chapter 5 Shoreline Master Program Elements and T-Dock Reconfiguration

CHAPTER 5	URBAN SHORELINE ENVIRONMENT DESIGNATION	*RESPONSE*
5.6.1	Limit uses and activities within the Aquatic environment to water-dependent uses, ecological restoration and public access/recreational improvements designed to provide access to the shoreline for a substantial number of people, with few exceptions.	*The existing and future uses of the T-Dock are water dependent and provides a unique maritime use not present within the Anacortes area. T-Dock's reconfiguration supports water-dependent maritime uses such as tribal and non-tribal commercial fisheries, marine contractors, ship chandlers, and oil spill response vessels.*
5.6.3	Allow new over-water structures only for water-dependent and accessory uses, restoration projects, public access, or minor, accessory non-water-dependent Port facilities in conjunction with a water-dependent use. New over-water structures, other than single-family and community piers, must show significant public benefits and approval shall only be granted after consideration has been given to the environmental impacts to public resources.	*T-Dock's reconfiguration supports water-dependent maritime uses such as tribal and non-tribal commercial fisheries, marine contractors, ship chandlers, and oil spill response vessels.*
5.6.4	Limit the size of new over-water structures to the minimum necessary to support the structure's intended use and promote multiple uses of the structure as a means of reducing impacts of shoreline development and increasing effective use of water resources.	*T-Dock's expansion represents the minimum necessary to meet the project purpose and need to alleviate upland and marine traffic bottlenecks and meet the current and future users of the facility. The current configuration of the T-Dock is hindering the existing use and the proposed size increase is the minimum required for existing water dependent uses.*
5.6.10	Remove abandoned over-water structures when they no longer serve their permitted use and provide no environmental benefit.	*During the demolition stage of construction remnant pile stubs and debris from a moribund tidal grid will be removed.*
5.10.1	Give priority to water-oriented uses over non-water-oriented uses. Priority should be given to water-dependent uses. Second priority should be given to water-related uses and third priority to water-enjoyment uses. Non-water-oriented uses shall only be allowed if they are part of mixed used developments where the primary use is (1) water-dependent or (2) water-related, or (3) in conjunction with a water-enjoyment use on sites where there is no access to water.	*The project proposes water related and water dependent uses*.
5.10.6 & 5.10.7	Public Access Considerations	*Currently, the Cap Sante Esplanade provides a public pedestrian circulation pathway that connects Seafarers' Memorial Park to Rotary Park along the marina waterfront. This pathway is protected with an easement and presently is routed directly landward of T-Dock. This pathway will remain accessible after construction; the way will be delineated and striped to provide pedestrians with safe passage. There will be unavoidable disruptions in access during the construction phase of the project. During this time an alternative pedestrian detour will be provided.*

DR 5.6.2	The over-water footprint shall be designed and located to reduce associated environmental impacts. Strategies may include limiting the size of the footprint to that necessary to support the intended use and/or extending the structure waterward to avoid shading of critical habitat.	*T-Dock's expansion represents the minimum necessary to meet the project purpose and need to alleviate upland and marine traffic bottlenecks and meet the current and future users of the facility. The current configuration of the T-Dock is hindering the existing use and the proposed size increase is the minimum required for existing water dependent uses. The potential adverse impacts associated with the increase in overwater coverage will occur in a highly utilized and modified environment providing minimal habitat functions and values. As a result, impacts to critical habitat will be negligible. Any potential adverse impacts will be offset by installation of a mitigation (LWD structures) project prior to construction.*
DR 5.10.6	New or expanded structures shall be limited to maximum heights as specified in table 5.2.	*New structures will be limited to heights allowable in table 5.2.*
DR 5.10.8	Developments consisting of water dependent scientific, historical, industrial, cultural, or education research uses, public access, water-oriented recreation and ecological restoration are not required to meet shoreline setback requirements.	*The project will provide public access opportunities that may be within the shoreline setbacks.*

Table 3: Chapter 6 Shoreline Master Program Elements and T-Dock Reconfiguration

CHAPTER 6	ENVIRONMENTAL PROTECTION IMPACTS, MITIGATION, BONDING	*RESPONSE*
6.3.1	Protect the environment through implementation of this Master Program including the use of the AMRRCM mitigation sequence.	*Acknowledged*
6.3.2	Minimize the adverse impacts of shoreline developments and activities on the shoreline environment during all phases of development (e.g., design, construction, operation, and management).	*TESC measures will be implemented during construction. The project will provide updated stormwater treatment to improve water quality. The site will have operations source control BMPs in place to prevent ongoing impacts.*
6.3.3	Assure, at a minimum, that development and use within shoreline jurisdiction results in no net loss of ecological functions necessary to sustain shoreline natural resources. Development activities shall protect existing ecological functions and ecosystem-wide processes.	*The site is a highly utilized and developed commercial / recreational marina. The existing conditions are providing a low level of ecological functions and as a result the proposed project will not impact existing shoreline ecological resources.*
DR - 6.3.1	All shoreline development and activity shall be located, designed, constructed, and managed in a manner that avoids, minimizes and/or mitigates adverse impacts to the environment. The preferred mitigation sequence (avoid, minimize, rectify, reduce, or compensate for the environmental impact) shall follow that listed in WAC 173-26-201((2) (e), see also definition of "Mitigation" listed in this Master Program, Chapter 12).	*Acknowledged. The project is sited to avoid and minimize potential impacts to critical areas and sensitive habitats. Development of a sufficiently sized dock offsite would engender significant shoreline, aquatic, and upland impacts. To the extent possible, this project minimizes impacts through the site, materials, removal of creosote treated wood, and through additional habitat creation within the marina basin (large woody debris installation).*
DR - 6.3.2	In approving shoreline developments, the City of Anacortes shall ensure that shoreline development, use, and/or activities will result in no net loss of ecological functions necessary to sustain shoreline resources, including loss that may result from the cumulative impacts of similar developments over time to the extent consistent with constitutional and statutory limitations on the regulation of private property. To this end, the City may require modifications to the site plan and/or adjust or prescribe project dimensions, intensity of use, and screening as deemed appropriate. If impacts cannot be avoided through design modifications, the City shall require mitigation commensurate with the project's adverse impacts.	*To the extent possible, this project minimizes impacts through the site, materials, removal of creosote treated wood, and through additional habitat creation within the marina basin (LWD installation). The proposed LWD installation will enhance the shoreline habitat functions over an area equal to the increased overwater coverage of the reconfigured T-Dock. The LWD will be placed within the eastern portion of the marina basin where there are more intact habitats (fringing salt marsh vegetation, low bank shore, mud flats, and eelgrass patches) to maximize the benefit of the LWD in an area of the marine providing more suitable habitat for fish and wildlife. The LWD will be installed to be contiguous with existing mitigation efforts in the vicinity. This location safeguarded from future development by its location and distance from existing or proposed docks, dredging, and vessel traffic. The Port is proposing mitigation prior to construction on the T-dock reconfiguration.*

6.4.1	Protect against adverse impacts to the public health, to the land and its vegetation and wildlife, and to waters of the state and their aquatic life. In-stream structures that protect and preserve ecosystem-wide processes, ecological functions, and cultural resources, including, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas are of particular importance.	*Acknowledged. Vegetation along the shoreline at the T-Dock is limited to smaller macroalgae species on the existing riprap. No upland or riparian vegetation are present and no eelgrass or large macroalgae species are present. As a result, the site is currently providing limited habitat value. The mitigation proposal will enhance the shoreline and aquatic habitat within the marina basin at a level greater than the potential adverse impacts associated with the increase in overwater coverage. Overall, the project will result in an increase in habitat value to areas in the marina with more wholly intact ecological processes.*
DR-6.4.2	All shoreline permits shall contain provisions that require developers to comply with all applicable state law requirements regarding preservation of archaeological and historic resources, including provisions to stop work and notify the appropriate agencies should protected resources be uncovered during excavation.	*The site is not of known cultural resource or historic value. An inadvertent discovery plan will be implemented for the construction phase of the project.*
DR-6.4.3	Archaeological sites located both in and outside shoreline jurisdiction are potentially subject to chapter 27.44 RCW (Indian graves and records) and chapter 27.53 (Archaeological sites and records) and chapter 25.48 WAC (Archaeological excavation and removal permits) as well as the provisions of this section.	*The site is not of known cultural resource or historic value.*
DR-6.4.4	Where archaeological or historic sites have been identified, the City may require public access consistent with constitutional and statutory limitations, provided the development is consistent with the provisions for public access and provided further it is determined that public access to the site will not damage or reduce the cultural value of the site.	*The site is not of known cultural resource or historic value.*
DR-6.4.5	All shoreline uses and activities shall be located, designed, constructed and managed to minimize interference with beneficial natural shoreline processes such as littoral drift, sand and gravel movement, erosion, and accretion. For projects proposing clearing and grading see Section 6.5 Vegetation Conservation, Chapter 9 Specific Modification Policies and Development Regulations.	*This project's construction and operation will not affect shoreline processes as designed. The shorelines at T-Dock are heavily modified armored shores which limit natural processes such as longshore drift, accretion, and erosion.*
DR-6.4.7	An erosion and sedimentation control plan shall be submitted with a permit application for activities that involve the removal of vegetation, stockpiling of earth or other materials, or any activity that could result in shoreline erosion or siltation. Said program shall conform to the City of Anacortes' Engineering Design Standards and shall at minimum, utilize Best Management Practices (BMPs) to prevent shoreline erosion and siltation.	*A detailed TESC plan will be included in construction approval documents.*

DR-6.4.8	Noise emanating from a shoreline use/activity shall be muffled so as to not to interfere with the designated use of adjoining properties. This determination shall take into consideration ambient noise levels, intermittent beat, frequency, and shrillness. Shoreline developments/activities shall comply with the maximum permissible noise levels and time limits set forth in Anacortes Municipal Code Chapter 17.54. Exception: This regulation does not apply to fog horns, tsunami warning or other emergency warning systems	*Construction noise associated with a variety of construction equipment would occur for the duration of the project. This could include truck engines, pile drivers (vibratory and impact), generators and other small engines, excavators, backhoes, and other equipment. Construction noise would occur during daylight hours as permitted by City of Anacortes noise ordinances.*
DR-6.4.15	All shoreline developments shall be located, designed, constructed, and operated so as not to be a hazard to public health and safety.	*The project as designed is unlikely to be a public health hazard.*
DR-6.4.22	All development activities approved under this Shoreline Master Program shall be designed and maintained consistent with the City's Stormwater Management Plan and Engineering Design Standards.	*Acknowledged. Provisions to collect and treat stormwater are incorporated into the project's design. Wash water will be collected and conveyed to the treatment plant through the sanitary sewer with a bypass system. Stormwater will be collected and treated with a suitably sized BMP facility such as a combination hydrodynamic separator with an oil and water separator prior to discharge. These details are still in design but will be finalized prior to building permit submittals.*
6.5.2	Limit alteration of the natural landscape to the minimum necessary to accommodate the shoreline development or a landscape plan developed in conjunction with the shoreline development, or to remove invasive vegetation.	*The site is highly modified and far removed from its natural state and no upland or riparian vegetation is present. The landscape of the project is a heavily utilized public and commercial marina. No provision of vegetation at the site is in contemplation. However, landscaping is proposed between the marina parking lot and the Tommy Thompson Trail.*
6.5.5	Use best management practices (BMPs) during clearing and grading to control erosion.	*TESC BMPs will be used during construction per the TESC plan.*
DR-6.5.3	All clearing and grading activities shall be limited to the minimum necessary for the intended development.	*Acknowledged. Clearing and grading are expensive enterprises, and we will limit these activities to the largest degree possible. Additionally, care will be given to avoid contaminated soils from the Cap Sante Marine cleanup site.*
DR-6.5.4	Exposed soils shall be immediately developed or revegetated to prevent erosion.	*TESC BMPs will be used during construction per the TESC plan. Scheduling will avoid exposure of bare soils to rainfall to prevent erosion to the largest degree possible.*

DR-6.5.8	As part of meeting project site area landscaping requirements, and in coordination with any buffer requirements, the applicant for a proposed new development, expansion, or redevelopment project of a non-water-dependent use other than public shoreline access trails that will abut the City's marine shorelines must submit a landscaping plan for approval specifying protection of existing native riparian vegetation within fifteen feet of the OHWM. If native vegetation within fifteen of the OHWM has been destroyed or significantly degraded, the landscaping plan shall specify replacement by installation of dense native riparian vegetation consisting of trees, shrubs, and groundcovers within and along portions of the fifteen-foot wide strip of land lying immediately landward of the line of ordinary high water (OHW) for currently unarmored shorelines, or the landward edge of existing shoreline armoring for currently armored shorelines. Water-dependent uses and public access trails that will abut the City's marine shorelines are exempt from the locational requirements of planted areas but must provide a landscaping/mitigation plan that provides equal to or greater environment function than already exists. Riparian vegetation should be encouraged, but not required, elsewhere on the site for aesthetic continuity with the riparian vegetation required along the shoreline.	*The current site is devoid of vegetation and the project design does not allow for installation of shoreline vegetation. Moreover, the proposed reconfiguration is exempt from the locational requirements for landscaping as a water dependent use and as a public access trail (the Esplanade) abutting the City's shoreline. The shorelines of the marina basin are armored shores inappropriate for installations of vegetation. However, the Port proposes installation of Type B landscaping along the strip between the Tommy Thompson Trail and the upland parking areas at T-Dock. The Port proposes installing approximately 2,000 sf of landscaping in this location. Where feasible, native plants appropriate to the location will be considered to add to the resilience and habitat value of the landscaped area. Additional area for revegetation may be added if the area proposed is not sufficient to meet SMP guidelines.*
DR-6.5.11	All shoreline development and activity shall use effective measures to minimize increases in surface water runoff that may result from clearing and grading activity. The applicant must implement best management practices in compliance with Chapter 5, Clearing, Grading, and Erosion Control under the City's Engineering Design Standards. Submittal requirements may include a plan addressing species removal, revegetation, irrigation, erosion and sedimentation control, and other methods of nearshore/riparian corridor protection in accordance with the City's Engineering Design Standards.	*Construction of the project will follow a TESC plan that meets all applicable requirements.*
DR-6.6.1	Protect unique, rare, and fragile environments, including wetlands and fish and wildlife habitat conservation areas, from impacts associated with development.	*The project will not impact any unique, rare, or fragile environments. None of these are within the project footprint. Please see the attached habitat improvement plan with shoreline habitat baselines.*
6.6.2	Locate and design development to minimize risks to people, property and other critical areas associated with geologically hazardous areas, frequently flooded areas, and tsunamis.	*The project is mapped as being within the floodplain; however, surveyed elevations indicate the project is outside of the floodplain (see attached memo on the floodplain mapping) and proposed use is appropriate for the degree of geological hazard.*
DR-6.6.7	Until an inventory of critical saltwater habitat is done, prior to construction all over water and near-shore developments shall conduct an inventory of site and adjacent beach sections to assess the presence of critical saltwater habitats and functions. The methods and extent of inventory shall be consistent with accepted research methodology.	*The project will not impact any unique, rare, or fragile environments. None of these are within the project footprint. Please see the attached habitat improvement plan with shoreline and aquatic habitat baselines.*

DR-6.8.1	All new development and new uses within the jurisdiction of this Master Program shall comply with the provisions of Section A-1, Frequently Flooded Areas located in Appendix A of this Master Program.	*The proposed reconfigured T-Dock will meet these requirements and modern seismic codes.*
DR 6.9	Development Regulations Applicability: Regulations for Geologically Hazardous Areas are set forth in the shoreline-specific Critical Areas Regulations contained in Section A-3 of Appendix A of the Master Program.	*The proposed reconfigured T-Dock will meet these requirements and modern seismic codes.*

Table 4: Chapter 7 Shoreline Master Program Elements and T-Dock Reconfiguration

CHAPTER 7	PUBLIC ACCESS	*RESPONSE*
7.4.10	Where on-site physical access is appropriate, the development shall dedicate, improve, and provide maintenance for a pedestrian easement that provides area sufficient to ensure usable access to and along the shoreline for the general public.	*Currently, the Cap Sante Esplanade provides a public pedestrian circulation pathway that connects Seafarers' Memorial Park to Rotary Park along the marina waterfront. This pathway is protected with an easement and presently is routed landward of T-Dock. This pathway will remain accessible after construction; the way will be delineated and striped to provide pedestrians with safe passage. There will be unavoidable disruptions in access during the construction phase of the project. During this time an alternative pedestrian detour will be provided and clearly marked.*

Table 5: Chapter 9 Shoreline Master Program Elements and T-Dock Reconfiguration

CHAPTER 9	FILL	*RESPONSE*
9.7.1	Fill should be located, designed, and constructed to protect shoreline ecological processes and functions.	*Minor structural fill will be imported as needed to support the entrance ramp and on-site use and will not interrupt shoreline processes.*
9.7.2	Fill landward of the ordinary high-water mark should be permitted when necessary to support permitted uses, and when significant impacts can be avoided or mitigated.	*Minor structural fill is needed to support the current uses on subject property.*
DR-9.7.3	Fill waterward of the ordinary high water mark is permitted by Shoreline Conditional Use Permit only when necessary to accommodate water-dependent uses, and for maintenance and repair of existing structures; expansion or alternation of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible; a transportation facility, utility, or navigational structure with no feasible alternative; cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan; disposal of dredged material considered suitable under and conducted in accordance with the Dredged Material Management Program of the Department of Natural Resources; mitigation or compensation actions and ecological restoration including beach nourishment or enhancement projects when significant impacts can be mitigated; and public access.	*No fill waterward of OHWM is proposed.*
DR-9.7.4	Projects shall be located and designed to minimize the area of fill necessary to accommodate the use.	*Fill for the project is minimal and limited to required amounts for paving the entrance ramp.*
DR-9.7.5	Applications for fill shall address impacts to wetlands and streams; aquatic habitats; flooding; sediment transport; navigation, and public access. The following information may be required: physical and biological characteristics of the fill site, source and quality of fill material, grading plan showing the site, adjacent properties and waters, method of placement and compaction, type of proposed surfacing and runoff control, method of erosion control and stabilization, and proposed use of the fill area. Fill that will result in significant adverse impacts that cannot be mitigated is prohibited.	*No adverse impacts will result from fill placement.*
DR-9.7.6	Fill shall be provided with some means for erosion control and/or shoreline stabilization consistent with the policies and regulations of Section 9.11, Shoreline Stabilization Measures and Flood Protection Works.	*Soil stabilization will be provided as needed. TESC measures will be in place during construction to prevent erosion on site.*

NOTICE OF MITIGATED DETERMINATION OF NON-SIGNIFICANCE (MDNS)

Project Name: T-Dock Reconfiguration Project

Location: Port of Anacortes – Cap Sante Marina, 1019 Q Avenue. The property is located in Section 18, Range 02E and Township 35N in Anacortes, Skagit Country, Washington.

Proponent: Port of Anacortes

Description of Proposal: The Port of Anacortes (Port) proposes to replace an existing but aging commercial dock (T Dock) within its Cap Sante Marina located in downtown Anacortes. Cap Sante Marina is a large public recreational and commercial marina on Fidalgo Bay that was established in 1927. The marina has undergone many modifications since that date and is still operated and maintained by the Port. The current marina configuration provides 1,007 boat moorage slips which supports local tourism, fishing, and other commercial marine activities. Existing structures within the marina include moorage floats, a fuel dock, one small craft hoist at P/Q dock, two 1-ton hoists at T Dock for commercial usage, a boat travel lift, a floating pumpout facility, along with upland amenities such as vehicle and boat trailer parking and web lockers, retail space, a public esplanade, and the Port's Harbormaster office. T Dock is located on the southwest side of the marina and is one of the Port's main commercial docks. It is currently aging and nearing the end of its useful life. The project purpose is to replace the deteriorating and outdated dock with a dock that better meets current user group demands and future commercial activity.

The Project will demolish T Dock and remove riprap from the top of bank and the existing sidewalk. The demolition includes removal and salvage of existing cranes and catwalk for reuse, removal and salvage of existing steel diamond plates, and demolition and disposal of ladders, fire suppression, electrical lines, water lines, and associated components from the dock. Prior to demolition of T Dock, a silt curtain will be installed around the dock so that all demolition debris is contained and removed. Demolition will begin by removing the existing creosote-treated timber decking, stringers, caps and bullrails. All demolition would be completed using hand tools and either land or barge mounted equipment.

Demolition will remove the existing 115 creosote-treated timber piles that support the dock. Twenty-nine (29) additional ACZA-treated fender piles along the mooring face will also be removed. Submerged timber debris and pile stubs on the south end of the dock will also be removed. Removed material will be loaded into dump trucks, or a disposal barge, and disposed of at an appropriate upland disposal site after appropriate processing.

The existing concrete slab and footing will be demolished with an excavator mounted jackhammer and removed using a land-based excavator. In addition to the removal of the concrete slab, the proposed project will also remove the asphalt and concrete sidewalk immediately landward of T Dock. As part of the removal of the concrete footing, the existing riprap shoreline at the top of the bank will also be removed and replaced after dock installation. To prepare the shoreline for dock installation, the existing top of bank will be excavated down to an elevation of approximately +8.2 ft MLLW. All excavated material will be loaded into dump trucks and disposed of at an appropriate upland disposal site.

The proposed project will include the following specific actions:

- Replacement of the outdated and aging creosote timber T Dock structure with a steel pile supported concrete dock structure.
- Provision of new systems to route stormwater from the dock surface into the sanitary sewer system.
- Replacement of the current electrical service.
- Replacement of water and fire suppression systems.
- Replacement of existing concrete abutment with a concrete abutment and sheet pile wall to meet seismic codes.

The new T Dock will be 190 ft wide and will extend between 59 ft and 71 ft waterward of the MHHW. The replacement T Dock will not extend any further into the marina than the existing T Dock. To meet the needs of the user groups and to address the existing bottleneck at the vehicle approach entrance to T Dock, the proposed dock will be expanded. T Dock will be rectangular shaped instead of tee-shaped and the entire dock will be 190 ft in length with approximately 145 ft of vehicle approach entrance. This will result in an increase of approximately 5,400 sq ft of overwater coverage to a total of approximately 12,575 sq ft (below OHWM).

T Dock will be supported by a total of forty (40) galvanized steel pipe piles: thirty-five (35) 24-inch diameter galvanized steel pipe pile and five (5) 30-inch diameter galvanized steel pipe pile. The larger piles will be installed at the locations where the cranes will be reinstalled to support increased loads from crane operations. The piles will be installed in pile cap rows with a spacing of approximately 21 ft. Piles will be driven with land-based or barge-mounted pile driving equipment. For piles installed within the riprap shoreline, riprap may be required to be relocated/removed to allow for pile install. If possible, the riprap will be replaced adjacent to the pile locations. Once the piles are installed, pile caps will be installed. The pile cap will be approximately 3 ft by 3 ft and will be cast-in-place. Special care will be taken so that no uncured concrete enters the water. A concrete back beam will be installed immediately waterward of the concrete backwall and a concrete face beam will be installed at the waterward edge of the proposed dock. The beams will both be cast-in-place and will be approximately 2 ft wide and 2.5 to 3 ft deep. The beams will be at the same elevation as the pile caps. A stormwater trench drain will be installed within the concrete back beam in order to collect stormwater from the dock. Stormwater from the dock surface will be collected and discharged to the existing sanitary sewer system.

Once the cast-in-place concrete beams and pile caps have cured, precast concrete deck panels will be installed as decking for the dock. A steel pipe bullrail, electrical lines, and water lines will be installed around the perimeter of T Dock. Improvements to the on-dock utilities will include modernizing and increasing the electrical services, replacing the existing dock lighting to more efficient light-emitting diode (LED) lighting, and replacing the dock water system. The proposed dock will also be equipped with dock safety ladders. The final element of the proposed project will be the installation of 10-inch diameter galvanized steel pipe fender piles along the eastern and southern edges of the new dock. An HDPE pipe fender sleeve will be installed over each fender pile. A total of 24 fender piles will be installed. Piles will be driven with a barge-mounted vibratory hammer.

Mitigation Measures: The potential impacts of the proposed project are associated with the increase of overwater coverage (5,400 square feet of expanded overwater structure). These potential impacts have been avoided and minimized by nature of where the proposed project will occur. The Cap Sante Marina is a heavily used marina, and the portion of the marina where T Dock is located has been historically modified. The shoreline consists of riprap, and the marina basin has been dredged to a depth of -12 to -14 feet. The proposed project will occur within a portion of the aquatic environment that is already highly altered. Potential adverse impacts associated with the dock replacement and increase in overwater coverage will be further mitigated for by the following conservation measures and BMPs:

- A silt curtain will be installed prior to demolition activities.

- Removal of 115 13 to 14-inch creosote treated timber piles.
- Removal 29 aged ACZA-treated fender timber piles.
- Removal of submerged creosote treated wood debris south of the existing T Dock.
- Installation of large woody debris (LWD) structures in the northeast portion of the Cap Sante Marina for aquatic habitat.
- Proposed work will not begin prior to obtaining all necessary local, state, and federal permits and/or approvals.
- Work will begin only after the in-water work window for the area opens, to avoid key migration periods for protected aquatic species.
- The replacement dock panels will be precast offsite and delivered to the project site via the upland transportation and/or other water transportation means (i.e. barge).
- Construction barges will be staged in areas of sufficient water depth so as to not ground out during low water conditions.
- For pile driving activities, vibratory pile driving will be used to the maximum extent possible. A bubble curtain will be used during all impact pile proofing.
- When possible, construction will be performed in the dry, from on top of a float or landward of MHHW line along the shoreline.
- The selected contractor will be required to comply with all state water quality standards and use standard marine BMPs throughout construction. These BMPs will include the maintenance of vessels and equipment to avoid leaks and spills into surface waters and the avoidance of allowing construction debris from entering U.S. waters when conducting shoreline or in-water work. A Spill Prevention, Control, and Countermeasures (SPCC) plan and erosion control BMPs will be required during the work for the abutment to minimize dust, soil, and construction debris from entering surface waters.
- No discharge of waste materials to surface water will occur as part of this project. Collected debris will be removed from the water and disposed of at an appropriate upland facility.
- Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc. shall be checked regularly for drips or leaks and shall be maintained and stored properly to prevent spills into state waters. Proper security shall also be maintained to prevent vandalism.
- Additional BMPs and conservation measures, required or specified during the permitting process as the Port works and coordinates with the applicable resource agencies, will also be adhered to.

Lead Agency: The lead agency under the State Environmental Policy Act is the Port of Anacortes.

Comment Period: Determination: As a lead agency, the Port of Anacortes has determined that this proposal, which incorporated mitigation measures, will not have a probable significant adverse impact on the environment; a mitigated determination of non-significance (MDNS) does not require an environmental impact statement (EIS) under RCW 43.21C.030(2)(c). This determination assumes compliance with federal and state law as well as City of Anacortes ordinances related to general environmental protection. This decision was made after reviewing a completed SEPA environmental checklist and other supporting documents on file with the lead agency. This information is available to the public on request (call 360-299-1810 to request a copy by mail or email) or at the Port's administrative offices at 100 Commercial Avenue, Anacortes, WA 98221. The SEPA Checklist and complete DNS can also be reviewed on the Port's website: https://www.portofanacortes.com/sepa,

Kevin Anderson, Environmental Specialist
Port of Anacortes
100 Commercial Avenue
Anacortes, WA 98221

Comments may also be submitted to the Port via (a) e-mail to kevin.anderson@portofanacortes.com or (b) fax to (360) 293-9608. Comments will not otherwise be accepted by telephone or personal conversation.

Note: Issuance of this threshold determination does not constitute approval of permits. This proposal will be reviewed for compliance with all applicable Federal, State and City of Anacortes regulations.

Publication Date: 4/14/2023

Signed and dated this 14th day of April, 2023: _____

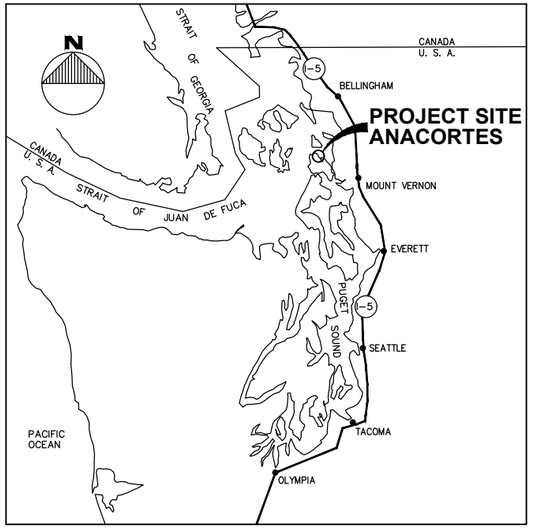
Daniel C. Worra
Port of Anacortes SEPA Responsible Official

PORT OF ANACORTES

T DOCK RECONFIGURATION

ANACORTES, WA

PROJECT #CSM-49

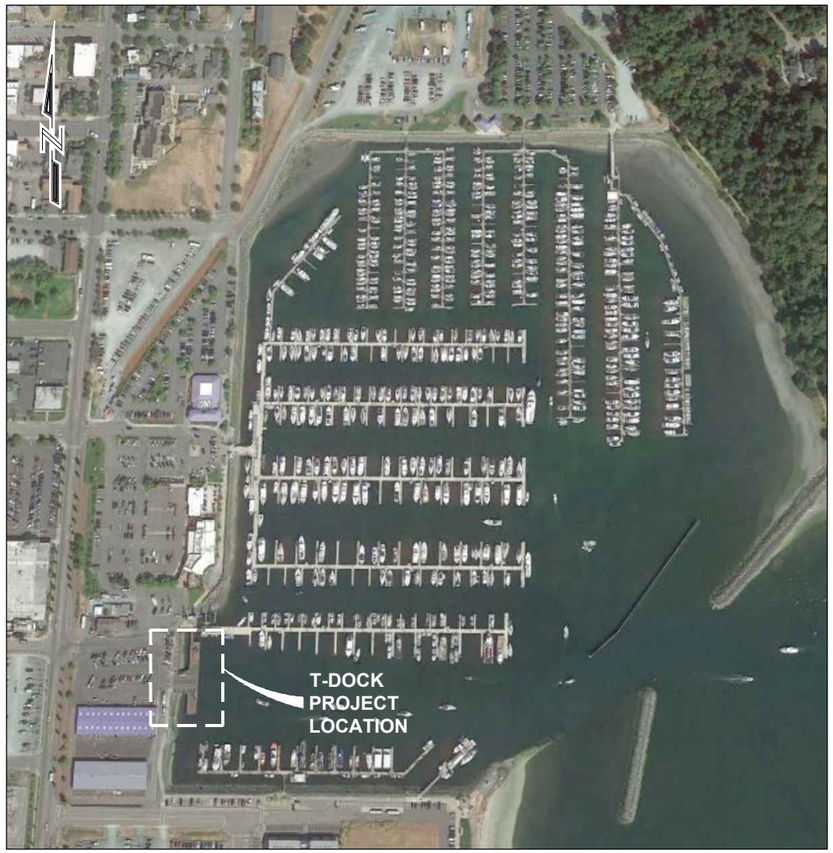


VICINITY MAP

DITAL DATUM:
ELEVATION DATUM FOR THIS PROJECT IS 0.0 FT. MEAN LOWER LOW WATER (MLLW)

TIDAL DATUM PLANE – ANACORTES, GUEMES CHANNEL, SKAGIT COUNTY (FROM WASHINGTON DEPARTMENT OF ECOLOGY)

HIGHEST RECORDED TIDE: ESTIMATED (EHW)	11.00 FT.
ORDINARY HIGH WATER (OHW)	10.20 FT.
MEAN HIGHER HIGH WATER (MHHW)	8.20 FT.
MEAN HIGH WATER (MHW)	7.40 FT.
MEAN (HALF) TIDE LEVEL (MTL)	5.00 FT.
MEAN SEA LEVEL (MSL)	4.42 FT.
MEAN LOW WATER (MLW)	2.60 FT.
MEAN LOWER LOW WATER (MLLW)	0.00 FT.
LOWEST RECORDED TIDE: ESTIMATED (ELW)	−4.50 FT.



CAP SANTE MARINA
(AERIAL IMAGE FROM 8/15/2020)

No.	SHEET TITLE
G−100	COVER SHEET AND SHEET INDEX
G−101	TRAFFIC CONTROL AND LANDSCAPING PLAN
G−200	EXISTING SITE PLAN
G−201	NEW SITE PLAN
D−101	DEMOLITION PLAN
D−102	DEMOLITION SECTIONS 1 OF 2
D−103	DEMOLITION SECTIONS 2 OF 2
S−101	NEW GENERAL ARRANGEMENT PLAN
S−102	NEW PILE AND CAP PLAN
S−103	NEW SECTIONS 1 OF 2
S−104	NEW SECTIONS 2 OF 2
S−201	PILE SCHEDULE AND DETAILS
S−202	PILE CAP DETAILS
S−203	PILE−TO−CAP CONNECTION DETAILS
S−301	PRECAST CONCRETE PANEL AND CIP CONCRETE PLAN
S−302	PRECAST CONCRETE PANEL DETAILS
S−401	FENDER DETAILS
S−402	BULLRAIL DETAILS
S−403	LADDER DETAILS
M−101	WATER SUPPLY DETAILS 1 OF 2
M−102	WATER SUPPLY DETAILS 2 OF 2
E−000	SYMBOLS AND ABBREVIATIONS
E−100	ELECTRICAL SINGLE LINE WIRING DIAGRAM
E−101	ELECTRICAL SINGLE LINE WIRING DIAGRAMS – UNIT SUBSTATIONS
E−200	ELECTRICAL DEMOLITION PLAN
E−201	ELECTRICAL SITE PLAN
E−300	ELECTRICAL DETAILS & CUT SHEETS
E−400	PHOTOMETRIC PLAN
CP−XXX	CATHODIC PROTECTION SHEETS (TBD)

INCLUDED FOR REFERENCE:
SURVEY DRAWINGS PROVIDED BY DAVID EVANS AND ASSOCIATES, JUNE 22, 2022. SHEETS 1 THRU 3 OF 3.
SURVEY 1 OF 3
SURVEY 2 OF 3
SURVEY 3 OF 3

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-G-100.dwg
5/16/2024 3:53 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

COVER SHEET AND SHEET INDEX

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

G-100

PLAN

0 10 20 40 80 120 FT.

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-G-101.dwg

5/16/2024 5:01 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

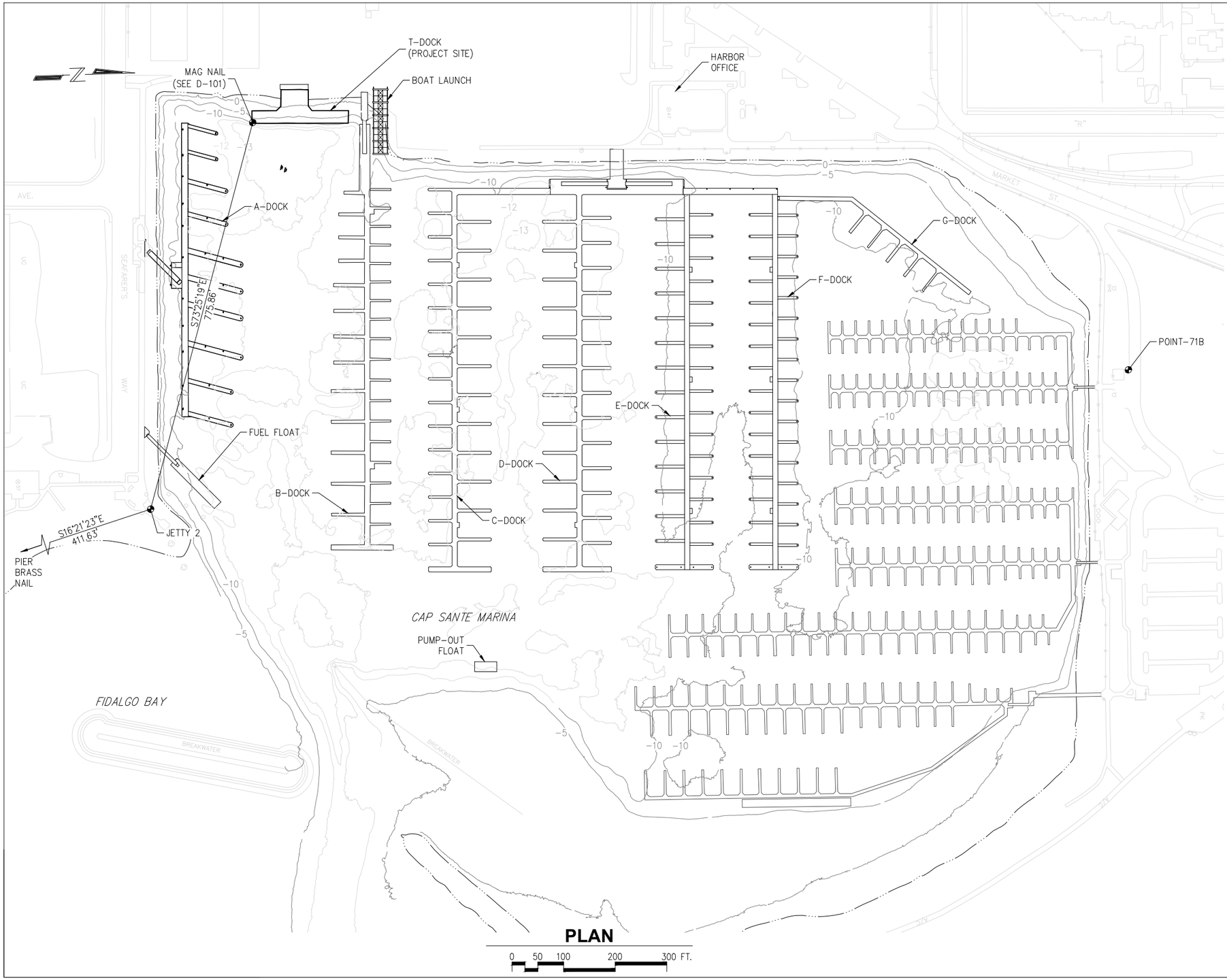
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

TRAFFIC CONTROL AND LANDSCAPING PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

G-101



PLAN

0 50 100 200 300 FT.

GENERAL NOTES:

1. CONDITIONS INSIDE MARINA BASIN ARE SHOWN CURRENT AS OF MAY 2022.
2. ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, AND APPLICABLE STATE OF WASHINGTON AND LOCAL CODES.
3. A COPY OF THE PLANS SHALL BE ON-SITE WHENEVER CONSTRUCTION IS IN PROGRESS. THROUGHOUT THE PROGRESS OF THE WORK OF THIS CONTRACT, MAINTAIN AN ACCURATE RECORD OF ALL CHANGES IN THE CONTRACT DOCUMENTS. UPON THE COMPLETION OF THIS CONTRACT, PROVIDE ONE COMPLETE SET OF RECORD DOCUMENTS TO THE OWNER.
4. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILTIES DURING CONSTRUCTION. CONTRACTOR SHALL UTILIZE A PRIVATE UTILITIES LOCATOR SERVICE TO LOCATE ALL UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED DURING OPERATIONS.
5. THE CONTRACTOR SHALL KEEP ALL STREETS AND VEHICULAR TRAFFIC AREAS CLEAN.
6. CONTRACTOR IS RESPONSIBLE FOR ANY TRAFFIC CONTROLS REQUIRED FOR THE DURATION OF THIS PROJECT.

PROJECT BENCHMARK:

POINT NAME–JETTY 2 (NAD83/91)

LOCATION –IN THE LAWN AT THE NORTHEAST CORNER OF SEAFARER'S MEMORIAL AT THE EASTERLY END OF SEAFARER'S WAY.

POINT DESCRIPTION: 3-INCH BRASS DISK IN CONCRETE WITH PUNCH HOLE AT GRADE.

NORTH: 556043.087
EAST: 1210662.051
ELEVATION: 12.48 FEET, MLLW

POINT NAME: PIER BRASS NAIL (NAD 83/91)
NORTH: 555047.651
EAST: 1210777.637
ELEVATION: 15.20 FEET, MLLW

CALL BEFORE YOU DIG
811

60% SUBMITTAL

5/16/2024 12:09 PM K:\2022\224024.01 T-Dock\60% Submittal\224024-G-200.dwg

P N D ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

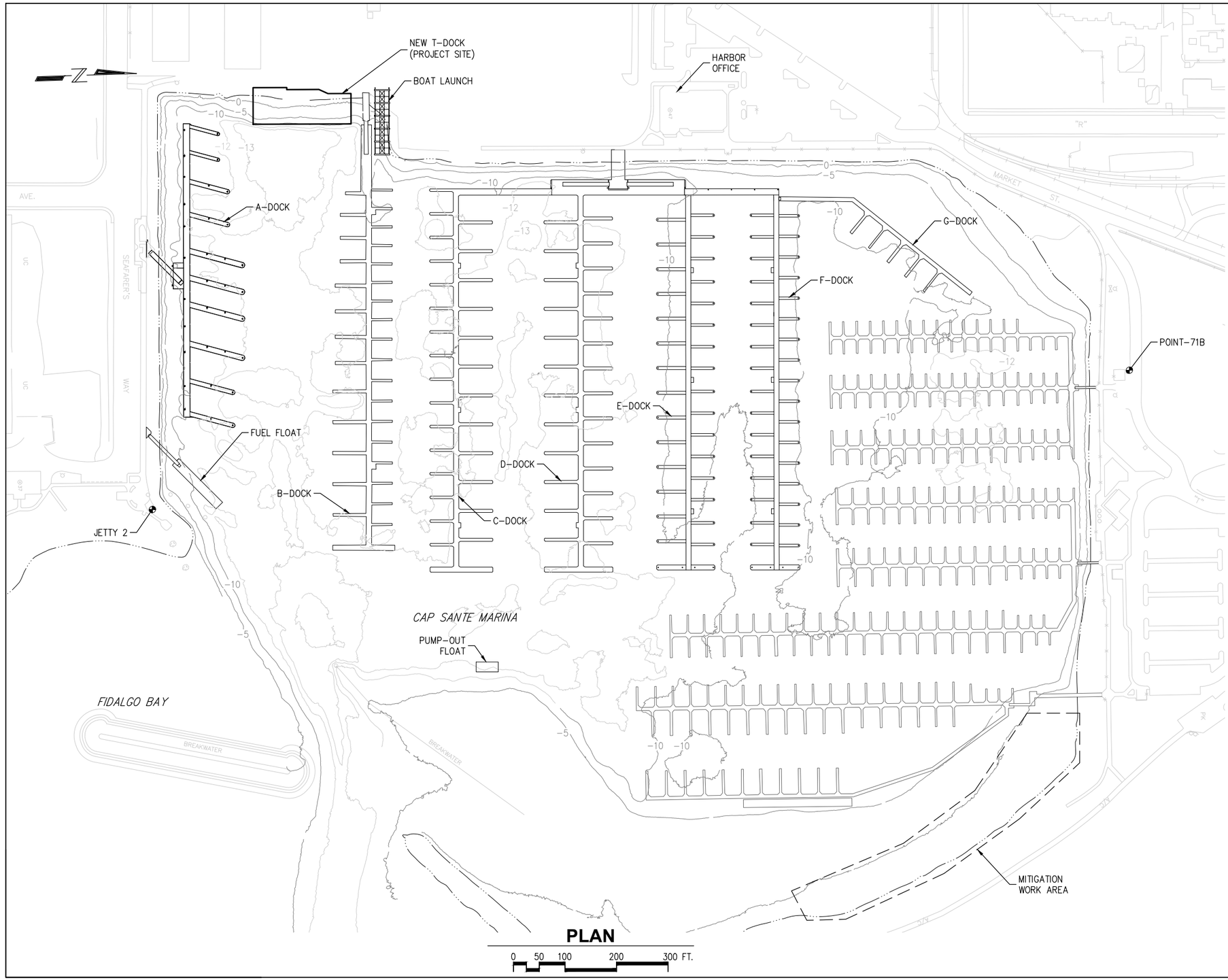
PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

EXISTING SITE PLAN

DRAWN: WLE	PROJECT NO.:224024.01
DESIGN: JDO	SCALE: N/A
CHECKED:	DATE: MAY 2024
SHEET NO.	

G-200



PLAN

0 50 100 200 300 FT.

PROJECT BENCHMARK:

POINT NAME–JETTY 2 (NAD83/91)

LOCATION –IN THE LAWN AT THE NORTHEAST CORNER OF SEAFARER'S MEMORIAL AT THE EASTERLY END OF SEAFARER'S WAY.

POINT DESCRIPTION: 3-INCH BRASS DISK IN CONCRETE WITH PUNCH HOLE AT GRADE.

NORTH: 556043.087
EAST: 1210662.051
ELEVATION: 12.48 FEET, MLLW

POINT NAME: PIER BRASS NAIL (NAD 83/91)
NORTH: 555047.651
EAST: 1210777.637
ELEVATION: 15.20 FEET, MLLW

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-G-201.dwg

1/2/2024 8:57 AM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

NEW SITE PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

G-201

RAIL LAUNCH TO REMAIN

B DOCK TO REMAIN

PIER TO REMAIN

EDGE DOCK

190'–0"±

EDGE DOCK

A D–102

B D–102

C D–103

EXISTING STEEL PIPE, MOORING PILE TO REMAIN

PIER BRASS NAIL

S16°21'23"E 411.63'

JETTY 2

S73°25'19"E 775.86'

MAG NAIL
N: 556264.000
E: 1209918.110
EL: 13.48 (MLLW)

EXISTING 1–TON JIB CRANE. REMOVE AND STORE FOR REINSTALLATION

DEMO AND REMOVE EXISTING LADDER (6 TOTAL)

DEMO AND REMOVE TIMBER FENDER PILES, TYP.

SALVAGE STEEL BULLRAIL COVER, TYP.

EXISTING 1–TON JIB CRANE. REMOVE AND STORE FOR REINSTALLATION

26'–0"±

OLD TIDAL GRID, DEMO AND REMOVE TIMBER BULLRAIL, EXCEPT AS IDENTIFIED FOR SALVAGE, TYP.

REMOVE SUBMERGED TIMBER DEBRIS INCLUDING TIMBER PILE STUBS APPROX. 1' TO 5' ABOVE MUDLINE.

REMOVE AND STORE CATWALK FOR REINSTALLATION ON NEW DOCK

DEMO AND REMOVE TIMBER PILES, TYP.

DEMO AND REMOVE TIMBER PILE CAP, TYP.

SALVAGE HOSE REELS (2) FOR REINSTALLATION

SALVAGE DIAMOND PLATE, TYP.

TOE OF RIPRAP

40'–0"±

DEMO AND REMOVE TIMBER DECK & STRINGERS, TYP.

TOE OF RIPRAP

RIPRAP TO BE TEMPORARILY MOVED AS REQUIRED TO INSTALL PILES AND BACKWALL, RESTORE RIPRAP PROTECTION AFTER INSTALL OF PILES AND BACKWALL, TYP.

8" PVC STORM DRAIN OUTFALL INVERT EL. +6.22'

CURB

DEMO AND REMOVE CONCRETE FOOTING

TIMBER PILES/ PIERS TO REMAIN

CONCRETE RETAINING WALL

SALVAGE STAINLESS ELECTRICAL BOXES AND RECEPTACLES, LIFE RING, FIRE EXTINGUISHER IN CABINET, ETC.

POWER CABINET

WATER METER

ASPHALT SIDEWALK

REMOVE WATER METER

20'–0"

HANDRAIL

CONCRETE

7' CHAIN LINK FENCE

55'–0"±

CONCRETE SIDEWALK

DEMO AND REMOVE CONCRETE SLAB

SAWCUT AND REMOVE ASPHALT AND CONCRETE WALKWAY, AND CURBS WITHIN BOUNDS INDICATED

CURB

BENCHES AND PLANTER BOX BEHIND

ASPHALT

LIGHT POLE

DO NOT DISTURB OBJECTS WITHIN THIS BOX (45'x25') PROTECT FROM DAMAGE

SAWCUT AND REMOVE ASPHALT AND CONCRETE WITHIN BOUNDS INDICATED

FIRE HYDRANT

REMOVE 7' CHAIN LINK FENCE

RELOCATE DUMPSTERS, SEE S–101

VALVE

STORM DRAIN CATCH BASIN RIM EL. 11.57'. 8" PVC INVERT EL. 9.91'

WATER CONNECTION AND SUPPLY TO PIER TO BE REPLACED

DO NOT DISTURB ANY BURIED UTILITIES EXCEPT AS NOTED

RELOCATE PROPANE TANK AND BOLLARDS, SEE S–101

STORM DRAIN CATCH BASIN. RIM EL. 11.95'. 10" PVC INVERT EL. 9.17'

STORM DRAIN CATCH BASIN. RIM EL. 11.55'. 10" PVC INVERT EL. 10.12'

BUILDING

PLAN

0 5 10 20 30 FT.

60% SUBMITTAL

5/16/2024 11:08 AM K:\2022\224024.01 T-Dock\60% Submittal\224024-D-101.dwg

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

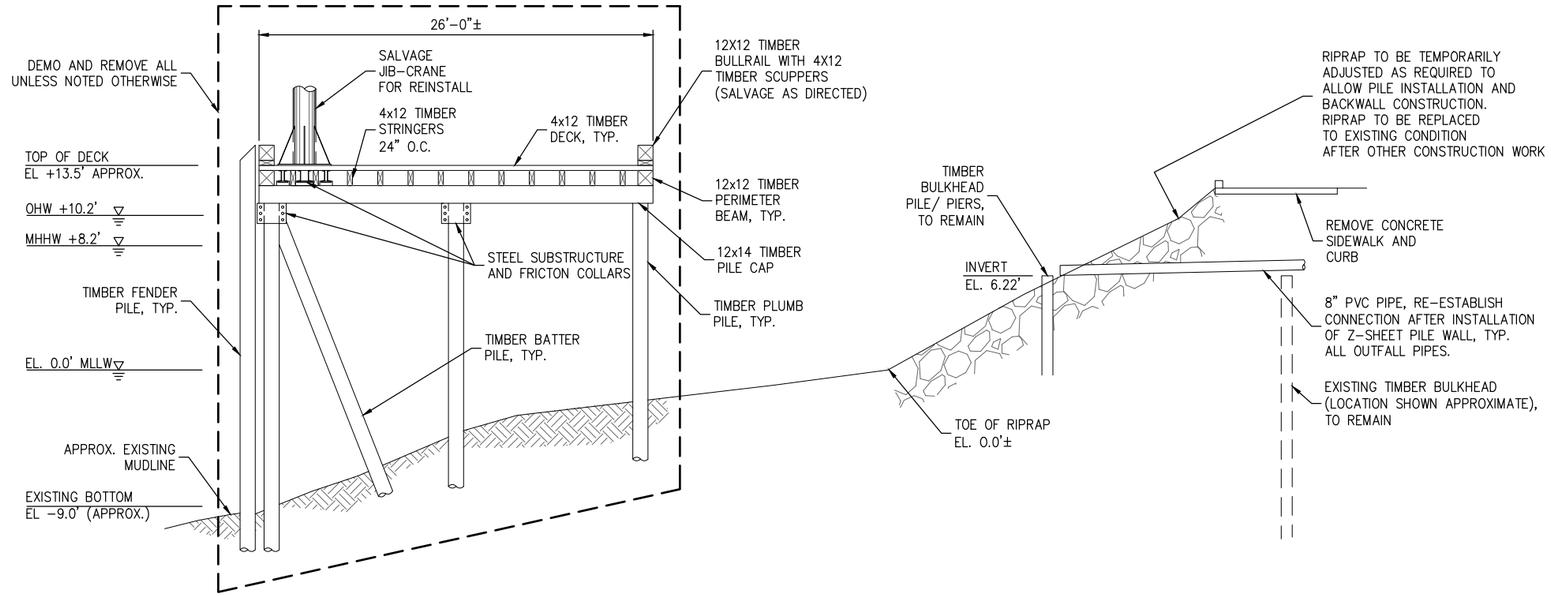
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

DEMOLITION PLAN

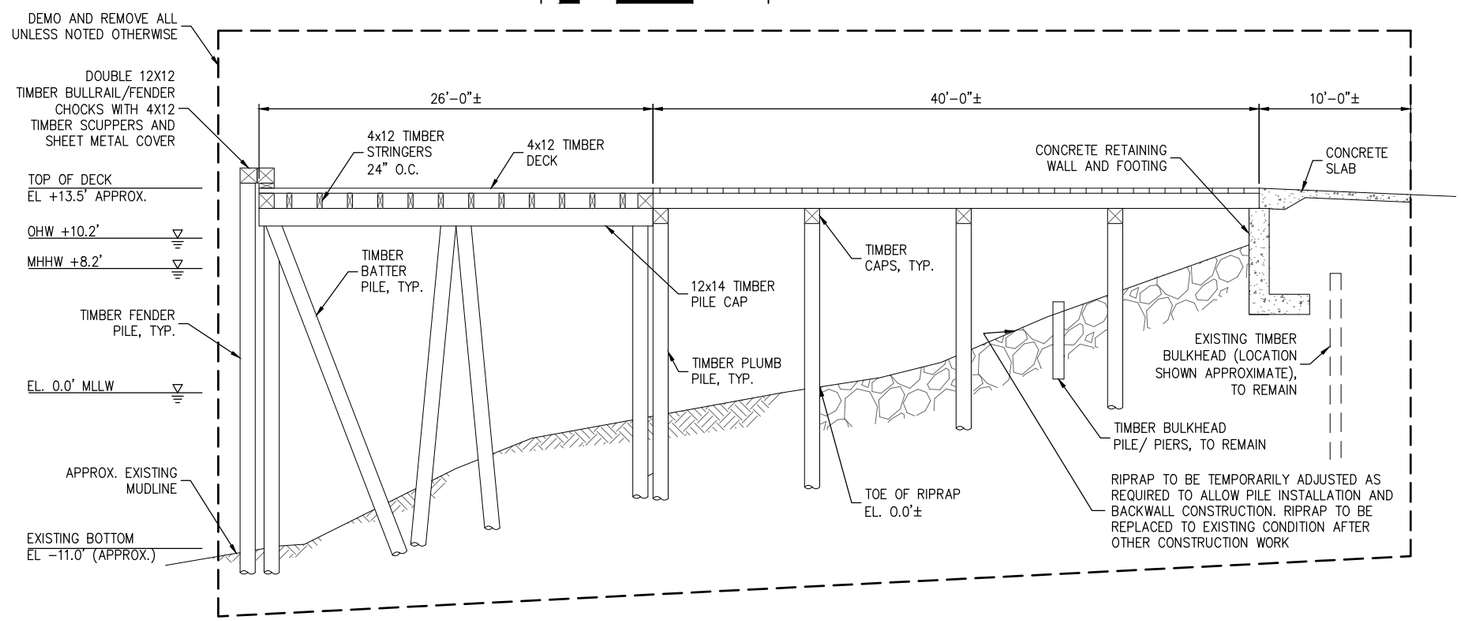
DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

D-101



A D-101 **EXISTING DOCK SECTION**

0 2.5 5 10 15 FT.



B D-101 **EXISTING DOCK SECTION**

0 2.5 5 10 15 FT.

60% SUBMITTAL

1/2/2024 8:57 AM K:\2022\224024.01 T-Dock\60% Submittal\224024-D-102.dwg

ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

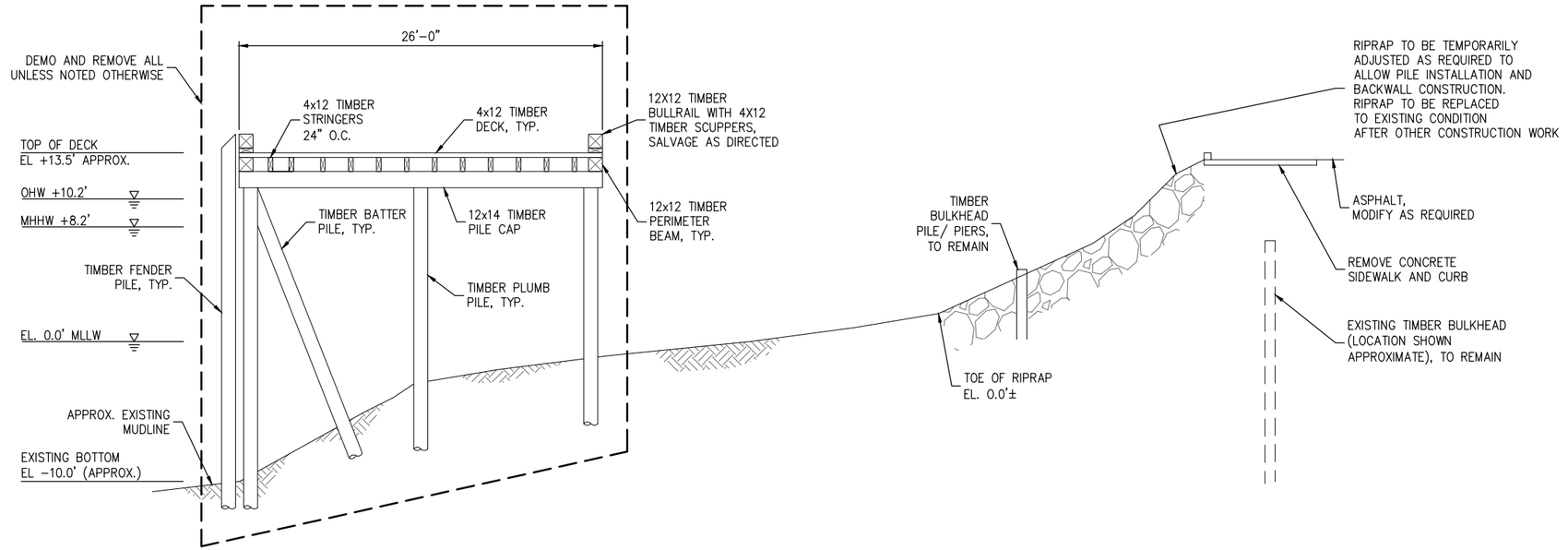
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

DEMOLITION SECTIONS 1 OF 2

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

D-102



C
D-101

EXISTING DOCK SECTION

0 2.5 5 10 15 FT.

60% SUBMITTAL

1/2/2024 8:57 AM K:\2022\224024.01 T-Dock\60% Submittal\224024-D-103.dwg

ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

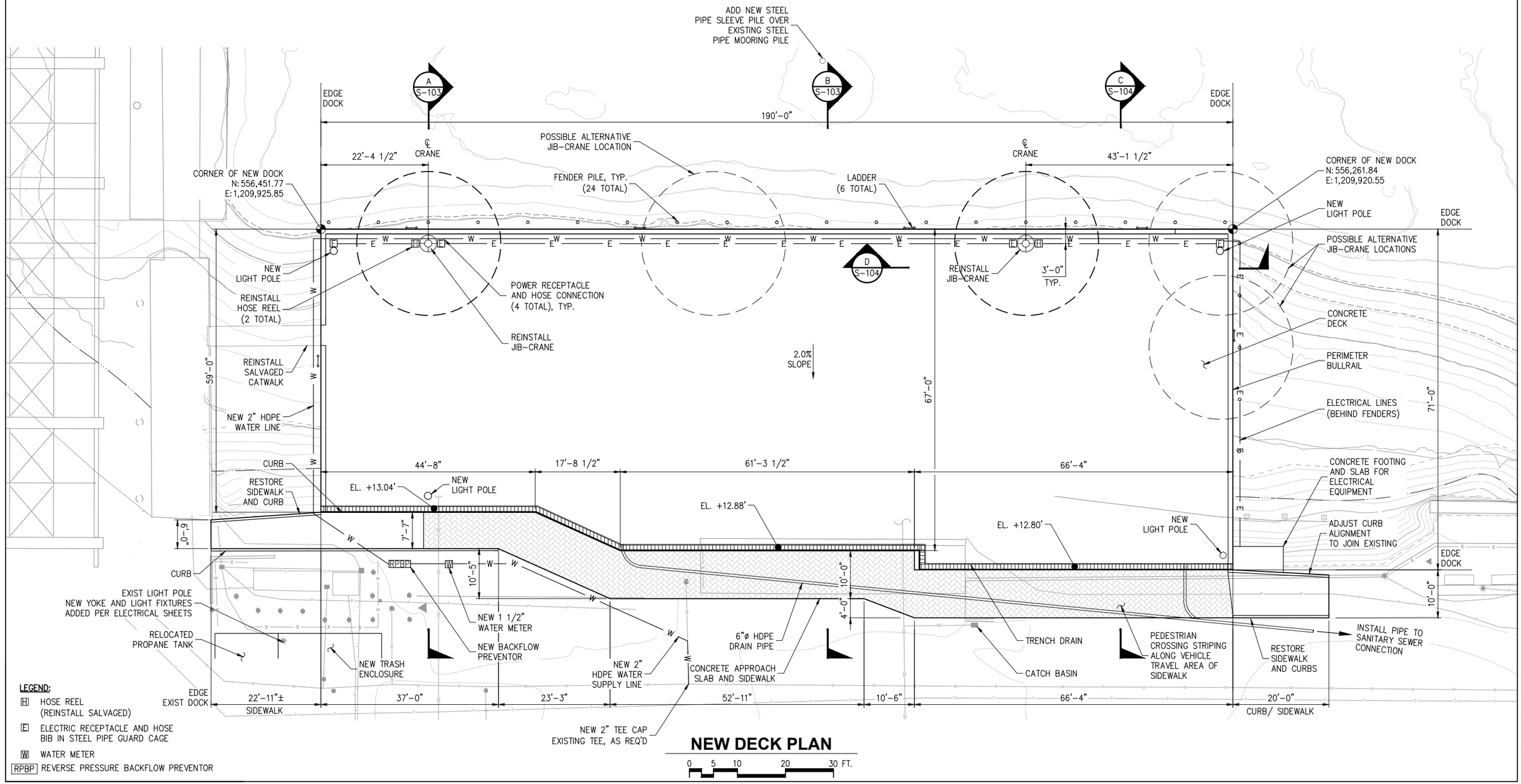
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

DEMOLITION SECTIONS 2 OF 2

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024

SHEET NO.
D-103



NEW DECK PLAN

0 5 10 20 30 FT.

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-101.dwg

5/16/2024 4:38 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

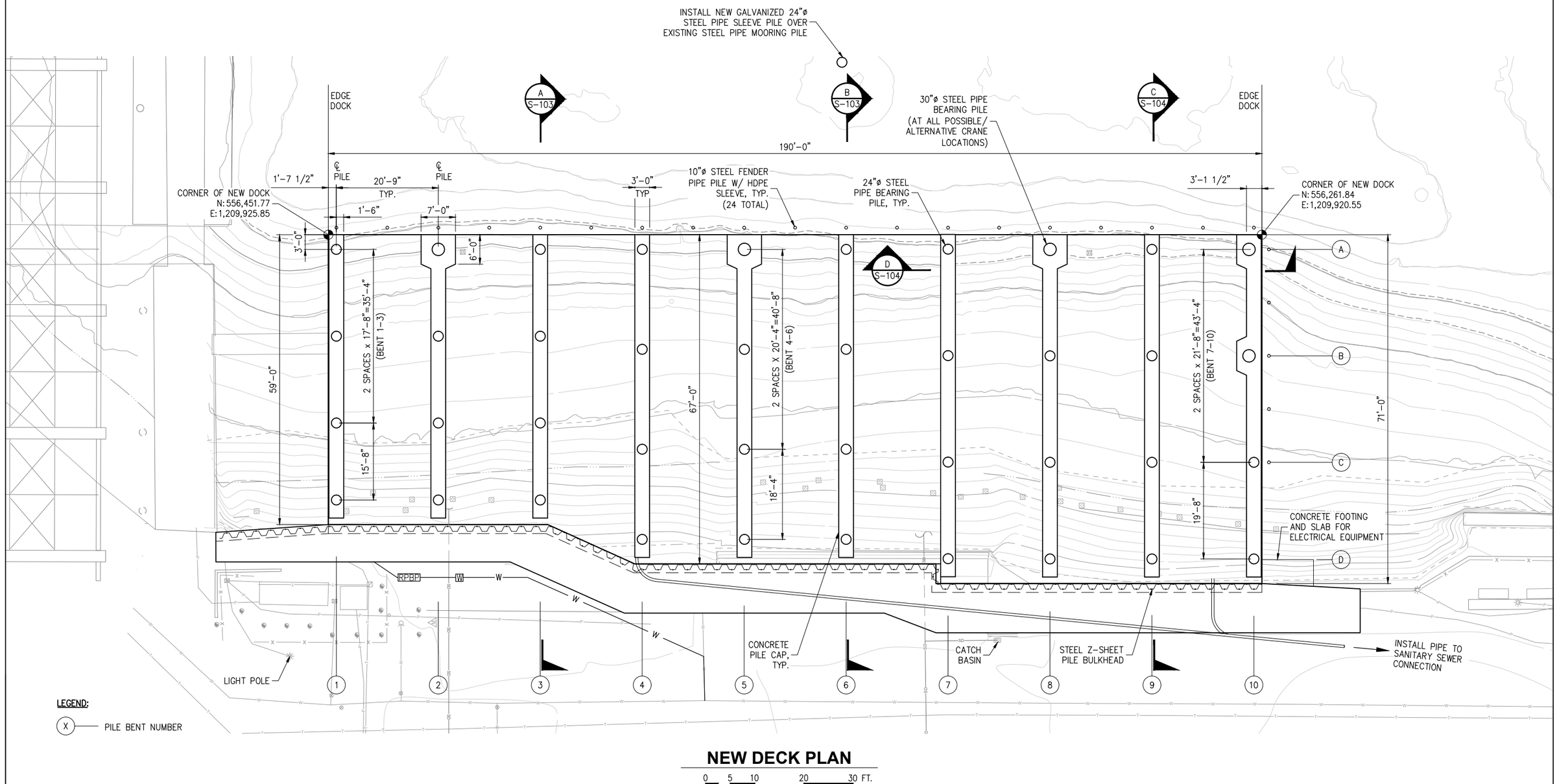
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

NEW GENERAL ARRANGEMENT PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-101



LEGEND:

(X) — PILE BENT NUMBER

NEW DECK PLAN

0 5 10 20 30 FT.

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-102.dwg

1/2/2024 3:30 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

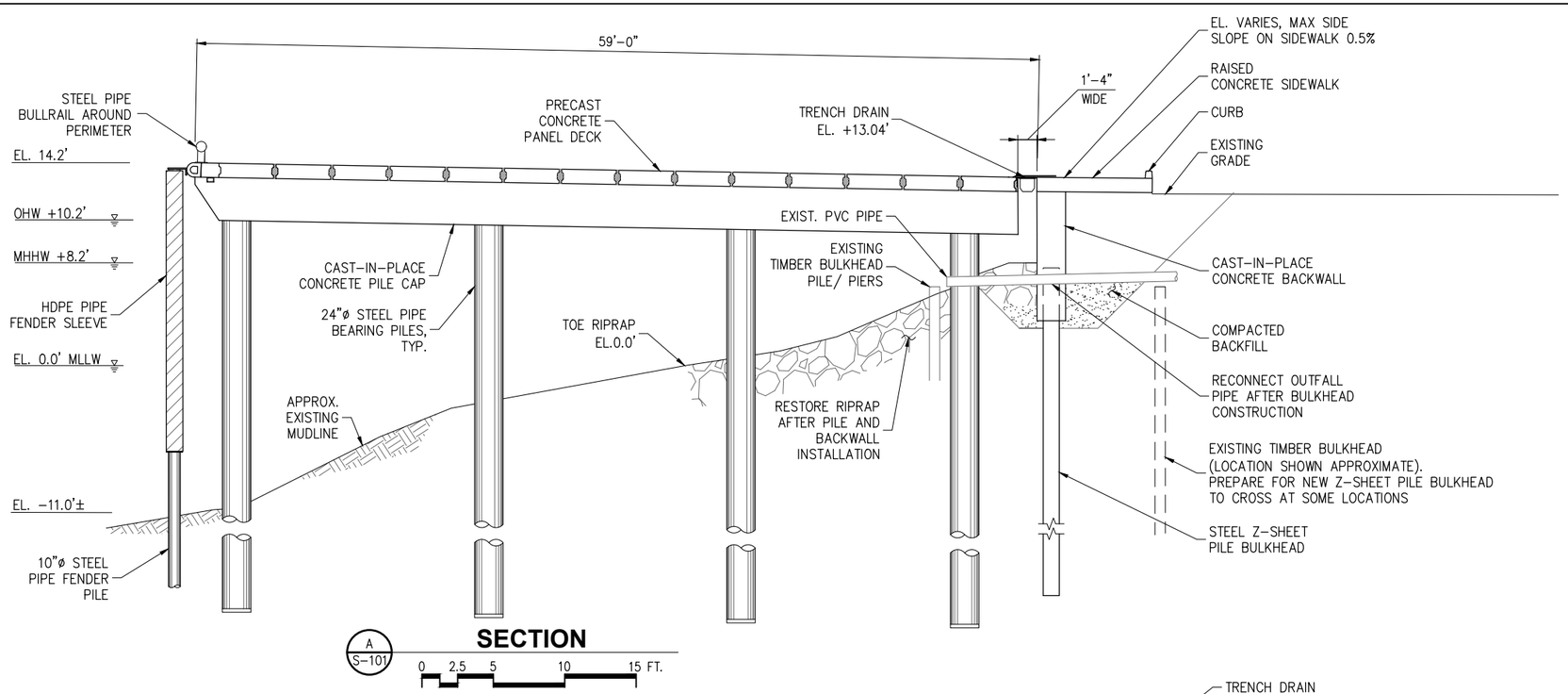
PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

NEW PILE AND CAP PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-102



A S-101 **SECTION**

0 2.5 5 10 15 FT.

B S-101 **SECTION**

0 2.5 5 10 15 FT.

60% SUBMITTAL

1/2/2024 2:49 PM K:\2022\224024.01 T-Dock\60% Submittal\224024-S-103.dwg

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

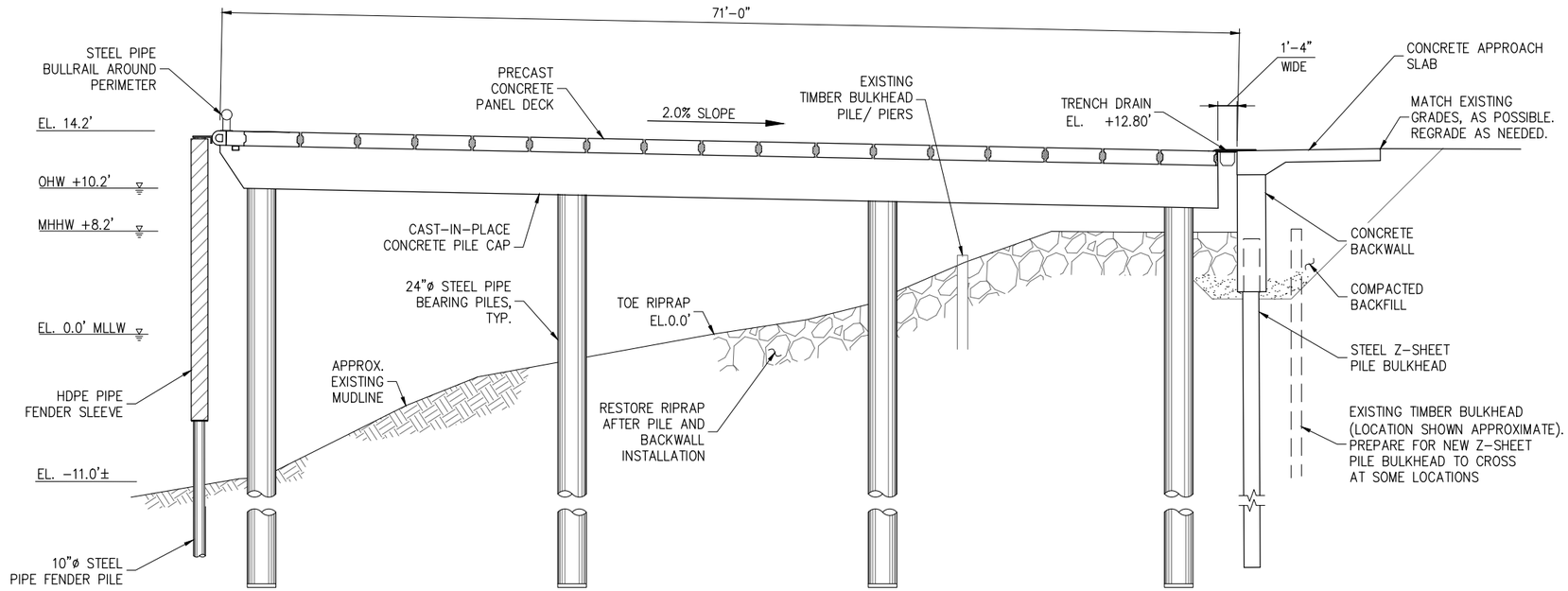
NO.	DATE	BY	REVISION

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

NEW SECTIONS 1 OF 2

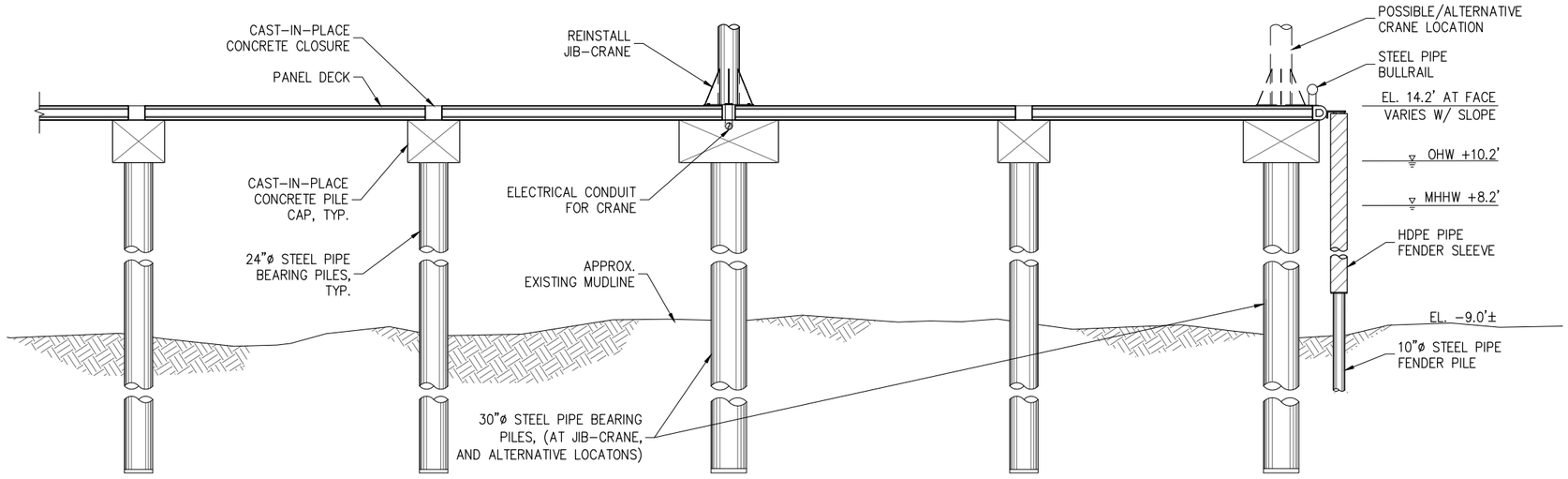
DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-103



C S-101 **SECTION**

0 2.5 5 10 15 FT.



D S-101 **SECTION**

0 2.5 5 10 15 FT.

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-104.dwg

1/2/2024 2:03 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

NEW SECTIONS 2 OF 2

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-104

BEARING PILE SCHEDULE

LOCATION ID	DIAMETER (IN)	WALL THICKNESS (IN)	PILE TIP	SUPPLY LENGTH (FT)	ULTIMATE LOAD (KIPS)	MINIMUM TIP ELEVATION (FT)
1A	24.0	1.0	OPEN	100	750	−80
1B	24.0	1.0	OPEN	100	750	−77
1C	24.0	1.0	OPEN	90	750	−76
1D	24.0	1.0	OPEN	90	750	−74
2A	30.0	1.0	OPEN	90	750	−73
2B	24.0	1.0	OPEN	100	750	−77
2C	24.0	1.0	OPEN	90	750	−76
2D	24.0	1.0	OPEN	90	750	−74
3A	24.0	1.0	OPEN	100	750	−80
3B	24.0	1.0	OPEN	100	750	−77
3C	24.0	1.0	OPEN	90	750	−76
3D	24.0	1.0	OPEN	90	750	−74
4A	24.0	1.0	OPEN	100	750	−80
4B	24.0	1.0	OPEN	100	750	−77
4C	24.0	1.0	OPEN	90	750	−76
4D	24.0	1.0	OPEN	90	750	−74
5A	30.0	1.0	OPEN	90	750	−73
5B	24.0	1.0	OPEN	100	750	−77
5C	24.0	1.0	OPEN	90	750	−76
5D	24.0	1.0	OPEN	90	750	−74
6A	24.0	1.0	OPEN	100	750	−80
6B	24.0	1.0	OPEN	100	750	−77
6C	24.0	1.0	OPEN	90	750	−76
6D	24.0	1.0	OPEN	90	750	−74
7A	24.0	1.0	OPEN	100	750	−80
7B	24.0	1.0	OPEN	100	750	−77
7C	24.0	1.0	OPEN	90	750	−76
7D	24.0	1.0	OPEN	90	750	−74
8A	30.0	1.0	OPEN	90	750	−73
8B	24.0	1.0	OPEN	100	750	−77
8C	24.0	1.0	OPEN	90	750	−76
8D	24.0	1.0	OPEN	90	750	−74
9A	24.0	1.0	OPEN	90	750	−80
9B	24.0	1.0	OPEN	90	750	−77
9C	24.0	1.0	OPEN	90	750	−76
9D	24.0	1.0	OPEN	90	750	−74
10A	30.0	1.0	OPEN	90	750	−73
10B	30.0	1.0	OPEN	90	750	−69
10C	24.0	1.0	OPEN	90	750	−76
10D	24.0	1.0	OPEN	90	750	−74

BEARING PILE SCHEDULE

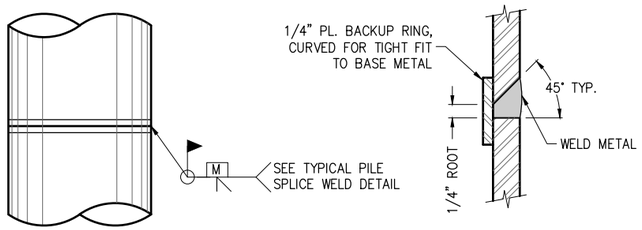
DIAMETER (IN)	WALL THICKNESS (IN)	SUPPLY LENGTH (FT)	NUMBER OF PILE
24.0	1.0	90	20
24.0	1.0	100	15
30.0	1.0	90	5

FENDER PILE SCHEDULE

LOCATION ID	DIAMETER (IN)	WALL THICKNESS (IN)	PILE TIP	SUPPLY LENGTH (FT)	ULTIMATE LOAD (KIPS)	MINIMUM TIP ELEVATION (FT)
1A	10.0	0.5	OPEN	40	–	–
1.5A	10.0	0.5	OPEN	40	–	–
2A	10.0	0.5	OPEN	40	–	–
2.5A	10.0	0.5	OPEN	40	–	–
3A	10.0	0.5	OPEN	40	–	–
3.5A	10.0	0.5	OPEN	40	–	–
4A	10.0	0.5	OPEN	40	–	–
4.5A	10.0	0.5	OPEN	40	–	–
5A	10.0	0.5	OPEN	40	–	–
5.5A	10.0	0.5	OPEN	40	–	–
6A	10.0	0.5	OPEN	40	–	–
6.5A	10.0	0.5	OPEN	40	–	–
7A	10.0	0.5	OPEN	40	–	–
7.5A	10.0	0.5	OPEN	40	–	–
8A	10.0	0.5	OPEN	40	–	–
8.5A	10.0	0.5	OPEN	40	–	–
9A	10.0	0.5	OPEN	40	–	–
9.5A	10.0	0.5	OPEN	40	–	–
10A–E	10.0	0.5	OPEN	40	–	–
10A–S	10.0	0.5	OPEN	40	–	–
10A.5	10.0	0.5	OPEN	40	–	–
10B	10.0	0.5	OPEN	40	–	–
10B.5	10.0	0.5	OPEN	40	–	–
10C	10.0	0.5	OPEN	40	–	–

TOTAL FENDER SCHEDULE

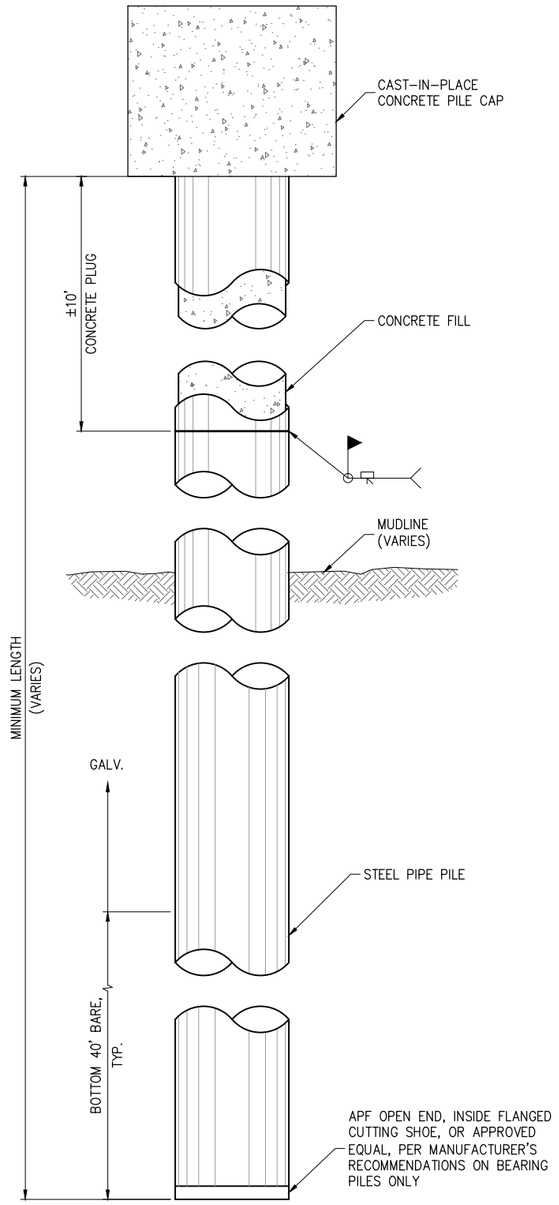
DIAMETER (IN)	WALL THICKNESS (IN)	SUPPLY LENGTH (FT)	NUMBER OF PILE
10.0	0.5	40	24



PILE SPLICE

TYPICAL FOR ALL FIELD PIPE PILE SPLICES (SHOP WELD, IF REQ'D. SIMILAR)

TYPICAL PILE SPLICE WELD



PARTIAL ELEVATION

TYPICAL PILE

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-201.dwg

1/2/2024 1:20 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

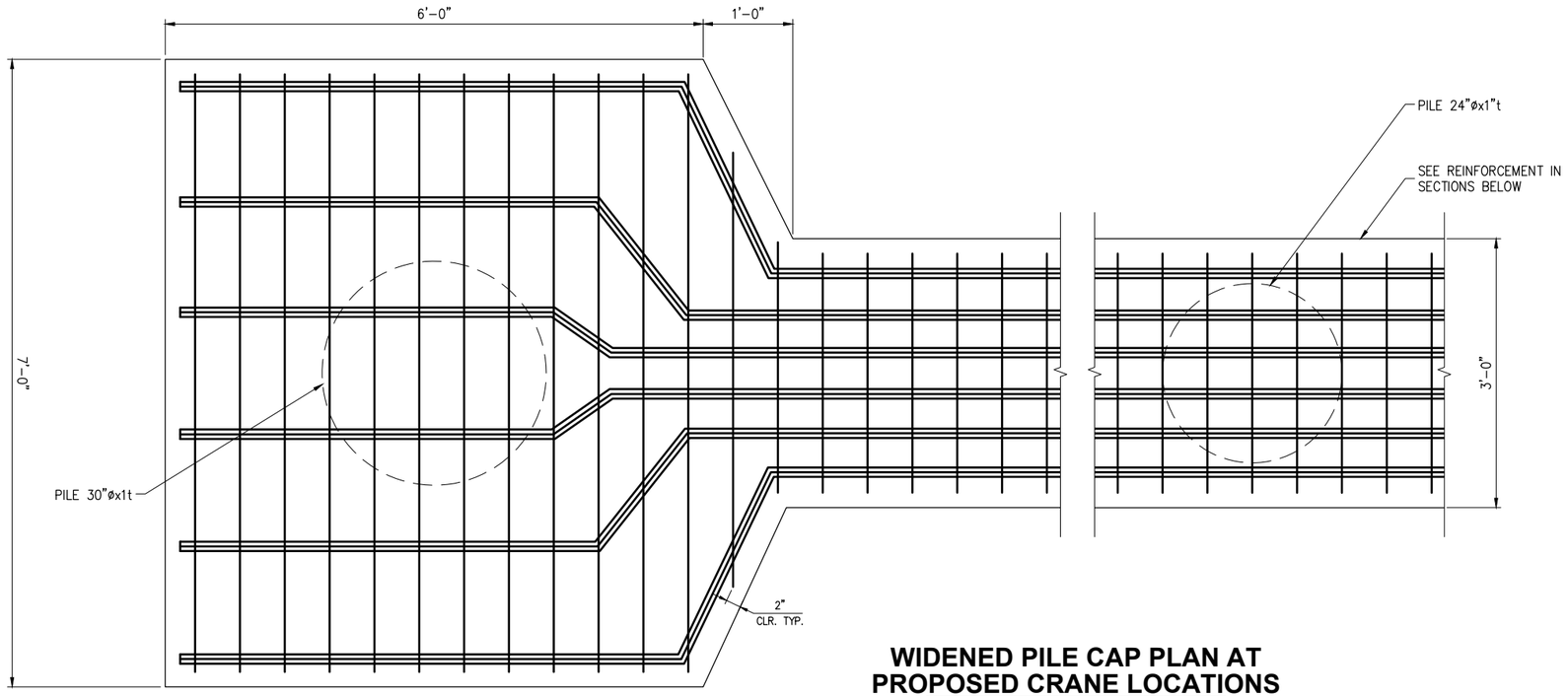
NO.	DATE	BY	REVISION

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

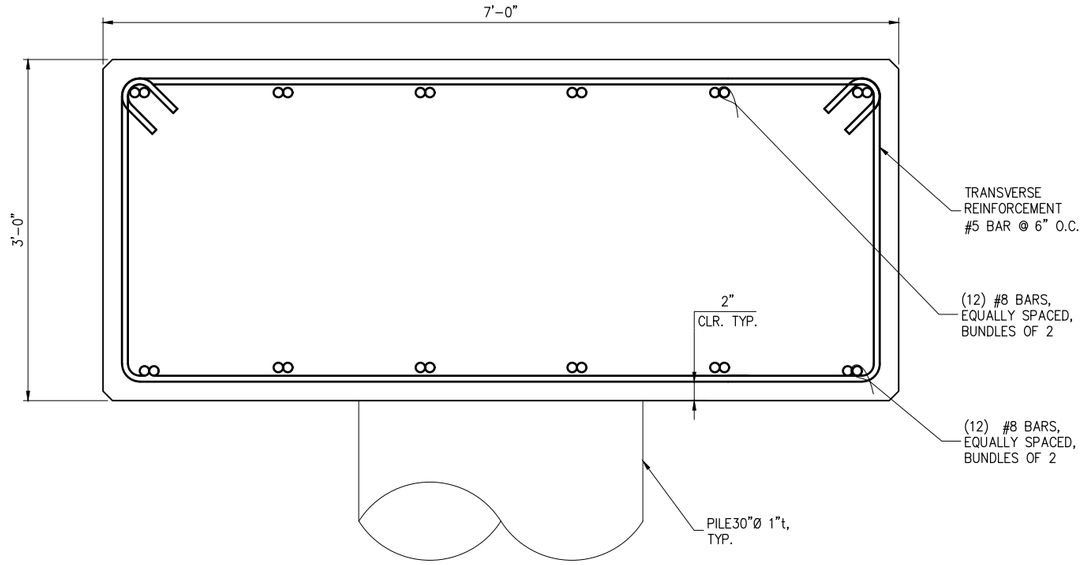
PILE SCHEDULE AND DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

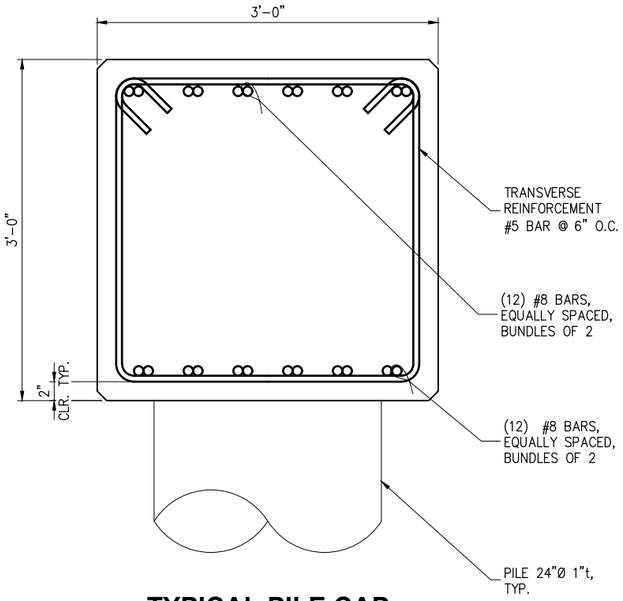
S-201



WIDENED PILE CAP PLAN AT PROPOSED CRANE LOCATIONS



WIDENED PILE CAP SECTION AT PROPOSED CRANE LOCATIONS



TYPICAL PILE CAP SECTION

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-202.dwg

1/2/2024 1:27 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

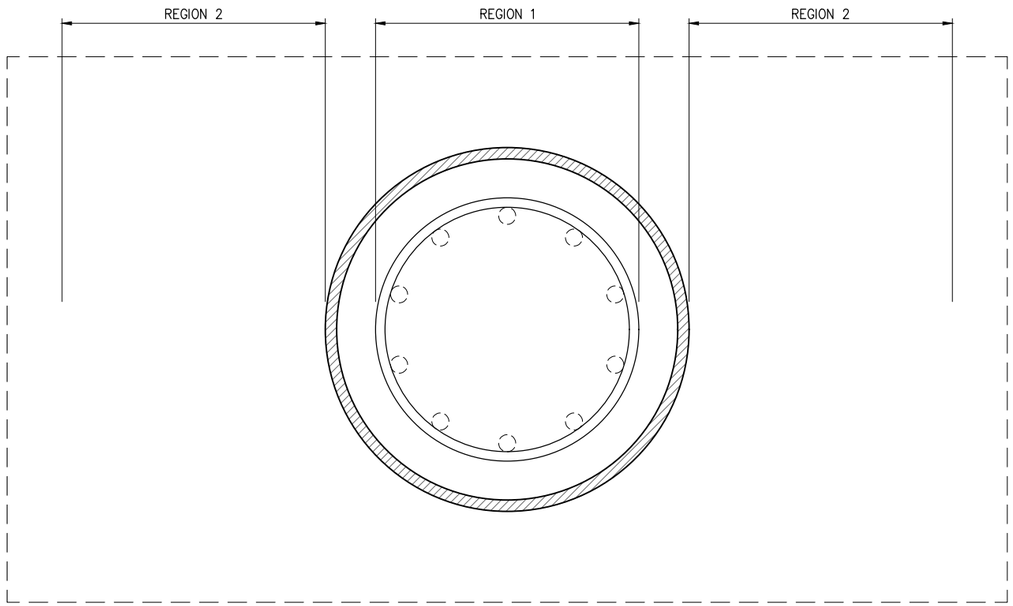
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

PILE CAP DETAILS

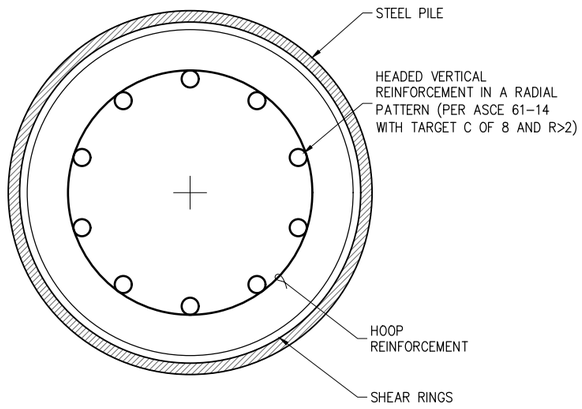
DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-202



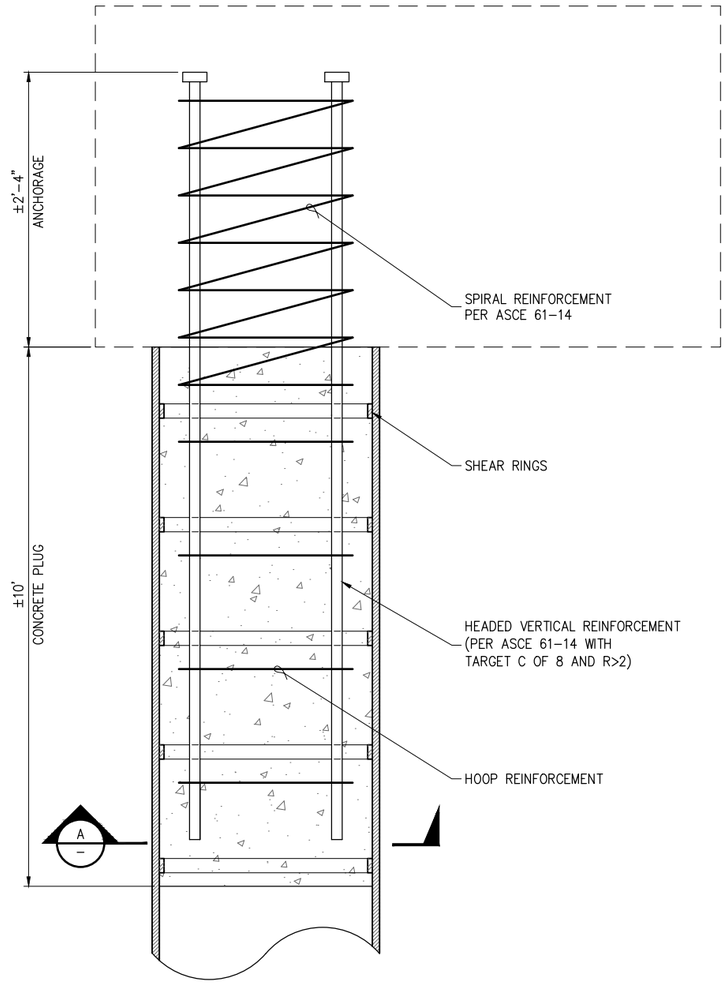
NOTE:
SUPPLEMENTAL STIRRUPS, TIES AND LONGITUDINAL BARS IN REGIONS 1 AND 2 PER ASCE 61-14 EQ. 7-17, 7-18, 7-19.

PILE CAP PLAN DETAIL



A

SECTION



TYPICAL PILE TO CAP CONNECTION

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-203.dwg

1/2/2024 1:35 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

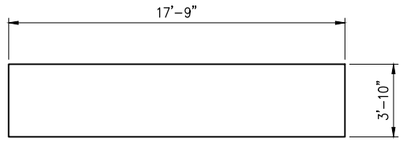
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

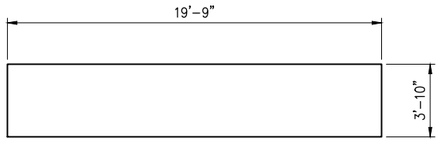
PILE-TO-CAP CONNECTION DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

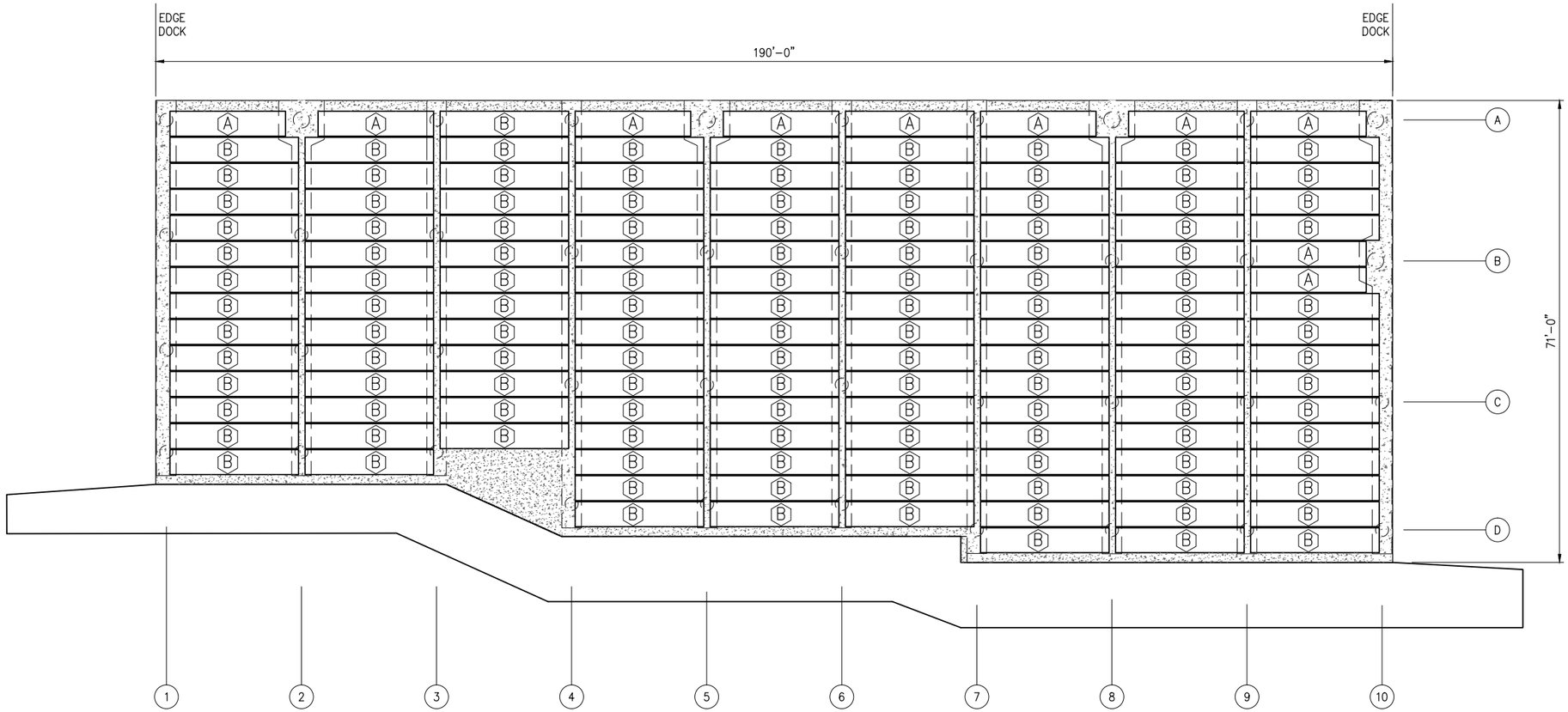
S-203



PANEL A



PANEL B



NOTE:
AREAS OUTSIDE PANEL BOUNDARIES ARE CAST IN PLACE

LEGEND:

(X) — PILE BENT NUMBER

PANEL PLAN

0 5 10 20 30 FT.

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-301.dwg

1/2/2024 9:03 AM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

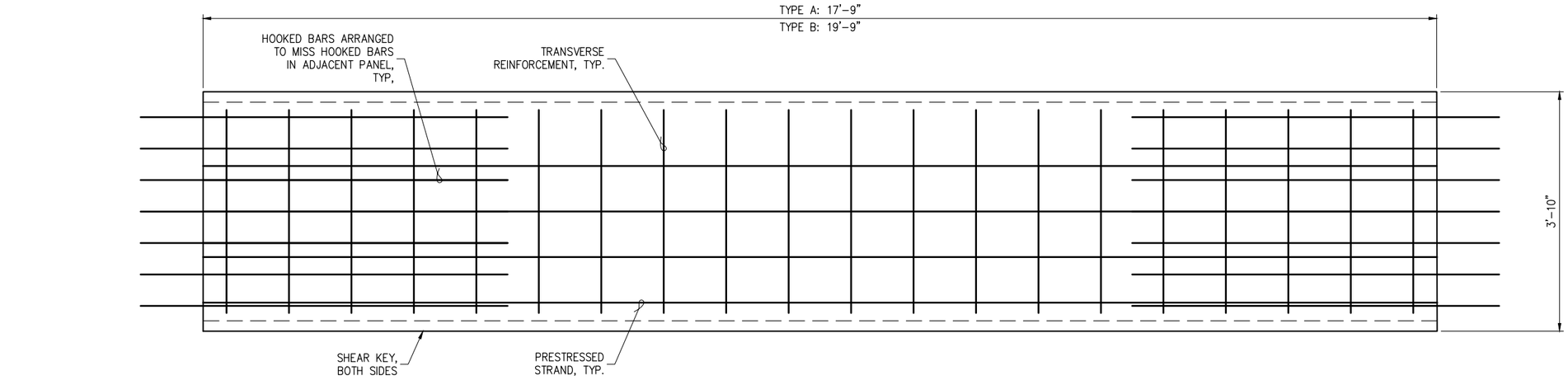
PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

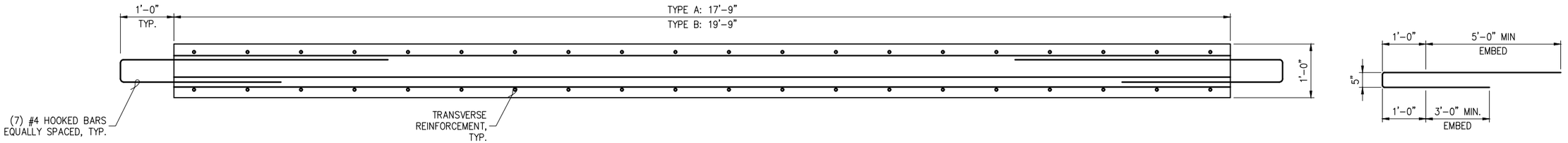
PRECAST CONCRETE PANEL AND CIP CONCRETE PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

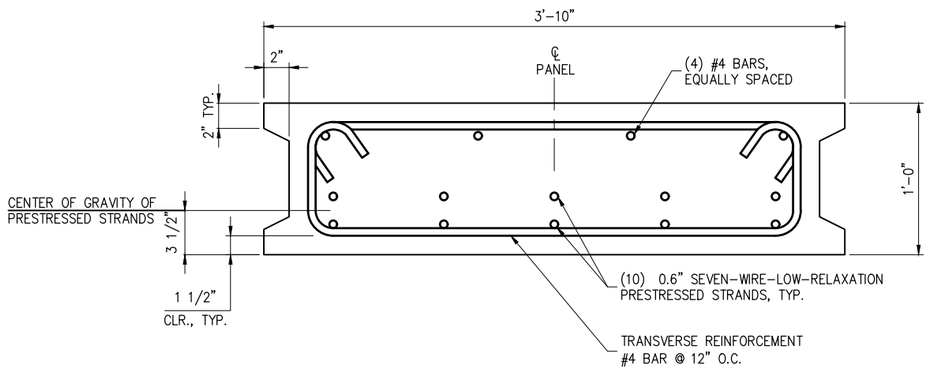
S-301



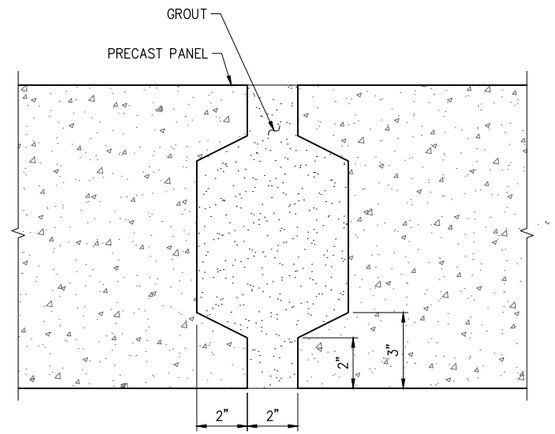
PLAN



LONGITUDINAL SECTION



TYPICAL SECTION



TYPICAL SHEAR KEY

P N D ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

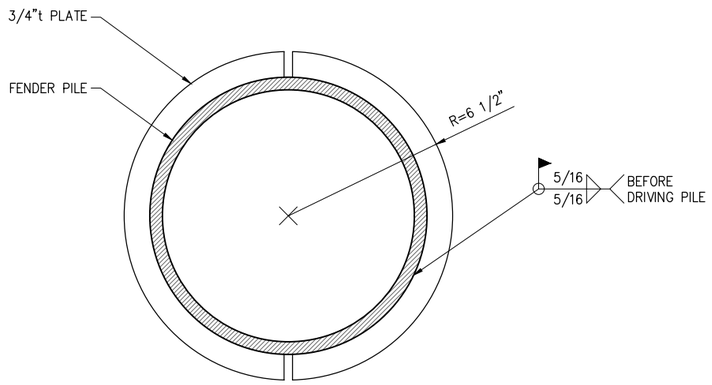
PRECAST CONCRETE PANEL DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

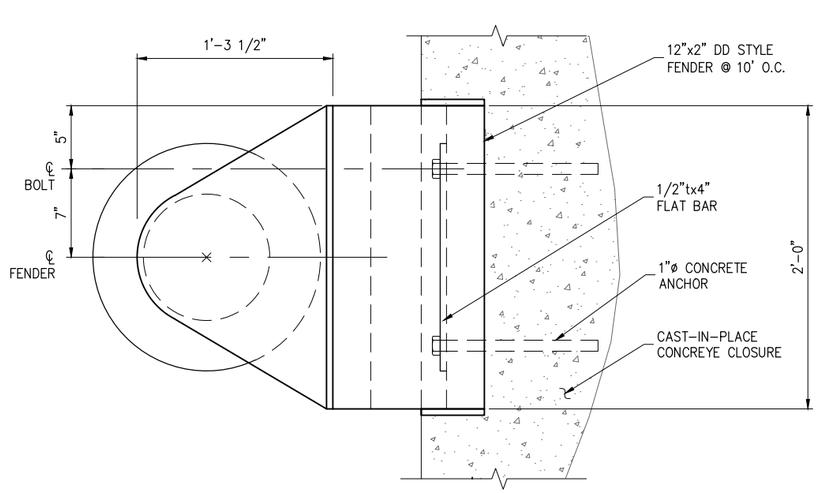
S-302

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-302.dwg
1/2/2024 9:03 AM

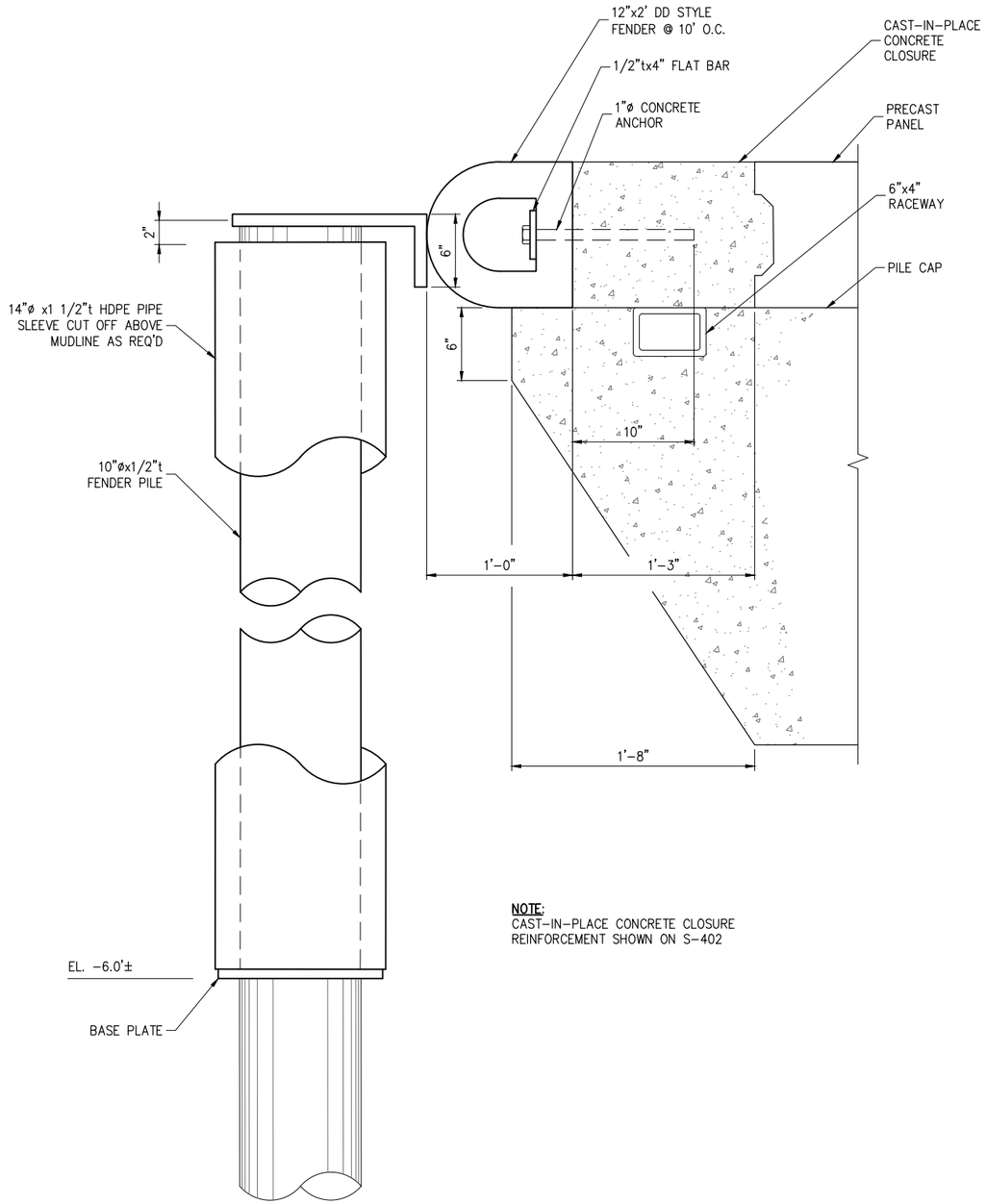
60% SUBMITTAL



BASE PLATE



TYPICAL FENDER PLAN



NOTE:
CAST-IN-PLACE CONCRETE CLOSURE
REINFORCEMENT SHOWN ON S-402

FENDER ELEVATION

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-401.dwg
1/2/2024 2:51 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

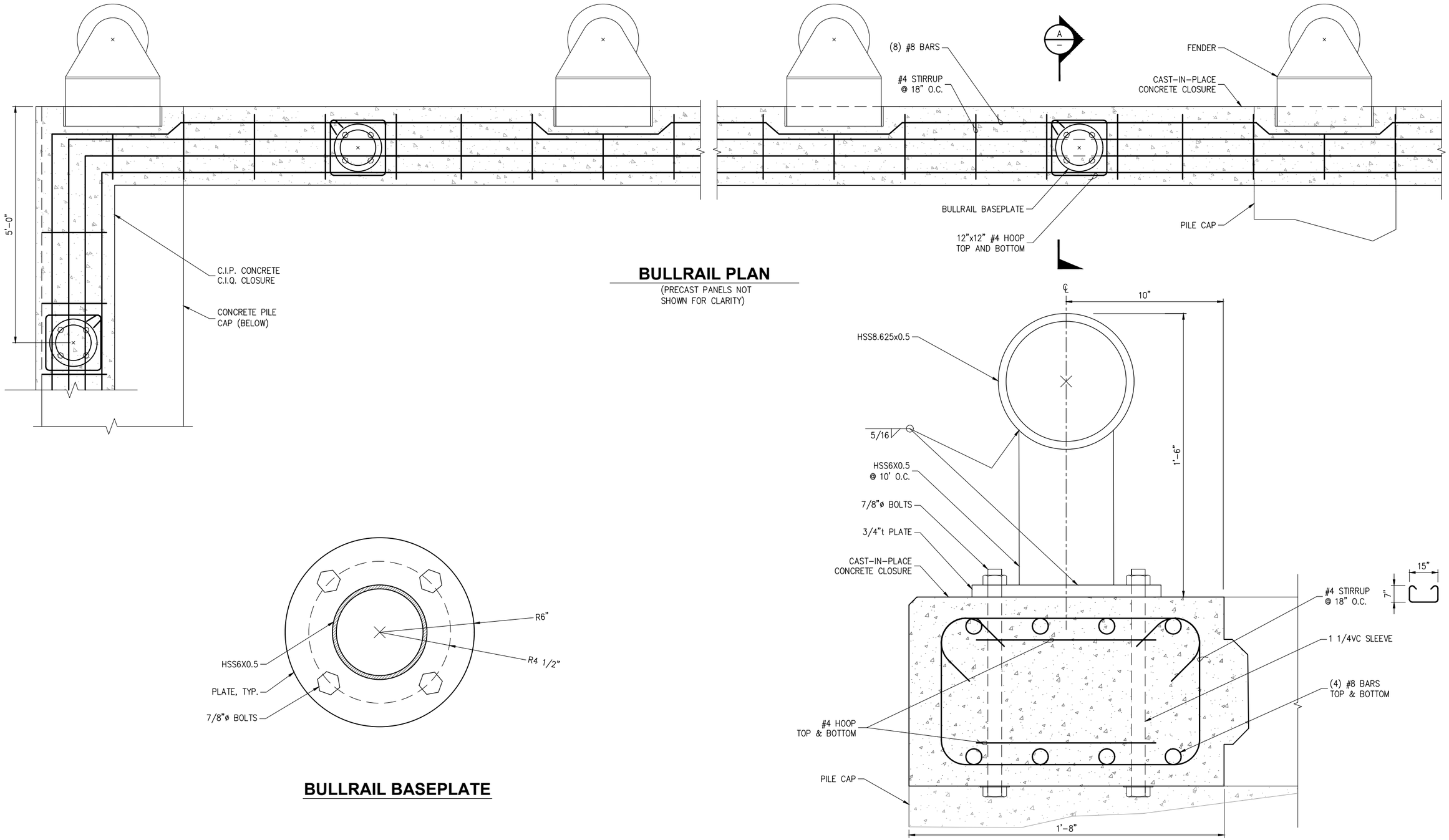
PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

FENDER DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-401



BULLRAIL PLAN

(PRECAST PANELS NOT
SHOWN FOR CLARITY)

BULLRAIL BASEPLATE

A

SECTION

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-402.dwg

1/2/2024 1:37 PM

ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

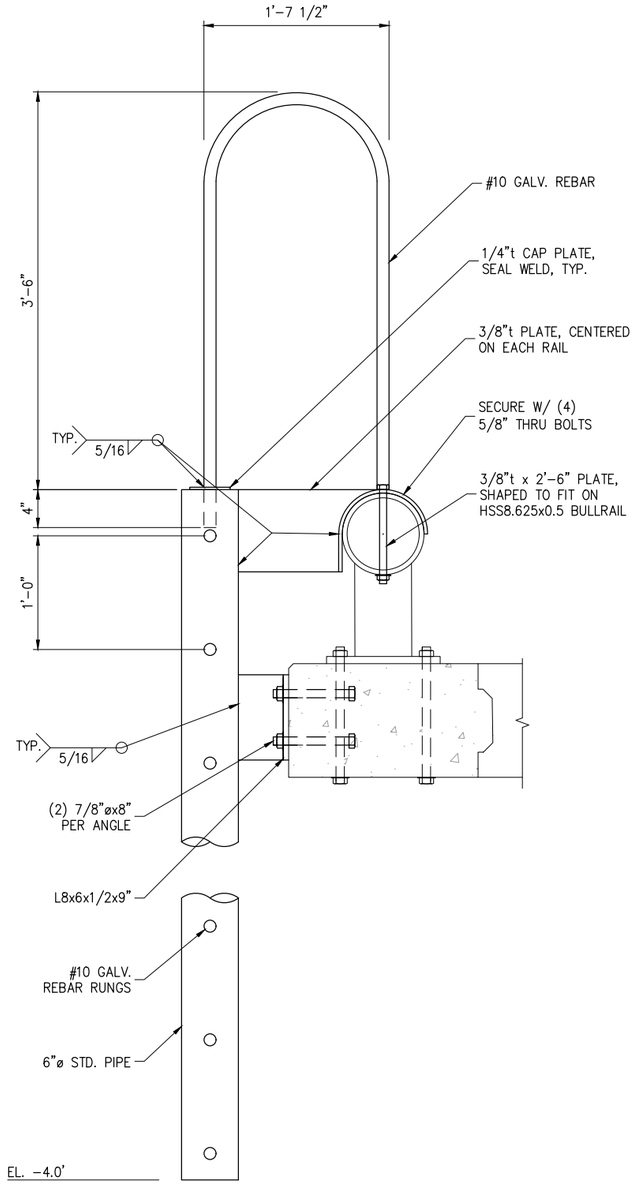
PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

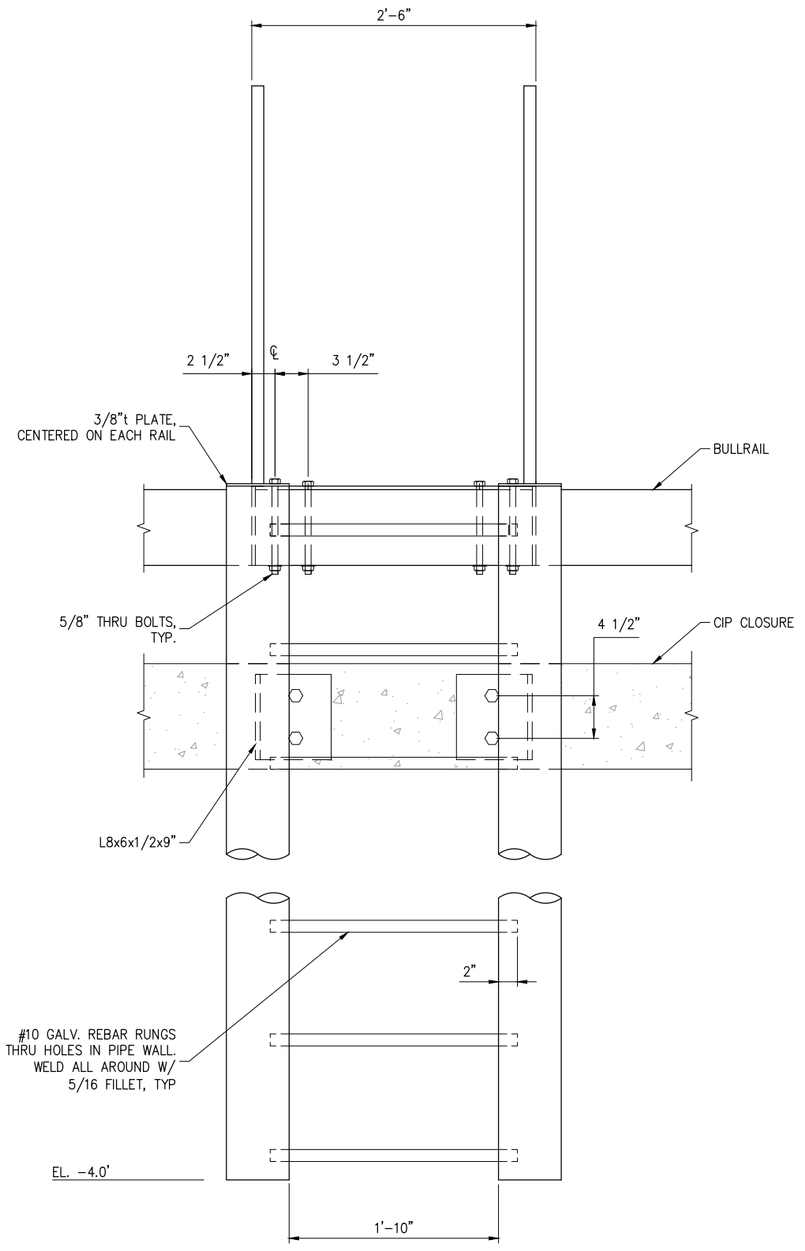
BULLRAIL DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-402



LADDER PROFILE



LADDER ELEVATION

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-S-403.dwg

1/2/2024 1:55 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

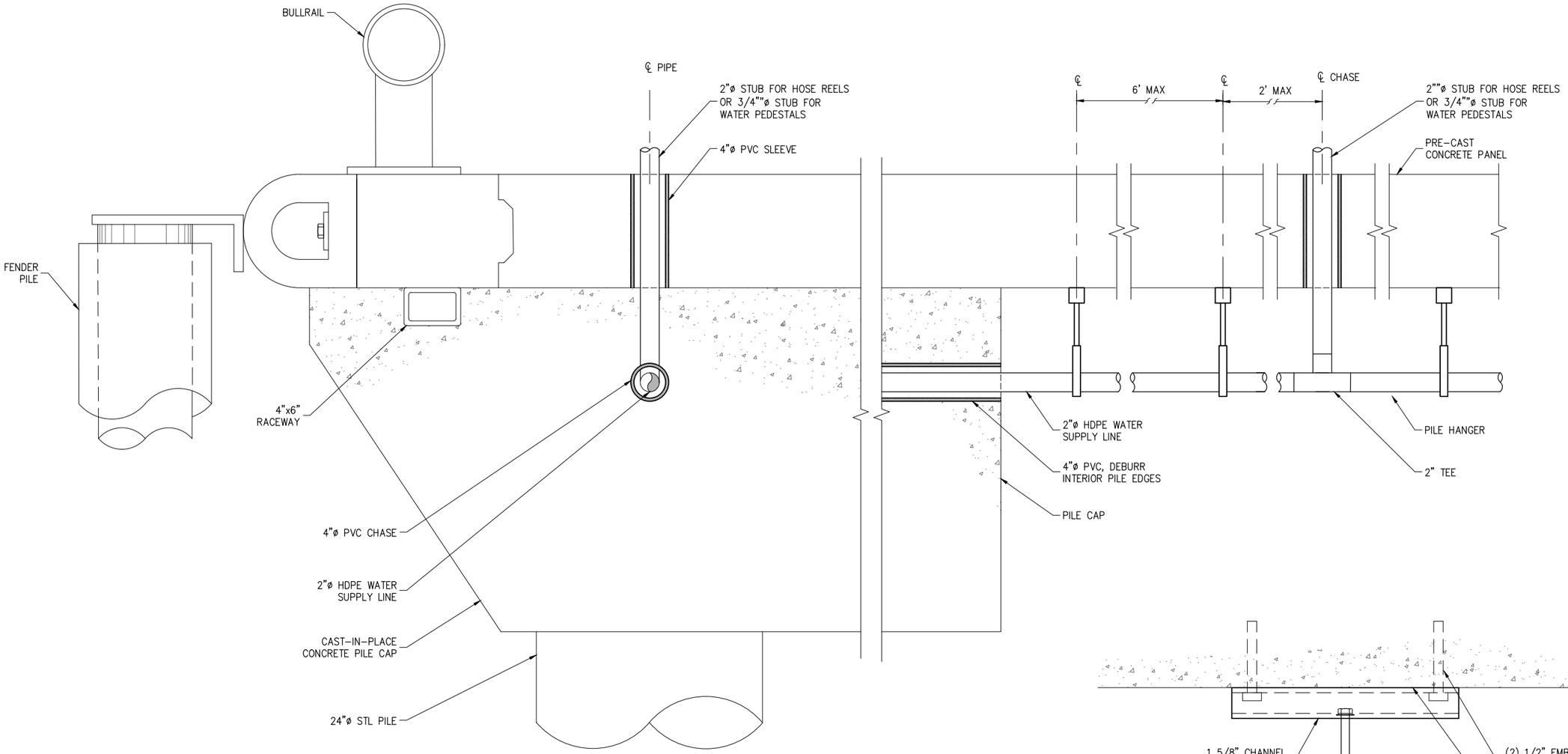
PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

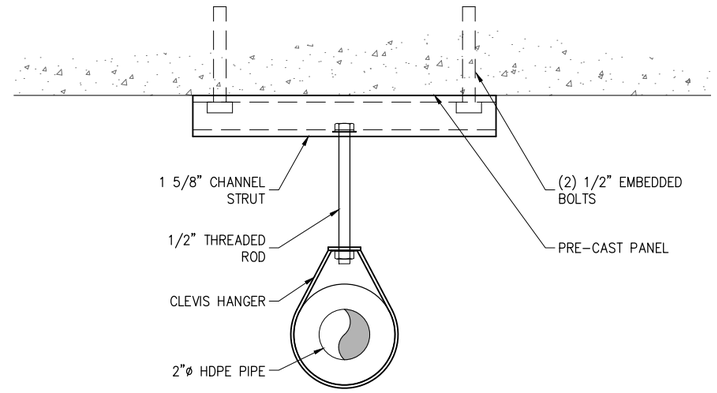
LADDER DETAILS

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

S-403



WATER LINE MOUNTING



PIPE HANGER

P N D ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

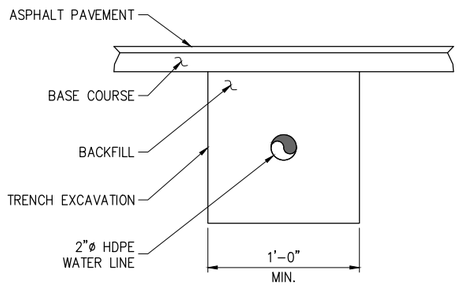
WATER SUPPLY DETAILS
(1 OF 2)

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

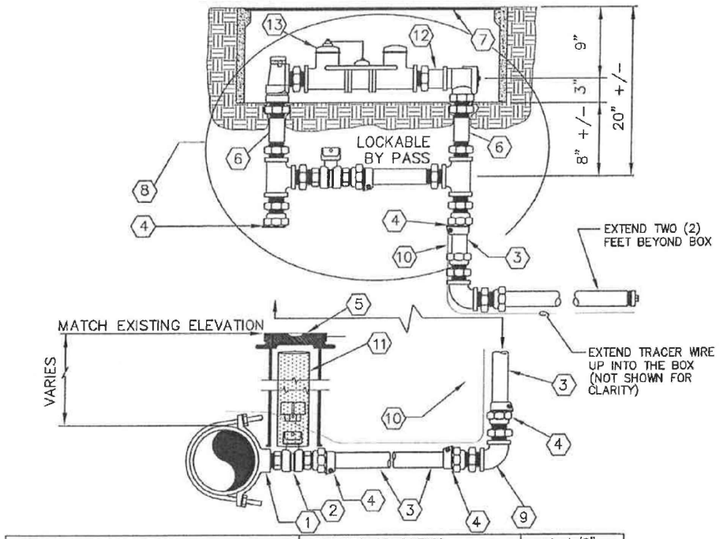
M-101

60% SUBMITTAL

1/2/2024 2:49 PM K:\2022\224024.01 T-Dock\60% Submittal\224024-M-101.dwg



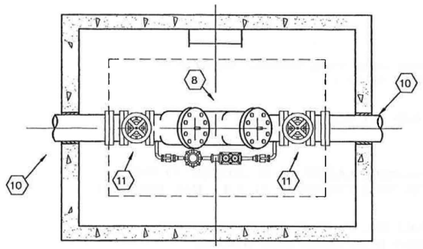
TRENCH DETAILS

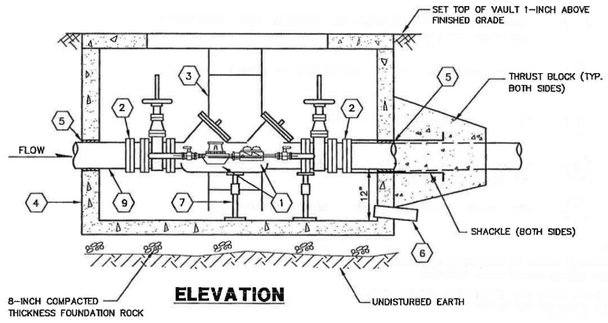


DESCRIPTION	MAKER OR RATING	1-1/2"
1. Double Strap Saddle	Romac or Equal	202 IPT
2. Gate Or Ball Valve w/ 2" Operating Nut	Ford or equal	Ball Valve
3. Pipe – Copper	SDR7(200PSI)	B11-666 w/Qt67
4. Coupling Male		C84-66
5. Valve Box (Vancouver Style)	Ford or Equal	
6. Nipple (Brass)	Rich or Equal	
7. Meter Box		1-1/2" x 6"
8. Meter Setter w/Lockable Bypass	Fogtite #2w/H2O Load	VFH 66-12 B
9. Brass 90° Elbow	Ford or Equal	1-1/2"
10. Tracer Wire	14 Gauge Copper Wire	Solid
11. PVC Sleeve Beneath Pavement	PVC-SCH.80	4" Dia.
12. Ball Valve	Ford	BF 33-6
13. 1-1/2" Water Meter	Master Meter Dialog 36	

NOTE: TEMPORARILY INSTALL "SPACER" IN METER SETTER UNTIL METER IS INSTALLED

1 1/2 INCH WATER METER





BACKFLOW PREVENTOR

1. REVERSE PRESSURE BACKFLOW PREVENTOR (RPZA)
2. UNI-FLANGE WITH SET SCREWS
3. TELESCOPIC ALUMINUM LADDER TO BE SECURED TO VAULT WITH STAINLESS STEEL FASTENERS AT 3-FT. MAX. INTERVALS
4. CONCRETE VAULT WITH 48"x36" MINIMUM INSIDE DIMENSIONS, WITH WATERTIGHT BILCO COVER (H20 LOADING)
5. WATER-TIGHT GROUT. RESTRAIN INLET/OUTLET PIPE WITH WELDED FLANGE OR SHACKLE TO THRUST BLOCK TO PREVENT. SHACKLE THROUGH VAULT IF CHECK VALVE ASSEMBLY IS REMOVED.
6. 4" DRAIN TO DAYLIGHT (MINIMUM SLOPE 2%)
7. ADJUSTABLE PIPE STANCHION, GRINELL PIPE SUPPORTS. (SECURE TO FLOOR)
8. VALVE ASSEMBLY TO BE CENTERED IN VAULT
10. STAINLESS STEEL SHACKLES AND THRUST BLOCK (3000PSI) AT BOTH ENDS OF VAULT
11. R.S. GATE VALVE WITH HAND WHEEL OPERATION, OR SIMILAR FOR RPZA

NOTE:
ASSEMBLY SHALL BE MAINTAINED BY PROPERTY OWNER AND ANNUAL CERTIFICATION REQUIRED.

60% SUBMITTAL

1/2/2024 9:00 AM K:\2022\224024.01 T-Dock\60% Submittal\224024-M-102.dwg

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1916

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

WATER SUPPLY DETAILS
(2 OF 2)

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	MAY 2024
SHEET NO.			

M-102

ELECTRICAL LEGEND*

LIGHTING

SYMBOL	DESCRIPTION
	LED RECESSED LUMINAIRE (REFER TO LUMINAIRE SCHEDULE FOR TYPE)
	LED SURFACE-MOUNTED LUMINAIRE (REFER TO LUMINAIRE SCHEDULE)
	SHADING OF ANY LUMINAIRE INDICATES CONNECTION TO EMERGENCY CIRCUIT.
	LED FIXTURE
	DOWNLIGHT - SURFACE, RECESSED CEILING MOUNT
	FLOOR OR GRADE MOUNTED FIXTURE
	WALL WASH - SURFACE, RECESSED CEILING MOUNT
	TRACK LIGHTING WITH HEADS AS INDICATED.
	FLUORESCENT STRIPLIGHT - POWER FEED SECTION, FEED THOUGH SECTION, LENGTH AS SHOWN.
	FLUORESCENT WALL BRACKET
	DIRECTIONAL HID FIXTURE
	ADA APPROVED WALL SCONCE
	ILLUMINATED EXIT SIGN, SHADED QUADRANT INDICATES FACES, ARROW AS SHOWN
	POLE MOUNTED LUMINAIRE
	"FOOT" INDICATES WALL MOUNTED LUMINAIRE
XXX	FIXTURE TYPE IDENTIFICATION DESIGNATION
	BATTERY POWER EMERGENCY UNIT EQUIPMENT (SEE SCHEDULE FOR QUANTITY OF HEADS) - WALL, CEILING MOUNTED.
	REMOTE HEAD
	OPTICAL SENSOR AND REFLECTOR

SWITCHING CONTROLS

SYMBOL	DESCRIPTION
$	SINGLE POLE SWITCH (SUPERSCRIPT DENOTES SIMILARLY MARKED LUMINARIES CONTROLLED TOGETHER)
$2	TWO POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$K	KEY OPERATED SWITCH
$D	DIMMER SWITCH. NUMBER INDICATES WATTAGE RATING. IF NOT SHOWN 800W MINIMUM.
$P	SWITCH WITH PILOT (PILOT IS "ON" WHEN SWITCH IS "ON")
$PL	SWITCH WITH PILOT (PILOT IS "ON" WHEN SWITCH IS "OFF")
$T	TIMER SWITCH
$WP	WEATHERPROOF SWITCH
$M	MOTOR RATED TOGGLE W/THERMAL OVERLOAD PROTECTION
PC	PHOTOCELL
TC	TIME CLOCK
OC	WALL MOUNTED DUAL LEVEL SWITCHING OCCUPANCY SENSOR
	EMERGENCY POWER OFF, HEAVY-DUTY OIL TIGHT RED MUSHROOM HEAD PUSH-BUTTON
LCP	LIGHTING CONTROL PANEL
LC	LIGHTING CONTROL STATION

DISTRIBUTION & EQUIPMENT

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT PANELBOARDS, SURFACE AND RECESS MOUNTED SOLID= 120/208V HATCHED= 277/480V
T	TRANSFORMER
	SERVICE AND/OR DISTRIBUTION EQUIPMENT
M	MOTOR CONNECTION. X = HORSEPOWER (WHERE SHOWN)
VFD	CONNECTION TO DIV. 15 FURNISHED VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT DIV. 16 TO INSTALL VFD EQUIPMENT
30A	DISCONNECT SWITCH, SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE ('MECH'=BY DIVISION 15, TYP).
30A	FUSED DISCONNECT SWITCH, SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE ('MECH'=BY DIVISION 15, TYP).
30A	DISCONNECT W/ MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE. ('MECH'=BY DIVISION 15, TYP).
30A	MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE. ('MECH'=BY DIVISION 15, TYP).

POWER DEVICES

SYMBOL	DESCRIPTION
C	SIMPLEX RECEPTACLE - WALL, CEILING, FLOOR
C	DUPLEX RECEPTACLE - WALL, CEILING, FLOOR
H C	DOUBLE DUPLEX RECEPTACLE - WALL, CLG, FLOOR
T44	DUPLEX RECEPTACLE AT SPECIAL HEIGHT
TH44	DOUBLE DUPLEX RECEPTACLE AT SPECIAL HEIGHT
	DUPLEX RECEPTACLE - WALL - DEDICATED
	DUPLEX RECEPTACLE - WALL - HALF SWITCHED
	DUPLEX RECEPTACLE - WALL - ABOVE COUNTER/ BACKSPLASH. SEE ARCHITECTURAL DRAWINGS.
GFI	DUPLEX RECEPTACLE - WALL - WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
WP	DUPLEX RECEPTACLE W/ WEATHERPROOF COVER
C	SPECIAL PURPOSE RECEPTACLE- WALL , CEILING NEMA CONFIGURATION AS NOTED
	ELECTRICAL EQUIPMENT CONNECTION. PROVIDE #10 AWG NEUTRALS. USE LIQUID-TIGHT FLEX.
	FLUSH FLOOR BOX DEVICE - DEVICE TYPES PER SYMBOLS SHOWN.
	PEDESTAL FLOOR DEVICE - DEVICE TYPES PER SYMBOLS SHOWN.
3	TWO-PIECE SURFACE METAL RACEWAY WITH RECEPTACLE AS NOTED, LENGTH AS INDICATED ON THE DRAWINGS AND WITH ALL FITTINGS AS REQUIRED
2	TELE/POWER POLE, POWER POLE
	COURTEST PHONE WITH ENCLOSURE
1	TWO-PIECE SURFACE METAL RACEWAY WITH RECEPTACLE AT 6" O.C. (LENGTH AS INDICATED).
W X YZ X	POWER PEDESTAL W = SLIP NUMBER(S) SERVED X = 30 = 30A,120V OUTLET X = 50 = 50A,120/240V OUTLET X = 100 = 100A,120/240V OUTLET Y = UNIT SUBSTATION Z = CIRCUIT NUMBER NOTE: 'X' DESIGNATES OUTLET PER SLIP. MULTIPLE REFERENCES (i.e. 30/50) INDICATES MULTIPLE OUTLETS PER SLIP.

DIAGRAMS

SYMBOL	DESCRIPTION
HAND OFF AUTO	HAND/OFF/AUTO SWITCH
	SWITCH
	OVERLOADS
	NORMALLY CLOSED CONTACTOR OR RELAY CONTACTS
	NORMALLY OPEN CONTACTOR OR RELAY CONTACTS
	BUS DUCT
	BUS BAR
	BATTERY (GENERAL)
	CONNECTOR, FEMALE AND MALE RESPECTIVELY
C	CONTACTOR COIL
R	RELAY COIL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	NORMALLY OPEN PUSH BUTTON
	NORMALLY CLOSED PUSH BUTTON
PF	METER: POWER FACTOR
KW	METER: KILOWATT HOUR
KVAR	METER: COMBINATION KILOWATT HOUR/KVAR METER
M	UTILITY CO. APPROVED SOCKET WITH METER INSTALLED
	DELTA CONNECTION
	GROUND WYE CONNECTOR
	CONNECTION TO GROUND
XXX/Y	CIRCUIT BREAKER XXX = AMPACITY Y = POLES
	FUSED SWITCH, WITH FUSE AND SWITCH AMPERE RATING
	CIRCUIT BREAKER, MEDIUM VOLTAGE, DRAWOUT
	DRAWOUT CIRCUIT BREAKER
GF	GROUND FAULT TRIP UNIT
K	KEY INTERLOCK
K	CAPACITOR, POWER FACTOR CORRECTION, SIZE IN KVAR
M G	MOTOR - GENERATOR
	SOLENOID

WIRING

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN CEILING OR WALL. LINE WEIGHT TOP TO BOTTOM = NEW, EXISTING TO REMAIN.
	CONDUIT CONCEALED IN OR BELOW CONCRETE BELOW GRADE. UNDER PIER. LINE WEIGHT TOP TO BOTTOM= NEW, EXISTING TO REMAIN.
	CONDUIT EXPOSED. LINE WEIGHT TOP TO BOTTOM= NEW, EXISTING TO REMAIN.
	EXISTING CONDUIT & WIRING TO BE REMOVED
C	COMMUNICATION CONDUIT / CABLE
MV	MEDIUM VOLTAGE CONDUIT
LV	LOW VOLTAGE CONDUCTORS
G	GROUNDING GRID OR CONDUCTORS
TV	CABLE TV WIRE / CONDUIT
O/H	AERIAL CONDUCTOR(S)/OVERHEAD LINE
	STROKES INDICATE QUANTITY OF #12 AWG. CONDUCTORS, UON. NOTE: NOT ALL WIRING IS SHOWN ON DRAWING. CONTRACTOR SHALL SCHEDULE OR STANDARD WIRING PRACTICES FOR BRANCH CIRCUITS.
	GROUND
	HOT
	GROUND, ISOLATED
	NEUTRAL
	HOME RUN TO INDICATED DESTINATION, 3/4"C. MIN. UON
	CONDUIT RUN TURNED UP THROUGH FLOOR OR CEILING. CORE AS REQUIRED.
	CONDUIT STUBBED OUT AT LOCATION SHOWN. PROVIDED INSULATED BUSHING & PULLROPE.
	TELEPHONE/DATA SLEEVE THROUGH WALL. ABOVE CEILING, EXTEND TO ACCESSIBLE LOCATION BOTH SIDES. TERMINATE WITH BUSHINGS. (1) 1 1/4" CO UON. COORDINATE LOCATIONS WITH CABLE INSTALLER(S) PRIOR TO ROUGH-IN.
	CABLE TRAY
J C	JUNCTION BOXES WALL, CEILING AND FLUSH FLOOR MOUNTED. 4" SQ. BOX, UON.
PB	PULL BOX, MIN. SIZE PER NEC., UON.
	FLEXIBLE CONDUIT CONNECTION
	GROUND ROD CONNECTION
	GROUND ROD CONNECTION WITH TEST WELL BOX
	LIGHTNING SYSTEM AIR TERMINAL
P	UNDERGROUND PULLBOX/VAULT (P=POWER T=TEL/COM U=UTILITY)
	UNDERGROUND PULLBOX/VAULT
	HANDHOLE OR JUNCTION BOX

REFERENCE SYMBOLS

SYMBOL	DESCRIPTION
X	SHEET NOTE REFERENCE (FLAG NOTES)
XXX.X	FEEDER NOMINAL AMPACITY & TYPE: SEE FEEDER SCHEDULE.
X	KITCHEN EQUIPMENT REFERENCE
X Y-Y	REFER TO DETAIL NO. ON DRAWING INDICATED NOT ALL DETAIL REFERENCES ARE SHOWN. ALL DETAILS APPLY TO ALL APPLICABLE SITUATIONS, UON.
X Y-Y	ELEVATION/PHOTO TAG: REFER TO NUMBER AND SHEET INDICATED
X Y-Y	SECTION TAG: REFER TO DETAIL NO. ON DRAWING. NOT ALL DETAIL REFERENCES ARE SHOWN. ALL DETAILS APPLY.

DEVICE MOUNTING HEIGHTS

SPECIAL OUTLET HEIGHTS ARE SHOWN ON THE ELECTRICAL OR ARCHITECTURAL DRAWINGS. IF SPECIAL OUTLET HEIGHTS ARE NOT SHOWN OR REQUIRED, THEN LOCATE OUTLETS AS NOTED BELOW. OUTLET HEIGHTS ARE MEASURED FROM THE FINISHED FLOOR TO THE CENTERLINE OF THE OUTLETS (U.O.N.).

RECEPTACLE	+18 INCHES VERTICAL
LIGHT SWITCHES	+48 INCHES VERTICAL
PANEL BOARD	+72 INCHES TO TOP OF PANELBOARD
TELEPHONE/DATA OUTLET-DESK	+18 INCHES VERTICAL
TELEPHONE/OUTLET-WALL	+54 INCHES VERTICAL
MANUAL PULL STATION	+48 INCHES TO LEVER/OPERATING DEVICE
AUDIBLE/VISUAL ANNUNCIATOR	NO MORE THAN +96" OR LESS THAN +80"
KEYPAD/CARD READER	+60 INCHES VERTICAL

* NOT ALL SYMBOLS IN LEGEND ARE USED.

PROJECT NOTES

1. GENERAL: WORK SHALL BE DONE IN ACCORDANCE WITH NFPA 70 AS ADOPTED BY THE CITY OF ANACORTES, SKAGIT COUNTY, AND THE STATE OF WASHINGTON.
2. LOCATIONS OF ELECTRICAL DEVICES, LIGHTING FIXTURES, ETC., INDICATED ON CIVIL / STRUCTURAL PLANS - INCLUDING SECTIONS, ELEVATIONS, NOTES, OR OTHER INDICATORS - TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.
3. REFER TO CIVIL, STRUCTURAL, MECHANICAL, LANDSCAPE, ETC., DRAWINGS FOR WORK OUTSIDE OF DIVISIONS 26 & 27. INFORMATION CONVEYED WITHIN THE ELECTRICAL DRAWINGS ILLUSTRATING OR REFERENCING WORK OF OTHER DIVISIONS IS FOR REFERENCE ONLY. SPECIFICATION BY THE APPROPRIATE DIVISIONS SHALL APPLY.
4. GENERAL NOTES ARE SHOWN ON SHEETS MOST RELEVANT TO SPECIFIC NOTE; HOWEVER, GENERAL NOTES ON EACH SHEET SHALL APPLY IN PRACTICE TO ALL ELECTRICAL DRAWINGS.
5. NOT ALL COMPONENTS OF THE ELECTRICAL SYSTEMS ARE SHOWN (FOR SIMPLICITY). PROVIDE MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.
6. STAINLESS STEEL HARDWARE: MATERIALS USED FOR THE MOUNTING AND SUPPORT OF BOXES CABLES, RACEWAYS, LIGHT FIXTURES, OUTLETS, AND OTHER DIVISION 26 EQUIPMENT, SHALL BE 316 STAINLESS STEEL. THIS REQUIREMENT APPLIES TO THE AFOREMENTIONED COMPONENTS WHEN INSTALLED OUTSIDE ABOVE GRADE OR WHEN INSTALLED OVER WATER (BOARDWALK, GANGWAYS, PIER, & FLOATING DOCKS).
7. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. EXACT LOCATIONS OF ELECTRICAL EQUIPMENT IS APPROXIMATE. CHANGES MADE BY THE OWNER IN LOCATING ELECTRICAL COMPONENTS OF UP TO TEN FEET HORIZONTALLY IS A PART OF THIS CONTRACT FOR FLOATS. THESE CHANGES MAY BE IMPLEMENTED, AT NO CHARGE TO THE OWNER, UP UNTIL THE FINAL APPROVAL OF SHOP/FABRICATION DRAWINGS.
8. COORDINATE LOCATIONS OF ELECTRICAL AND COMMUNICATION CHASES AND CONDUITS WITH OTHER TRADES. ADJUST LOCATIONS AS NECESSARY TO AVOID CONFLICTS.
9. XXX.

LUMINAIRE SCHEDULE

TYPE	SIZE / DESCRIPTION	LAMP IMFORMATION TYPE	QTY.	LAMP TYPE	TOTAL WATTS	MANUFACTURER	CATALOG NUMBER	VOLTS	MOUNTING	RECESS DEPTH	REMARKS
S25	POLE MOUNTED LED (HGT 25'-0")	LED	1	3500K/LED	92.5	BEGA	99523 - K35	120	DOCK	-	-
S50N	POLE MOUNTED LED (HGT 50'-0")	LED	1	3500K/LED	124.5	BEGA	84517 - K35	120	DOCK	-	-
S50W	POLE MOUNTED LED (HGT 50'-0")	LED	1	3500K/LED	124.5	BEGA	84518 - K35	120	DOCK	-	-

ABBREVIATIONS

A, AMP	AMPERES	EF	EXHAUST FAN	LCP	LIGHT CONTROL PANEL	PRI	PRIMARY
AF	AMPERE (RATED) FUSES	EMT	ELECTRICAL METALLIC TUBING	MAX	MAXIMUM	PSE	PUGET POWER ENERGY
AFF	ABOVE FINISHED FLOOR	ENCL	ENCLOSURE	MCA	MINIMUM CIRCUIT AMPERES	REQD	REQUIRED
AFG	ABOVE FINISHED GRADE	EOL	END OF LINE	MFR	MANUFACTURER	RNC	RIGID NONMETALLIC CONDUIT (PVC)
AL	ALUMINUM (ALLOY)	EPA	EFFECTIVE PROJECTED AREA	MIN	MINIMUM	RS	RAPID START
ALC	AUTOMATED LIGHTING CONTROL	EWC	ELECTRIC WATER COOLER	MISC	MISCELLANEOUS	SEC	SECONDARY
AS	AMPERE (RATED) SWITCH	EWH	ELECTRIC WATER HEATER	MLO	MAIN LUGS ONLY	SPDT	SINGLE POLE DOUBLE THROW
ATS	AUTOMATIC TRANSFER SWITCH	FA	FIRE ALARM	MTD	MOUNTED	SPST	SINGLE POLE SINGLE THROW
AUTO	AUTOMATIC	FAA	FIRE ALARM ANNUNIATOR	MTR	MOTOR	SURF	SURFACE
AUX	AUXILIARY	FC	FOOT CANDLES	-N-	NEUTRAL (GROUNDED CONDUCTOR)	SWBD	SWITCHBOARD
AWG	AMERICAN WIRE GAUGE	FLA	FULL LOAD AMPERES	NC	NORMALLY CLOSED	SWGR	SWITCHGEAR
BAT	BATTERY	FLEX	FLEXIBLE	NEC	NATIONAL ELECTRICAL CODE	TB	TERMINAL BOARD
BFG	BELOW FINISHED GRADE	FU	FUSE	-,NEG	NEGATIVE	TDC	TIME DELAY CLOSING
C	CONDUIT (CIRCULAR RACEWAY)	GEN	GENERATOR	NEMA	NATIONAL ELECTRICAL MANUFACTURE'S ASSOC.	TDO	TIME DELAY OPENING
CAB	CABINET	GFI	GROUND FAULT CIRCUIT INTERRUPTER	NL	NIGHT LIGHT (UNSWITCHED)	TEL	TELEPHONE
CB	CIRCUIT BREAKER	GND	GROUND	NO	NORMALLY OPEN	TYP	TYPICAL
CFM	CUBIC FEET PER MINUTE	GRC	GALVANIZED RIGID STEEL CONDUIT	NTS	NOT TO SCALE	UL	UNDERWRITERS LAB
CKT	CIRCUIT	GRD	IN-GROUND	OC	ON CENTER	UON	UNLESS OTHERWISE NOTED
CLG	CEILING	HP	HORSEPOWER	OD	OUTSIDE DIAMETER	UPS	UNINTERRUPTIBLE POWER SUPPLY
CO	CONDUIT ONLY	HZ	HERTZ (CYCLES PER SECOND)	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	V	VOLTS
CT	CURRENT TRANSFORMER	IES	ILLUMINATING ENGINEERING SOCIETY	OFOI	OWNER FURNISHED, OWNER INSTALLED	VA	VOLT-AMPERES
CU	COPPER	ID	INSIDE DIAMETER	OS	OCCUPANCY SENSOR	VFD	VARIABLE FREQUENCY DRIVE
DC	DIRECT CURRENT	IG	ISOLATED GROUND	P	POLE	W	WATT
DISC	DISCONNECT	IN	INCANDESCENT	PB	PUSH-BUTTON	W/	WITH
DIA	DIAMETER	IMC	INTERMEDIATE METAL CONDUIT	PEND	PENDANT	W/O	WITHOUT
DIV	DIVISION	K	KEY OPERATED	PH	PHASE	WP	WEATHERPROOF
DP	DISTRIBUTION PANEL	KCM	THOUSAND CIRCULAR MILS	PNL	PANEL	XFMR	TRANSFORMER
DPDT	DOUBLE POLE DOUBLE THROW	KO	KNOCK OUT	KW	KILOWATTS	", IN	INCHES
DPST	DOUBLE POLE SINGLE THROW	KVA	KILO VOLT-AMPERES	+,POS	POSITIVE	', FT	FEET
DWG	DRAWING					~	PHASE
E (E)	EXISTING						

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION

T DOCK RECONFIGUATION

PORT OF ANACORTES

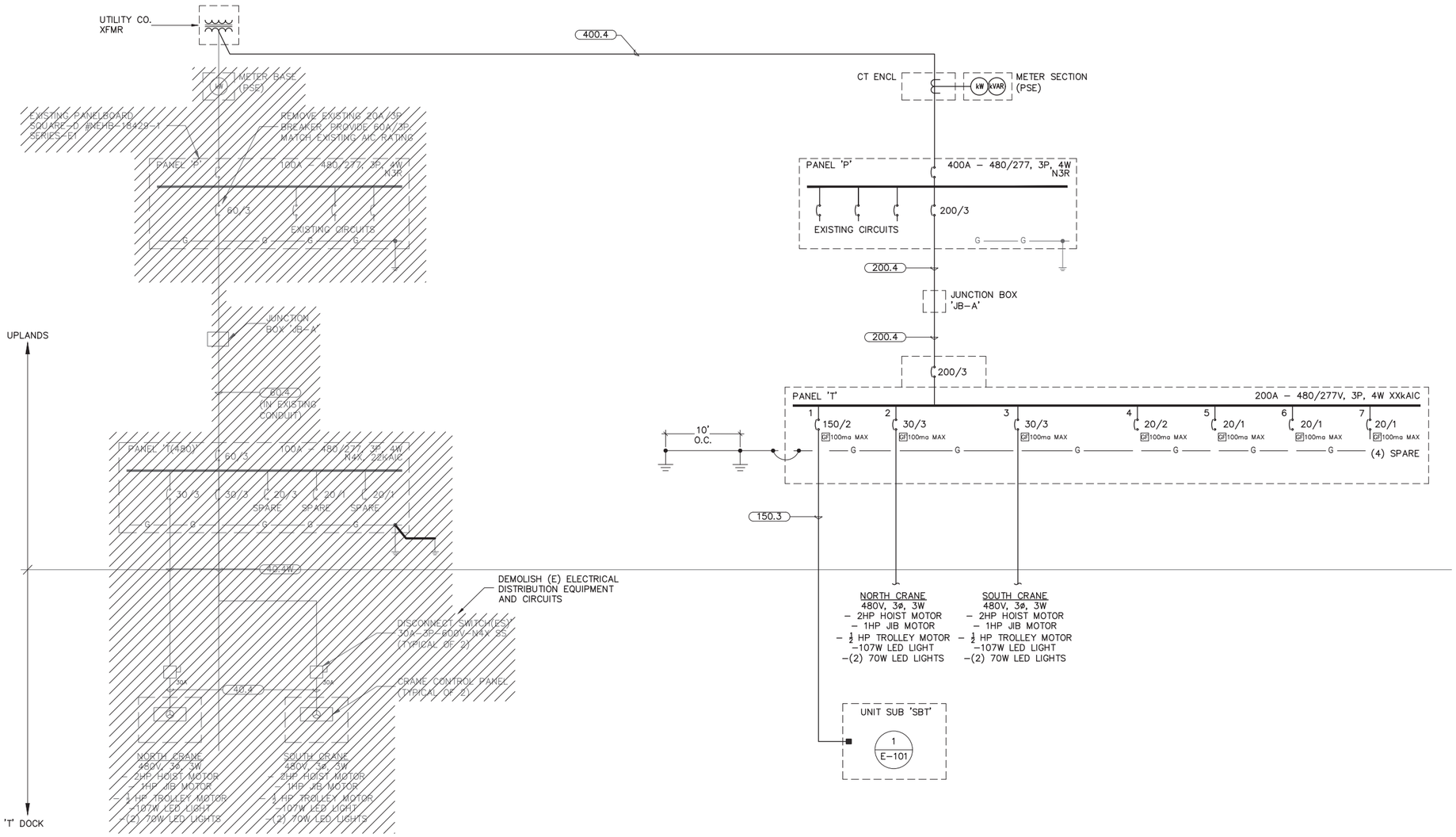
PROJECT # CSM-49

SYMBOLS AND ABBREVIATIONS

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023

SHEET NO.

E-000



SINGLE LINE WIRING DIAGRAM - EXISTING

SINGLE LINE WIRING DIAGRAM

COPPER FEEDER SCHEDULE

FEEDER TAG	CONDUITS ②			CONDUCTORS PER SET		REMARKS ①
	MET	SETS	RNC	PHASE/NEUTRAL	GROUND ③	
800.4	3.00"	2	4.00"	4 #500 KCMIL	#2/0	-
600.4	3.00"	2	4.00"	4 #350 KCM	#1	-
400.4K	2.50"	2	3.00"	5 #3/0	#2	-
400.4G		1		4 #500 KCMIL	#3/0	TYPE G or W
400.3G		1		3 #500 KCMIL	#3/0	TYPE G or W
300.3G		1		3 #350 KCMIL	2 #1/0	TYPE G or W
300.2G		1		2 #350 KCMIL	2 #1/0	TYPE G or W
300.4	3.00"	1	4.00"	4 #350 KCMIL	#4	-
300.3	2.50"	1	3.00"	3 #350 KCMIL	#4	-
275.4	3.00"	1	4.00"	4 #300 KCMIL	#4	-
275.3	2.50"	1	3.00"	3 #300 KCMIL	#4	-
250.4K	3.00"	1	4.00"	5 #250 KCMIL	#4	-
250.4	2.50"	1	3.00"	4 #250 KCMIL	#4	-
250.3	2.50"	1	3.00"	3 #250 KCMIL	#4	-
225.3G		1		3 #4/0	2 #2	TYPE G or W
225.1G		1		1 #4/0		TYPE G or W
200.4		1		4 #3/0	2#4	-
200.4G		1		4 #3/0	2 #4	TYPE G or W
200.2G		1		3 #3/0	2 #4	TYPE G or W
180.3G		1		3 #2/0		TYPE G or W
180.2G		1		2 #2/0		TYPE G or W
180.1G		1		1 #2/0		TYPE G or W
175.3G		1		3 #2/0	2 #4	TYPE G or W
150.3G		1		3 #1/0	2 #6	TYPE G or W
125.4G	1.50"	1	2.00"	4 #1	#6	-
125.3G		1		3 #1	2 #6	TYPE G or W
110.4K	1.50"	1	2.00"	3 #2, 1#2/0 -N-	#6	-
110.4	1.25"	1	2.00"	4 #2	#6	-
110.3	1.25"	1	2.00"	3 #2	#6	-
100.4	1.25"	1	2.00"	4 #2	#8	-
100.3	1.25"	1	2.00"	3 #2	#8	-
90.4	1.25"	1	2.00"	4 #4	#8	-
90.3	1.00"	1	1.50"	3 #4	#8	-
80.4	1.25"	1	1.50"	4 #4	#8	-
80.3	1.00"	1	1.50"	3 #4	#8	-
70.4	1.25"	1	2.00"	4 #4	#8	-
70.3	1.00"	1	1.50"	3 #4	#8	-
60.4	1.00"	1	1.50"	4 #6	#10	-
60.3	0.75"	1	1.50"	3 #6,	#10	-
50.4K	1.00"	1	1.50"	3 #8, 1#4 -N-	#10	-
50.5G				5 #8	4#12	TYPE G or W
50.3	0.75"	1	1.50"	3 #8	#10	-
40.4	0.75"	1	1.00"	4 #8	#10	-
40.3	0.75"	1	1.00"	3 #8	#10	-
30.4	0.75"	1	1.00"	4 #10	#10	-
30.3	0.75"	1	1.00"	3 #10	#10	-
20.3		1		3 #10	#12	TYPE SOW
20.2		1		2 #10	#12	TYPE SOW
15.4	0.75"	1	1.00"	4 #12	#12	-
15.3	0.75"	1	1.00"	3 #12	#12	-

GENERAL NOTES (SCHEDULE):

A. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION. THIS NOTE INDICATES THAT CONDUIT (LISTED IN SCHEDULE) IS SIZED BASED ONT TYPE THHN/THWN WIRE. USE WIRE TYPES AS SPECIFIED IN SECTION 16120 OR AS NOTED ELSEWHERE IN THE CONTRACT DOCUMENTS.
B. PROVIDE NOTED SIZE GROUND CONDUCTOR IN EACH CONDUIT OF FEEDERS CONSISTING OF MULTIPLE SETS OF CONDUCTORS.
C. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
D. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75°C TERMINATIONS.
E. CONDUIT SIZES AND QUANTITIES ON PLANS TAKE PRECEDENCE OVER THOSE SHOWN IN SCHEDULE. PROVIDE CONDUITS INDICATED IN SCHEDULE FOR FEEDERS NOT SHOWN ON PLANS.

SCHEDULE REMARKS:

① CABLES NOTED MAY BE USED ONLY WHEN ALLOWED BY CODE AND PROJECT SPECIFICATIONS.

② "MET"=EMT, GRC (RIGID), RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"=PVC 40, PVC 80 OR FIBGERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE-LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER.

③ PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS AND BRANCH CIRCUITS.

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series Plotted: 1/2/2024 10:11 AM by KEN

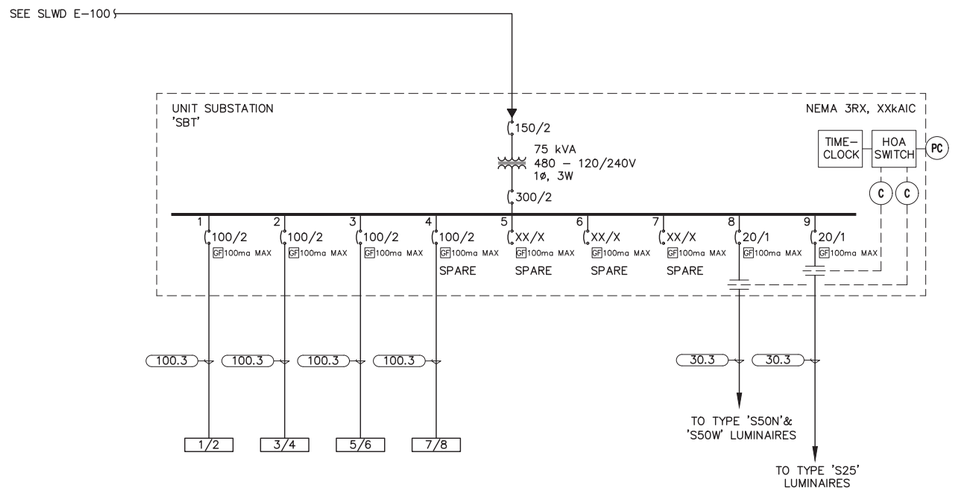
HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION

T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

ELECTRICAL SINGLE LINE WIRING DIAGRAM

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023
SHEET NO.	E-100		



SINGLE LINE WIRING DIAGRAM - 'SBT'

PORTABLE POWER CABLE			
FEEDER TAG	'X' INDICATES NUMBER OF CONDUCTORS PER FEEDER CABLE (EXCLUDING GROUND CONDUCTORS). SEE REMARKS 2.		
	APPROX. O.D. (3C/4C)	COND. AWG	REMARKS
20.X		#12	MULTI CONDUCTOR TYPE 'SOW' CORD
30.X		#10	MULTI CONDUCTOR TYPE 'SOW' CORD
50.X	0.95"/1.025"	#8	MULTI CONDUCTOR PORTABLE POWER CABLE
75.X	1.11"/1.18"	#4	
100.X	1.3"/1.44"	#2	
125.X	1.49"/1.62"	#1	
150.X	1.63"/1.73"	#1/0	
175.X	1.74"/1.90"	#2/0	
200.X	1.88"/2.04"	#3/0	
225.X	1.99"/2.16"	#4/0	
250.X	2.29"/2.73"	250KCM	
300.X	2.62"/3.10"	350KCM	
400.X	2.96"/3.50"	500KCM	

'X' INDICATES NUMBER OF CONDUCTORS PER FEEDER CABLE (EXCLUDING GROUND CONDUCTORS).

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION

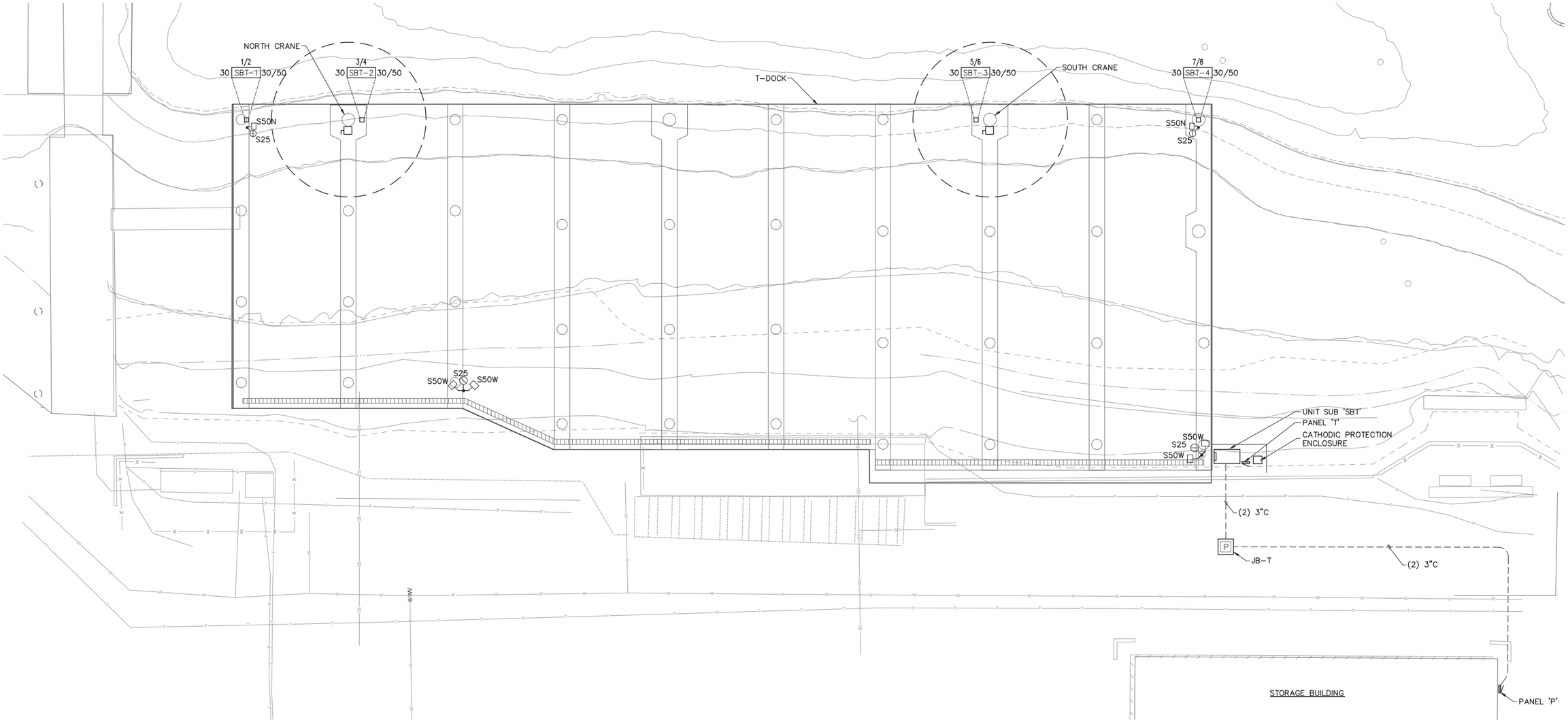
T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

ELECTRICAL SINGLE LINE WIRING DIAGRAMS - UNIT SUBSTATIONS

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023
SHEET NO.			E-101

GENERAL NOTES:

1. XXX



ELECTRICAL SITE PLAN

0 5 10 20 30 FT.

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION
1	11/09/21	EJD	RFI #001 – UPDATE SLIP NUMBERS

T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

ELECTRICAL SITE PLAN

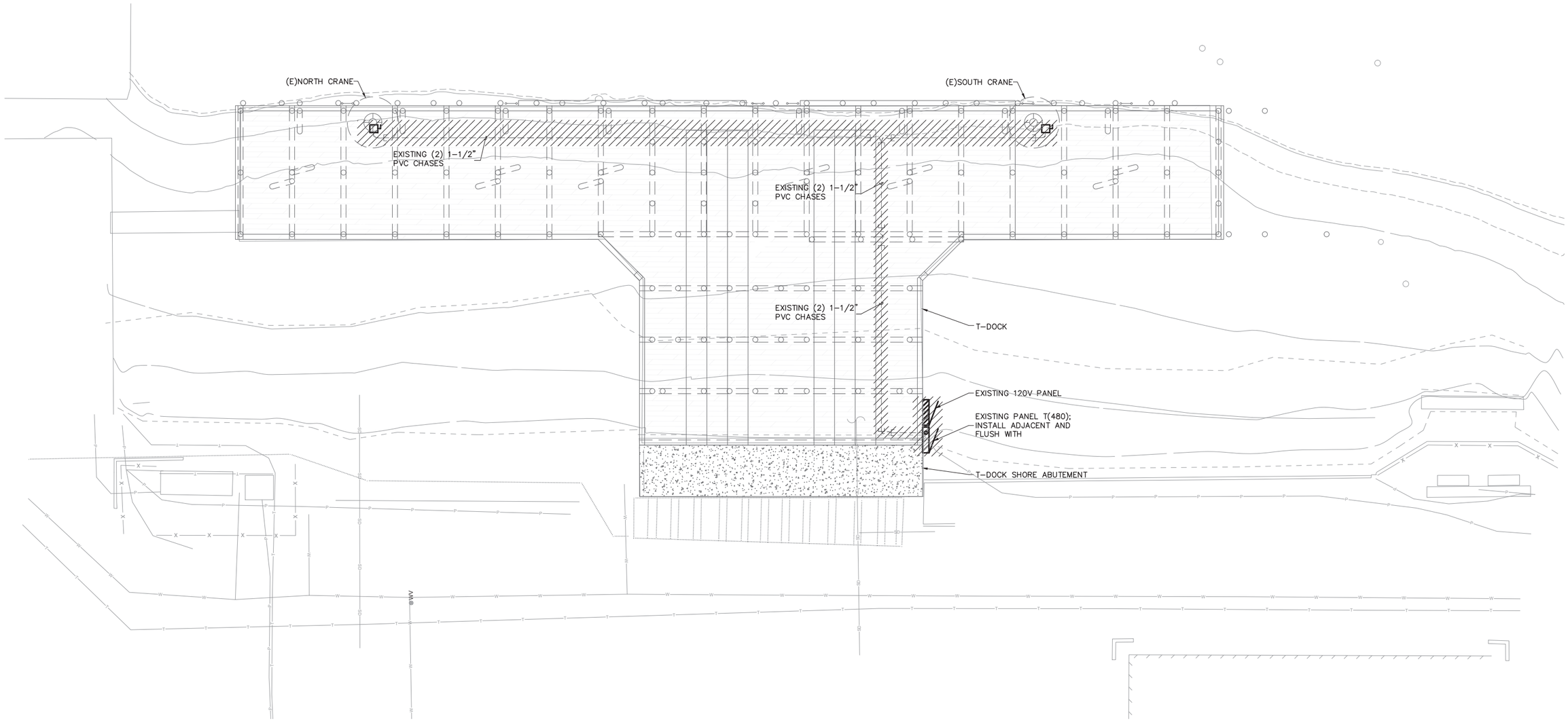
DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023
SHEET NO.			E-201

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

GENERAL NOTES:

1. XXX



ELECTRICAL DEMOLITION PLAN

0 5 10 20 30 FT.

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION
1	11/09/21	EJD	RFI #001 – UPDATE SLIP NUMBERS

PORT OF ANACORTES

T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

ELECTRICAL DEMOLITION PLAN

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023

SHEET NO.

E-200

The introduction of substations into the marina and recreational vehicle market allows Eaton to be your complete marina and RV park electrical products supplier. We are able to assist in the design and layout of your marina or RV park electrical system from the primary service provider to your power pedestal. Our substations are designed for any coastal or inland environment and are constructed with powder coated stainless steel NEMA 3R housing cabinets. All substation cabinets come with our limited lifetime warranty.

Above: Standard Substation
Left: Double Panel Substation

Cord & Cordset ndustrial Cord

Super Vu-Tron® Type G and Type G-GC Round

90°C (UL) 2000 Volt Portable Power Cable

3 CONDUCTOR – TYPE G-GC – 2000 VOLT

CATALOG NUMBER	NO. OF COND.	AWG OR kcmil	COND. STRAND	NOMINAL COND. O.D. INCHES	NOMINAL COND. O.D. mm	YELLOW GROUND CHECK AWG SIZE	GREEN GROUND COND. AWG SIZE	NOMINAL INS. THICKNESS INCHES	NOMINAL INS. THICKNESS mm	NOMINAL O.D. INCHES	NOMINAL O.D. mm	CURR. AMPS[1]	APPROX. NET WT. LBS/ M[2]
82313	3	8	133	0.167	4.24	10	2#10	0.060	1.52	0.965	24.51	65	609
82623	3	6	259	0.210	5.33	10	2#10	0.060	1.52	1.050	26.67	87	797
82643	3	4	259	0.245	6.22	10	2#8	0.060	1.52	1.145	29.08	114	984
82663	3	2	259	0.334	8.48	10	2#7	0.080	2.03	1.345	34.16	152	1465
82373[R]	3	1	259	0.375	9.53	8	2#6	0.080	2.03	1.465	37.21	177	1807
82383[R]	3	1/0	259	0.385	9.78	8	2#5	0.080	2.03	1.605	40.77	205	2405
82393[R]	3	2/0	259	0.475	12.07	8	2#4	0.080	2.03	1.715	43.56	237	2510
82403[R]	3	3/0	259	0.480	12.19	8	2#3	0.080	2.03	1.850	46.99	274	3773
82413[R]	3	4/0	259	0.570	14.48	8	2#2	0.080	2.03	1.980	50.29	316	3946
82423[R]*	3	250	627	0.615	15.62	8	2#2	0.095	2.41	2.390	60.71	352	5060
82443[R]*	3	350	855	0.725	18.42	8	2#1/0	0.095	2.41	2.680	68.07	433	7400
82473[R]*	3	500	1235	0.880	22.35	8	2#2/0	0.095	2.41	3.030	76.96	526	10100

4 CONDUCTOR – TYPE G – 600/2000 VOLT

CATALOG NUMBER	NO. OF COND.	AWG	CONN. STRAND	NOMINAL COND. O.D. INCHES	NOMINAL COND. O.D. mm	GREEN COND. AWG SIZE	NOMINAL INS. THICKNESS INCHES	NOMINAL INS. THICKNESS mm	NOMINAL O.D. INCHES	NOMINAL O.D. mm	CURRENT AMPS[1]	APPROX. NET WT. LBS/ M[2]
82314	4	8	133	0.167	4.24	4#12	0.060	1.52	1.045	26.54	52	705
82624	4	6	259	0.210	5.33	4#12	0.060	1.52	1.125	28.58	70	914
82644	4	4	259	0.245	6.22	4#10	0.060	1.52	1.210	30.73	91	1370
82664	4	2	259	0.334	8.48	4#9	0.080	2.03	1.435	36.45	122	1802
82374[R]*	4	1	259	0.375	9.53	4#8	0.080	2.03	1.650	41.91	142	2479
82384[R]	4	1/0	259	0.385	9.78	4#7	0.080	2.03	1.720	43.69	164	3080
82394[R]	4	2/0	259	0.475	12.07	4#6	0.080	2.03	1.860	47.24	190	3119
82404[R]	4	3/0	259	0.480	12.19	4#5	0.080	2.03	2.075	52.71	219	4542
82414[R]	4	4/0	259	0.570	14.48	4#4	0.080	2.03	2.155	54.74	253	5078

[1] Ampacities based on 90°C Conductor and 30°C Ambient temperature per table 406.5(B) of the National Electrical Code®.
[R] UL Listed and cULi certified.
* Non-stock item; minimum quantity purchase required.

Product Construction:

Conductor:
- 8 AWG through 500 kcmil fully annealed stranded bare copper

Insulation:
- Premium-grade, color-coded 90°C EPDM
- Color code: See chart below
- Insulated grounds and ground checks

Jacket:
- Super Vu-Tron® 90°C, black
- Temperature range: -40°C to +90°C

Jacket Marking:
- TYPE G-GC (4/0 AND SMALLER) – CAROL SUPER VU-TRON® SIZE (mm²) TYPE G-GC PORTABLE POWER CABLE (UL) 2000V DRY 90°C WET 75°C SUN RES P-7K-123049 MSHA --- CSA TYPE G-GC (-40°C) FT-5 MADE IN USA
- TYPE G-GC (LARGER THAN 4/0) – (SIZE) TYPE G-GC CAROL SUPER VU-TRON® 90°C DRY AND WATER RESISTANT 75°C 2000V SUN RES (UL P-7K-123049 MSHA LR 27161 MADE IN USA
- TYPE G – CAROL SUPER VU-TRON® SIZE (mm²) TYPE G PORTABLE POWER CABLE (UL) 600/2000V DRY 90°C WET 75°C SUN RES P-7K-123049 MSHA --- CSA TYPE G (-40°C) FT-5 MADE IN USA

Applications:
- Industrial and light- to medium-duty mining applications
- Heavy-duty service as power supply cable
- Mobile and portable electrical equipment
- 3- and 4-conductor – use on three-phase AC systems where grounding is required

Features:
- Excellent impact and abrasion resistance
- Withstand exposure o oil, acids, alkalies, heat, moisture and rost chemicals
- Indent-printed for easy identification
- Rope lay stranding for maximum flex life
- Cable core bound for superior flexibility and toughness
- Non-wicking rubber fillers (GGC)
- Canadian color code available upon request
- Sunlight-resistant

Industry Approvals:
- UL Type G, G-GC
- CSA
- MSHA Approved
- RoHS Compliant

Packaging:
- Lengths cut to order

LED pole-top luminaires - Asymmetrical light distribution **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
LED pole-top luminaire with asymmetrical light distribution designed for the illumination of parking areas and roadways. Tool-less entry with hinged door for ease of maintenance. Provided with slip fitter to fit 3" O.D. poles.

Materials
Luminaire housing and pole fitter constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Clear safety glass with anti-reflective coating for increased transmission
Reflector made of pure anodized aluminum
Silicone applied robotically to casting, plasma treated for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP66
Weight: 19.0 lbs.

EPA (Effective projection area): 0.75 sq. ft.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30°C
LED module wattage	92.4 W
System wattage	105.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	9,454 lumens (3000K)
Lifetime at Ta = 15°C	> 500,000 h (L70)
Lifetime at Ta = 35°C	308,000 h (L70)

LED color temperature
- 4000K - Product number + **K4**
- 3500K - Product number + **K35**
- 3000K - Product number + **K3**
- 2700K - Product number + **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors: Black (BLK), White (WHT), RAL:, Bronze (BRZ), Silver (SLV), CUS:

Pole-top luminaire · Asymmetrical light distribution

	LED	A	B	C
99523	92.4 W	13½	3	26

Recommended to use with 30' to 35' poles

Available Accessories

IMS-L2	Internal motion sensor - 8' mouting height
IMS-L3	Internal motion sensor - 20' mouting height
IMS-L4	Internal motion sensor - 40' mouting height
- narrow	
IMS-L7	Internal motion sensor - 40' mouting height
- wide	
FSIR-100	Configuration tool

See individual accessory spec sheet for details.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us .com
© copyright BEGA 3018

Updated 01/17/19

CATALOG CUT - UNIT SUBSTATION

High-performance floodlight · Narrow beam **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
A large-scale high-output floodlight with mounting yoke designed to illuminate bridges, monuments, building facades or large signage. For use in ambient temperatures that do not exceed 25° C.

Materials
Clear safety glass
Marine grade copper free (≤0.3% copper content) A360.0 aluminum alloy
High temperature silicone gasket
Mechanically captive stainless steel fasteners
Stainless steel mounting yoke
Pure anodized aluminum reflector surface

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 67
Weight: 25.0 lbs.

EPA (Effective projection area): 1.3 sq. ft.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-40° C
Maximum ambient temperature	25° C
LED module wattage	124.8 W
System wattage	140.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	15096 lm
LED service life (L70)	60000 hrs

LED color temperature
- ☐ 4000K (K4)
- ☐ 3500K (K3)
- ☐ 3000K (K3)
- ☐ 2700K (K2')
- ☐ 2200K (K2)

BEGA can supply you with suitable LED replacement modules or up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors
- ☐ Black (BLK)
- ☐ Silver (SLV)
- ☐ RAL:
- ☐ Bronze (BRZ)
- ☐ White (WHT)
- ☐ CUS:

Available options
- ☐ B71109 Concentric ring louver
- ☐ B71110 Glare shield - 180°
- ☐ B79510 Glare shield - 360°
- ☐ CUS Custom finish
- ☐ FSC Fusing
- ☐ MGU Marine grade undercoat
- ☐ RAL RAL finish
- ☐ VRY Vibration resisting yoke

Available accessories
- ☐ B70761 Cross beam - 3 floodlights
- ☐ B70762 Pole cap - 2 floodlights
- ☐ B70763 Pole cap - 3 floodlights
- ☐ B70764 Pole cap - 4 floodlights
- ☐ B70765 Cross beam - 6 floodlights
- ☐ B79435 Pole cap mounting bracket
- ☐ B79550 Pole mount arm
- ☐ B79551 Wall mount arm
- ☐ B79555 Pole-top mounting hub

See individual accessory spec sheet for details.

High-performance floodlight · Narrow beam

	LED	□	A	B	C
84517	124.8 W	17°	14¼	16	6¼

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us .com
© copyright BEGA 2023

Updated 09/04/23

CATALOG CUT - LUMINAIRE 'S50N'

CATALOG CUT - PORTABLE POWER CABLE

LED large scale floodlights - wide beam distribution **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
LED high-performance floodlights for use in ambient temperatures that do not exceed 25° C with wide beam light distribution for use on bridges, large signage and facades.

Materials
Luminaire housing and constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Clear safety glass
Reflector surface made of pure anodized aluminum
High temperature silicone gasket
Mechanically captive stainless steel fasteners
3/16" stainless steel mounting yoke

NRTL listed to North American Standards, suitable for wet locations
Protection class IP67
Weight: 23.5 lbs.

EPA (Effective projection area): 1.29 sq. ft.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
Maximum ambient temperature	25° C
LED module wattage	124.8 W
System wattage	140.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	12,823 lumens (4000K)
Lifetime at Ta = 15° C	265,000 h (L70)
Lifetime at Ta = 25° C	180,000 h (L70)

LED color temperature
- 4000K - Product number + **K4**
- 3500K - Product number + **K35**
- 3000K - Product number + **K3**
- 2700K - Product number + **K27**
- 2200K - Product number + **K2**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors: Black (BLK), White (WHT), RAL:, Bronze (BRZ), Silver (SLV), CUS:

Available Accessories

71 110	180° glare shield
79 510	360° glare shield
71 109	Concentric ring louver

Mounting options

79 435	Mounting bracket for pole top Ø 3"
79 553	Pole mount canopy for 5" O.D. pole
79 554	Wall mount canopy
79 550	Pole mount arm for for 5" O.D. pole
79 551	Wall mount arm
79 555	Pole mount hub for pole top Ø 3"
70 762	Pole top for 2 floodlights
70 763	Pole top for 3 floodlights
70 764	Pole top for 4 floodlights
70 761	Cross beam for 3 floodlights
70 765	Cross beam for 6 floodlights

See individual accessory spec sheet for details.

LED large scale floodlights · wide beam

	LED	β	A	B	C
84518	124.8 W	45°	14½	16	7

β = Beam angle

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us .com
© copyright BEGA 2019

Updated 01/15/19

CATALOG CUT - LUMINAIRE 'S50W'

CATALOG CUT - LUMINAIRE 'S25'

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

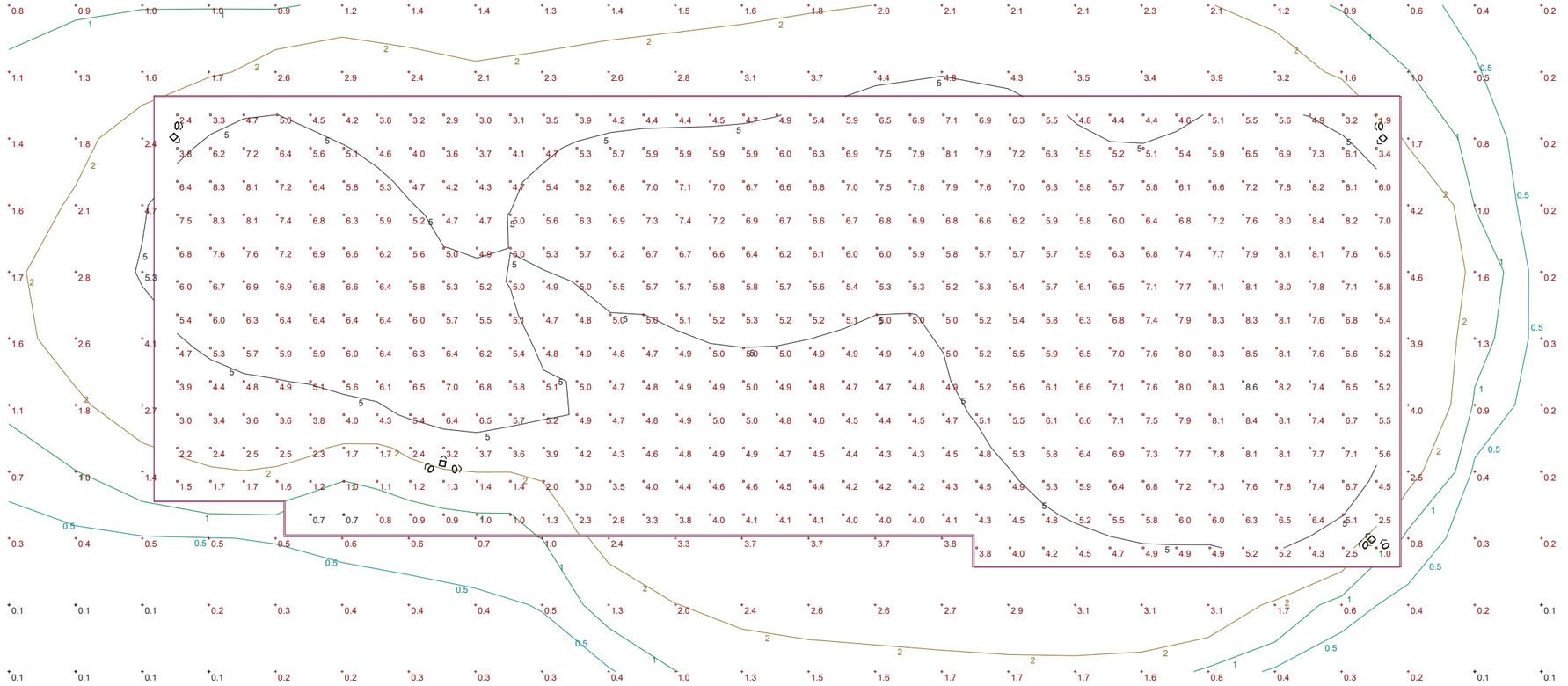
NO.	DATE	BY	REVISION

PORT OF ANACORTES

T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

ELECTRICAL DETAILS & CUT SHEETS

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023
SHEET NO.			**E-300**



PHOTOMETRIC PLAN
SCALE: 1"=10'

10' 0' 10' 10'
SCALE: 1"=10'

GENERAL NOTES:

1. VALUES SHOWN ON PLAN ARE IN FOOT-CANDLES (FC).
2. FOOT-CANDLE VALUES ARE MAXIMUM CALCULATED; WITH ALL LIGHTS 'ON'.
3. ALL LUMINAIRES ARE DIMMABLE LED TYPE.
4. LIGHT SHIELDS ARE NOT MODELED. FINAL DESIGN WILL INCLUDE SHIELDS TO LIMIT, TO THE GREATEST EXTENT POSSIBLE, LIGHT SPILLOVER BEYOND BOUNDARY OF PIER.
5. TARGET FOOT-CANDLE LEVELS ARE AN AVERAGE MINIMUM LIGHT INTENSITY OF FIVE (5) FOOT-CANDLES PER OSHA 1917.123.
6. LUMINAIRES: POLES ARE 50-FT TALL WITH BASE. EACH POLE INCLUDES ONE SECURITY LIGHT AT 25-FEET AND FLOOD LIGHTS AT 50-FEET.

COMMENTS:

1. COMMENTS FOR OPTION 'F' ARE THE SAME FOR OPTION 'E' EXCEPT, OPTION 'F' REQUIRES FEWER LUMINAIRES BUT HIGHER MOUNTING HEIGHTS.

60% SUBMITTAL

File: H:\PROJECTS\2022-005 POA T-Dock Replacement\CAD\224024.01 E-Series; Plotted: 1/2/2024 10:11 AM by KEN

HARBOR POWER ENGINEERS, INC.
ELECTRICAL ENGINEERING FOR COASTAL & WATERFRONT FACILITIES
PM: ED DAVID, PE TEL: 206.855.4600

NO.	DATE	BY	REVISION

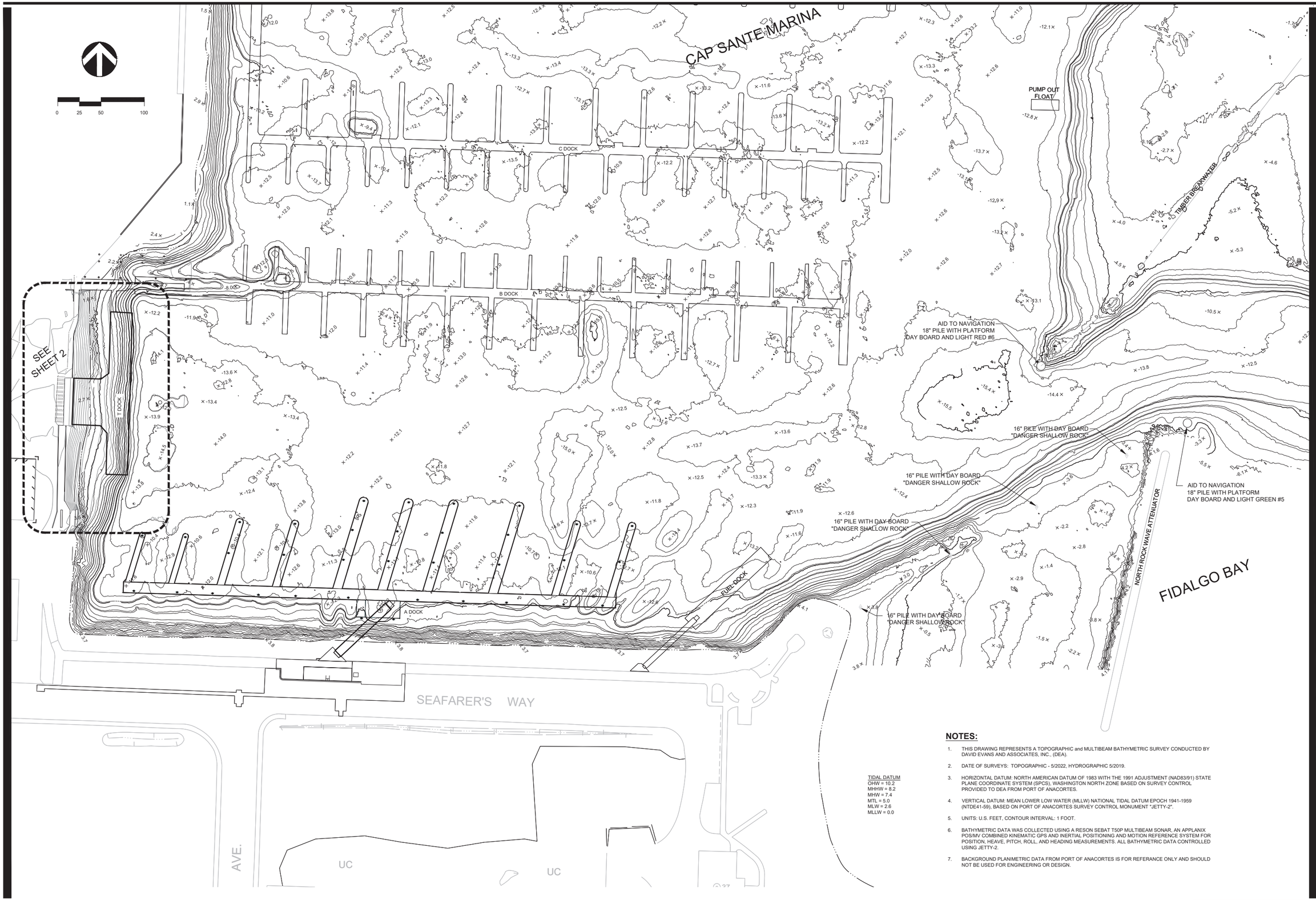
PORT OF ANACORTES

T DOCK RECONFIGUATION
PORT OF ANACORTES
PROJECT # CSM-49

PHOTOMETRIC PLAN

DRAWN:	KDD	PROJECT NO.:	224024.01
DESIGN:	EJD	SCALE:	AS NOTED
CHECKED:	EJD	DATE:	DEC 2023
SHEET NO.			

E-400



TIDAL DATUM
OHW = 10.2
MHHW = 8.2
MHW = 7.4
MTL = 5.0
MLW = 2.6
MLLW = 0.0

NOTES:

1. THIS DRAWING REPRESENTS A TOPOGRAPHIC and MULTIBEAM BATHYMETRIC SURVEY CONDUCTED BY DAVID EVANS AND ASSOCIATES, INC., (DEA).
2. DATE OF SURVEYS: TOPOGRAPHIC - 5/2022, HYDROGRAPHIC 5/2019.
3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 WITH THE 1991 ADJUSTMENT (NAD83/91) STATE PLANE COORDINATE SYSTEM (SPCS), WASHINGTON NORTH ZONE BASED ON SURVEY CONTROL PROVIDED TO DEA FROM PORT OF ANACORTES.
4. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) NATIONAL TIDAL DATUM EPOCH 1941-1959 (NTDE41-59), BASED ON PORT OF ANACORTES SURVEY CONTROL MONUMENT "JETTY-2".
5. UNITS: U.S. FEET, CONTOUR INTERVAL: 1 FOOT.
6. BATHYMETRIC DATA WAS COLLECTED USING A RESON SEBAT T50P MULTIBEAM SONAR, AN APPLANIX POSMV COMBINED KINEMATIC GPS AND INERTIAL POSITIONING AND MOTION REFERENCE SYSTEM FOR POSITION, HEAVE, PITCH, ROLL, AND HEADING MEASUREMENTS. ALL BATHYMETRIC DATA CONTROLLED USING JETTY-2.
7. BACKGROUND PLANIMETRIC DATA FROM PORT OF ANACORTES IS FOR REFERANCE ONLY AND SHOULD NOT BE USED FOR ENGINEERING OR DESIGN.

EXISTING CONDITIONS
T & A DOCK REPLACEMENT
CSM-49
PORT OF ANACORTES
ANACORTES, WASHINGTON

DAVID EVANS AND ASSOCIATES INC.
1620 W. Marine View Dr., Suite 200
Everett Washington 98201
Phone: 425.259.4099

REVISIONS: APPD.

DATE: JUNE 22, 2022
DESIGN:
DRAWN: WPC
CHECKED:
REVISION NUMBER:

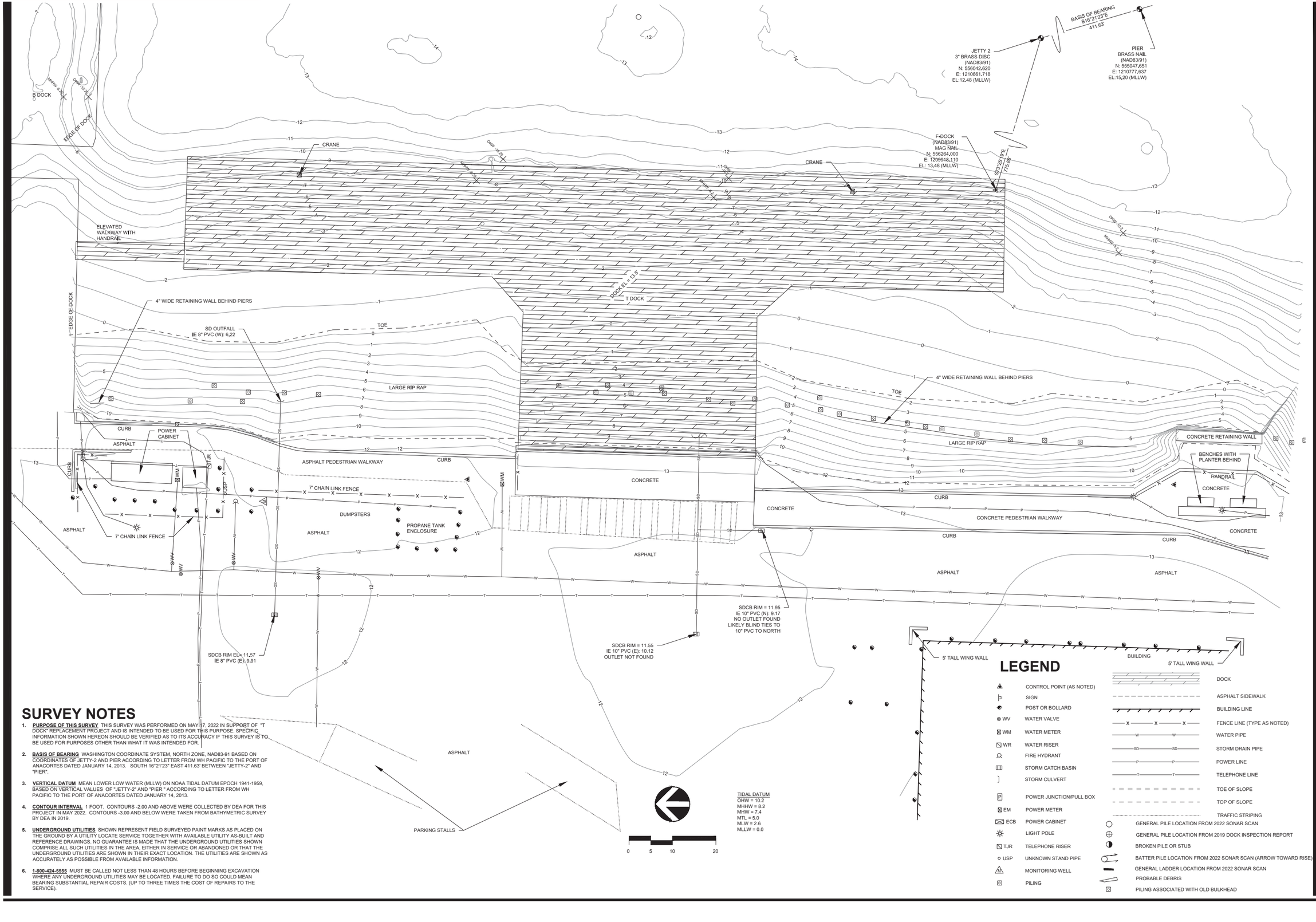
SCALE: 1"=50'

PROJECT NUMBER:
POAN0000-0017

DRAWING FILE:
Sv-tp-03-POAN0017.dwg

SHEET NO.
1
OF 3

Plot Date: 6/29/2022 12:30 PM By: Will Currie
Save Date: 6/29/2022 12:13 PM By: Wpc File: P:\P\POAN0000001\10400\CAD\SHEETS\sv-tp-03-POAN0017.dwg



SURVEY NOTES

1. **PURPOSE OF THIS SURVEY** THIS SURVEY WAS PERFORMED ON MAY 17, 2022 IN SUPPORT OF "T DOCK" REPLACEMENT PROJECT AND IS INTENDED TO BE USED FOR THIS PURPOSE. SPECIFIC INFORMATION SHOWN HEREON SHOULD BE VERIFIED AS TO ITS ACCURACY IF THIS SURVEY IS TO BE USED FOR PURPOSES OTHER THAN WHAT IT WAS INTENDED FOR.
2. **BASIS OF BEARING** WASHINGTON COORDINATE SYSTEM, NORTH ZONE, NAD83-91 BASED ON COORDINATES OF JETTY-2 AND PIER ACCORDING TO LETTER FROM WH PACIFIC TO THE PORT OF ANACORTES DATED JANUARY 14, 2013. SOUTH 16°21'23" EAST 411.63' BETWEEN "JETTY-2" AND "PIER".
3. **VERTICAL DATUM** MEAN LOWER LOW WATER (MLLW) ON NOAA TIDAL DATUM EPOCH 1941-1959, BASED ON VERTICAL VALUES OF "JETTY-2" AND "PIER " ACCORDING TO LETTER FROM WH PACIFIC TO THE PORT OF ANACORTES DATED JANUARY 14, 2013.
4. **CONTOUR INTERVAL** 1 FOOT. CONTOURS -2.00 AND ABOVE WERE COLLECTED BY DEA FOR THIS PROJECT IN MAY 2022. CONTOURS -3.00 AND BELOW WERE TAKEN FROM BATHYMETRIC SURVEY BY DEA IN 2019.
5. **UNDERGROUND UTILITIES** SHOWN REPRESENT FIELD SURVEYED PAINT MARKS AS PLACED ON THE GROUND BY A UTILITY LOCATE SERVICE TOGETHER WITH AVAILABLE UTILITY AS-BUILT AND REFERENCE DRAWINGS. NO GUARANTEE IS MADE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED OR THAT THE UNDERGROUND UTILITIES ARE SHOWN IN THEIR EXACT LOCATION. THE UTILITIES ARE SHOWN AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
6. **1-800-424-5555** MUST BE CALLED NOT LESS THAN 48 HOURS BEFORE BEGINNING EXCAVATION WHERE ANY UNDERGROUND UTILITIES MAY BE LOCATED. FAILURE TO DO SO COULD MEAN BEARING SUBSTANTIAL REPAIR COSTS. (UP TO THREE TIMES THE COST OF REPAIRS TO THE SERVICE).

LEGEND

	CONTROL POINT (AS NOTED)		DOCK
	SIGN		ASPHALT SIDEWALK
	POST OR BOLLARD		BUILDING LINE
WV	WATER VALVE		FENCE LINE (TYPE AS NOTED)
WM	WATER METER		WATER PIPE
WR	WATER RISER		STORM DRAIN PIPE
	FIRE HYDRANT		POWER LINE
	STORM CATCH BASIN		TELEPHONE LINE
	STORM CULVERT		TOE OF SLOPE
	POWER JUNCTION/PULL BOX		TOP OF SLOPE
EM	POWER METER		TRAFFIC STRIPING
ECB	POWER CABINET		GENERAL PILE LOCATION FROM 2022 SONAR SCAN
	LIGHT POLE		GENERAL PILE LOCATION FROM 2019 DOCK INSPECTION REPORT
TJR	TELEPHONE RISER		BROKEN PILE OR STUB
USP	UNKNOWN STAND PIPE		BATTER PILE LOCATION FROM 2022 SONAR SCAN (ARROW TOWARD RISE)
	MONITORING WELL		GENERAL LADDER LOCATION FROM 2022 SONAR SCAN
	PILING		PROBABLE DEBRIS
			PILING ASSOCIATED WITH OLD BULKHEAD

EXISTING CONDITIONS
T-DOCK REPLACEMENT
CSM-49
PORT OF ANACORTES
ANACORTES, WA

DAVID EVANS AND ASSOCIATES INC.
1620 W. Marine View Dr., Suite 200
Everett Washington 98201
Phone: 425.259.4099

REVISIONS: APPD.

DATE: MAY 27, 2022
DESIGN:
DRAWN: WPC
CHECKED: GJLA
REVISION NUMBER:

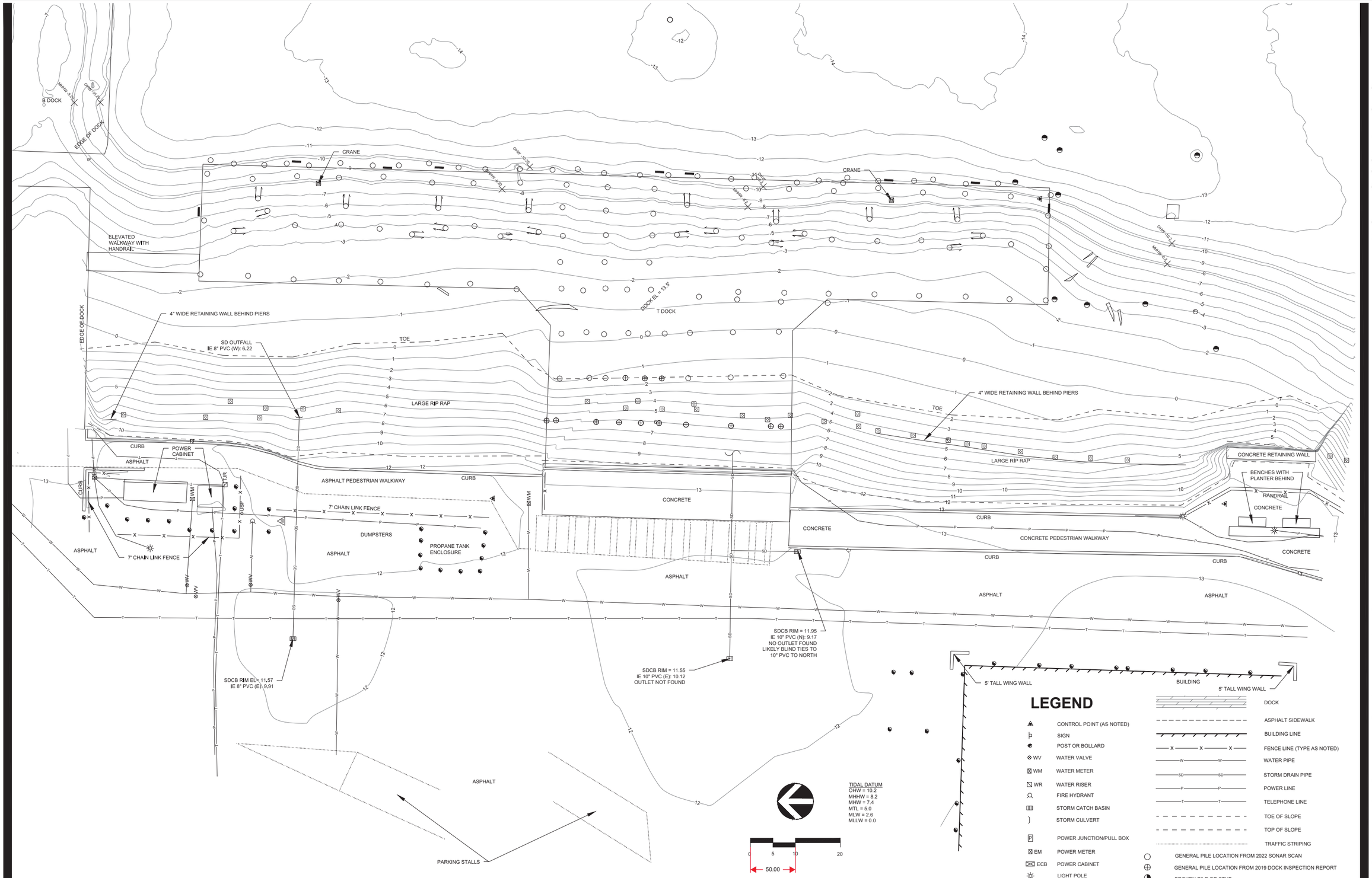
SCALE: 1"=10'

PROJECT NUMBER:
POAN0000-0017

DRAWING FILE:
Sv-tp-01-POAN0017.dwg

SHEET NO.
2
OF 3

Plot Date: 6/29/2022 12:30 PM By: Will Currie
Save Date: 6/28/2022 11:28 AM By: Wpc File: P:\P\POAN0000001704\00CAD\SHEETS\sv-tp-01-POAN0017.dwg



LEGEND

CONTROL POINT (AS NOTED)	DOCK
SIGN	ASPHALT SIDEWALK
POST OR BOLLARD	BUILDING LINE
WV WATER VALVE	FENCE LINE (TYPE AS NOTED)
WM WATER METER	WATER PIPE
WR WATER RISER	STORM DRAIN PIPE
FIRE HYDRANT	POWER LINE
STORM CATCH BASIN	TELEPHONE LINE
STORM CULVERT	TOE OF SLOPE
POWER JUNCTION/PULL BOX	TOP OF SLOPE
EM POWER METER	TRAFFIC STRIPING
ECB POWER CABINET	GENERAL PILE LOCATION FROM 2022 SONAR SCAN
LIGHT POLE	GENERAL PILE LOCATION FROM 2019 DOCK INSPECTION REPORT
TJR TELEPHONE RISER	BROKEN PILE OR STUB
USP UNKNOWN STAND PIPE	BATTER PILE LOCATION FROM 2022 SONAR SCAN (ARROW TOWARD RISE)
MONITORING WELL	GENERAL LADDER LOCATION FROM 2022 SONAR SCAN
	PROBABLE DEBRIS
	PILING ASSOCIATED WITH OLD BULKHEAD

EXISTING CONDITIONS
T-DOCK REPLACEMENT
CSM-49
PORT OF ANACORTES
ANACORTES, WA

DAVID EVANS AND ASSOCIATES INC.
1620 W. Marine View Dr., Suite 200
Everett Washington 98201
Phone: 425.259.4099

REVISIONS: APPD.

DATE: MAY 27, 2022
DESIGN:
DRAWN: WPC
CHECKED: GJLA
REVISION NUMBER:

SCALE: 1"=10'

PROJECT NUMBER:
POAN0000-0017

DRAWING FILE:
Sv-tp-01-POAN0017.dwg

SHEET NO.
3
OF 3

Plot Date: 6/29/2022 12:30 PM By: Will Currie
Save Date: 6/28/2022 11:28 AM By: Wpc File: P:\PP\POAN0000017\0400\CAD\SHEET\Sv-tp-01-POAN0017.dwg

T-Dock Reconfiguration Stormwater Minimum Requirements #1-2

Work Proposed:
Proposed work includes demolition and replacement of the aging T-Dock with a modern enlarged structure.

Overview:
The T-Dock Reconfiguration project consists of primarily in-water and over-water work. The project will have minor impacts to the uplands above OHW; approximately 2,100 sf of uplands will be affected by the reconfiguration or T-Dock. This work includes removal of the existing sidewalk and entrance ramp, demolition of the existing footing for the entrance ramp, installation of sheet piles landward of OHW for seismic stability, installation of a cast-in-place abutment, and pouring a new entrance ramp.

These actions will take place with a system of measures in-place to prevent stormwater impacts. The site will be well marked with construction fencing and wattles will be installed to prevent sediment from escaping disturbed portions of the site. Existing stormwater inlets will be protected in place during construction and a floating silt curtain will be installed for land disturbing, demolition, and pile driving actions. The selected contractor will be required to provide a spill prevention and control plan to the Port prior to work and must have a CESCL on site for all ground disturbing activities. The Port's project management team also have CESCL training and will provide additional oversight. The contract will not be permitted to store potentially hazardous materials or petroleum-based products at the site and all fueling will take place away from construction activities.

T-dock is in proximity to the Cap Sante Marine Cleanup site, a MTCA cleanup site managed by the Department of Ecology (Ecology). The Port has been in consultation with Ecology about the T-dock reconfiguration project. Ecology has approved of the project with the understanding that though the project isn't located within an area of contamination if construction activities encounter contaminated soils, then they will be handed appropriately. The project construction will be monitored for evidence of contamination. If encountered, any suspected contaminated materials will be segregated, characterized, and disposed of at an Ecology approved landfill. Ecology will be consulted if suspected contamination is encountered.

Site specific BMPs will be put in place during the construction of the reconfigured T-dock to prevent releases. The final BMPs have yet to be finalized, but these will include measures such as TESCs, having spill materials on site, a documented Spill Prevention Control and Countermeasures plan in place, and isolating the water with floating boom. Site workers will be trained to identify materials suspected of being contaminated with hydrocarbons by evidence of staining, aroma, or sheens on water. If potentially contaminated materials are encountered, they will be segregated, characterized, and appropriately disposed of at an upland landfill.

The included plans are a starting point for site specific BMPs. Once a contractor is selected and project means and methods are chosen, these will be updated to reflect the latest information.

Small Site Construction SWPPP

City of Anacortes Stormwater · 904 6th Street · Anacortes, WA 98221
Stormwater Inspector: 360-630-1037

Permit #:
Received by:

General Information

Project Name	T-Dock Reconfiguration	**Parcel Size**	acres
Project Address	1315 Q Ave (P32984)		
Property Owner	Port of Anacortes	**Phone**	360-293-3134
Site Contact	Kevin Anderson	**Phone**	360-770-5194
Project Description	The demolition and replacement of T-Dock at Cap Sante Marina. Removal of 1977 built creosote treated timber piles, timber fender piles, timber pile caps, and timber decking will be replaced with steel piles, steel or concrete pile caps, and precast concrete deck panels intended to both modernize the structure and meet seismic codes and upgraded structural load capacity. The upland work will be limited to installation of z-sheet piles for seismic requirements, a cast-in-place concrete abutment, and replacement of the sidewalk/access ramp to T-dock. The total ground disturbing activities are ~2,100 sf.		
Erosion control lead or responsible party	TBD-Port of Anacortes will act as lead until contractor is selected	**Phone**	360*293-3134
Engineer/Firm		**Phone**	

Site Conditions

Adjacent Areas: See the site plan, drainage plan, and construction drawings approved for the associated permit.

Critical areas: See the critical areas site plan approved for the associated permit.

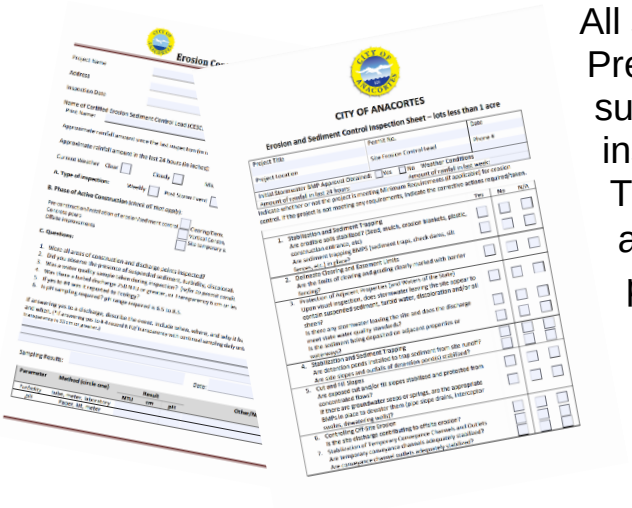
☑ Attach a copy of your stormwater site plan submitted with your building/grading permit application and attach pictures of construction site.

*Stormwater site plan shall list all BMPs for inspectors

***Add a map of where your stormwater goes from your project to the discharge site**

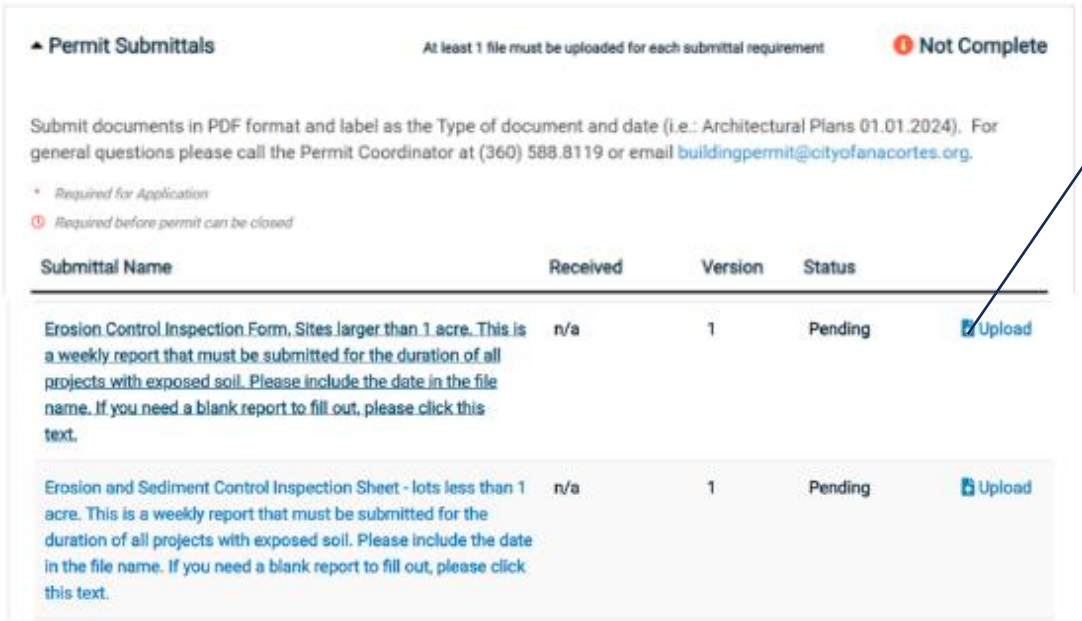
PLANNING, COMMUNITY, & ECONOMIC DEVELOPMENT DEPARTMENT
Mailing Address: P.O. Box 547, Anacortes, WA 98221
Office Location: 904 6th Street, Anacortes WA 98821
Phone: (360) 293-1901

Weekly Erosion Control Self-Inspection Reports



All sites that have a Stormwater Pollution Prevention Plan #2, 1-5 or 1-9 are required to submit a weekly erosion control/BMP monitoring inspection report through the citizen portal. These reports can be found on the city website and through the link on the submittals tab in the permitting customer portal.

Just complete the fillable PDF, save it, and then upload it with the blue upload tab.



Turning in the weekly report consistently will help keep your project on schedule and avoid unnecessary delays due to cancelled inspections.

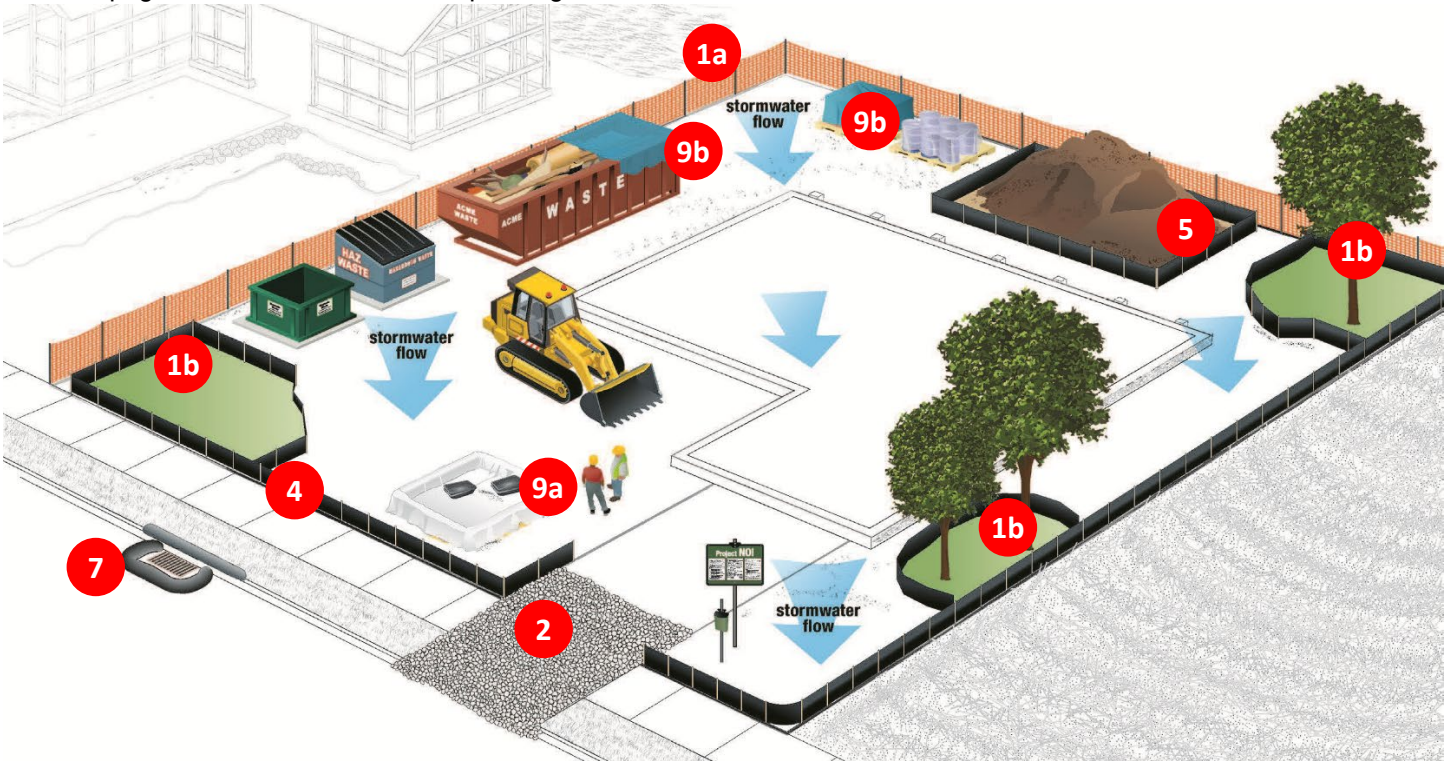
Erosion-Control-Inspection-Form--Sites-Less-Than-One-Acre-fillable-PDF (anacorteswa.gov)

Stormwater Site Inspection Form (anacorteswa.gov) (For larger sites)

We appreciate your assistance in keeping our documentation up to date.

Best Management Practices Illustration

Turn the page to see information corresponding to each numbered circle below.



About this Pollution Prevention Plan

This is Anacortes's Small Site Construction Stormwater Pollution Prevention Plan ("Construction SWPPP") intended to ensure your construction project minimizes erosion and does not contribute pollution, including sediment, to stormwater. This SWPPP is primarily intended for projects under 2,000 sq ft.

This plan uses certain Best Management Practices ("BMPs") from the Stormwater Management Manual. Some detailed descriptions are included; the remainder and additional information are available at https://fortress.wa.gov/ecy/publications/parts/1410055part4.pdf#page=27 The listed BMPs are the minimum necessary; **if erosion occurs, you must add additional BMPs as necessary to control it.**

You should include your Construction SWPPP in your contract with your builder. You must keep a copy of this SWPPP on the construction site or within reasonable access to the site for construction and inspection personnel at all times.

Property owners and contractors are responsible for ensuring all aspects of BMPs are followed, including those not shown on the detail sheets. This Construction SWPPP should be considered a living document and must be updated as needed to reflect site conditions.

1 Preserve Vegetation/Mark Clearing Limits

Before any land disturbance, including clearing and grading, **clearly mark** all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area. Retain natural vegetation in an undisturbed state to the maximum extent practical. Use these BMPs:

- C101 to preserve natural vegetation
- C102 to establish buffer zones around important vegetation you want to save
- **C103 High Visibility Fencing** to mark the boundaries of your buffers
- **C233 Silt Fence** to ensure sediment doesn't leave the site

2 Establish Construction Access

Construction vehicles can damage or compact soils, create sediment pollution, or track sediment onto public roads.

All equipment and vehicles that access the construction area **must** use an existing driveway or a stabilized construction entrance.

- Use BMP C105 Stabilized Construction Entrance wherever traffic will be entering or leaving a construction site if paved roads are within 1,000 ft of the site. Construct a 12-inch thick pad of 4-inch to 8-inch quarry spalls, a 4-inch course of asphalt treated base, or use existing pavement. Place a separation geotextile under the spalls to prevent fine sediment from pumping up into the rock pad. Install the construction entrance prior to any vehicles entering the site, at the location shown on the site plan. Create only one construction entrance per site.

- Use BMP **C103 High Visibility Fencing** to restrict traffic to the construction entrance.
- Remove any sediment that is tracked onto pavement by shoveling or street sweeping and remove the collected sediment or stabilize it on site.

3 Control Flow Rates (not shown)

Stormwater on a cleared site can create significant flows that can damage downstream properties.

Protect properties and waterways downstream of the project site from erosion and the associated discharge of turbid waters. If your project is required to control flow rates, you must use the following BMPs as shown on the approved site plan:

- C203 Water Bars
- **C209 Outlet Protection**
- **C235 Straw Wattles**

4 Install Sediment Controls

When land is cleared of vegetation, stormwater can pick up sediment, a pollutant. BMPs can prevent sediment from leaving the site.

You must install sediment controls before land disturbance to effectively minimize and control the discharge of pollutants and sediments.

Use and properly install BMP **C233 Silt Fence.** You *must* bury the filter fabric as shown in the diagram in order for the BMP to be effective. You *must* repair the silt fence if it is damaged.

Consider the following additional BMPs:

- C231 Brush Barrier
- C232 Gravel Filter Berm
- **C234 Vegetated Strip**
- **C235 Straw Wattles**

Note that C230 Straw Bale Barrier is no longer an approved BMP.

5 Stabilize Soils

Leaving soils devegetated or exposed needlessly creates erosion and sediment problems.

- Stabilize all exposed soils whenever construction work will stop for more than two days at a time during the wet season (October 1 to April 30) or 7 days the rest of the year (the dry season).
- Stabilize all exposed soils at the end of the shift before a holiday or weekend.
- Stabilize all exposed soils with either vegetation, mat coverings, mulching, or in those areas to be paved, a compacted base material.
- Use BMP C123 Plastic Covering over all stockpiles with plastic or burlap if left unworked. Place sand-filled burlap or geotextile bags every 3 to 6 ft along seams and tie them together with twine to hold them in place.
- If you excavate soil for the foundation, backfill that soil against the foundation and grade it to drain away from the building. Once the disturbed landscape areas are graded, you must seed or sod the grass areas.

Consider the following additional BMPs:

- C120 Temporary and Permanent Seeding
- C121 Mulching
- C122 Nets and Blankets
- C124 Sodding
- C125 Topsoiling/Composting
- C131 Gradient Terraces
- C140 Dust Control

6 Protect Slopes (not shown)

Slopes can be especially vulnerable to erosion, but BMPs can mitigate sediment problems.

Design and construct cut-and-fill slopes to minimize erosion. Use the following practices:

- Reduce continuous length of slope with terracing and diversions
- Reduce slope steepness
- Roughen slope surfaces
- Use BMP C123 Plastic Covering over all exposed slopes
- Use BMP C120 Temporary and Permanent Seeding as soon as possible on exposed slopes

Manage off-site stormwater (run-on) separately from stormwater generated onsite. Divert off-site stormwater or groundwater away from slopes and disturbed areas with interceptor dikes, pipes, or swales.

You may not create cut slopes over 4 feet high or slopes steeper than 2 feet horizontal to 1 foot vertical. Fill slopes may not exceed 4 feet high or 3 feet horizontal to 1 foot vertical. Slopes that exceed these criteria require engineering.

Consider the following additional BMPs:

- C121 Mulching
- C122 Nets and Blankets
- C124 Sodding
- C203 Water Bars
- C208 Triangular Silt Dike (Geotextile-Encased Check Dam

7 Protect Drain Inlets

Storm drains are designed to collect and transport clean stormwater, not water contaminated with sediment or other pollutants. Storm drain inlets must be protected so that runoff does not enter the

stormwater system without first being filtered or treated or both.

- Use BMP **C220 Storm Drain Inlet Protection** to protect all proposed and existing storm drain inlets during construction so that stormwater runoff does not enter the stormwater conveyance system without first being filtered or treated (or both) to remove sediment or other pollutants.
- Clean or remove and replace inlet protection devices when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).
- Keep all approach roads clean.
- Do not allow sediment and street wash water to enter storm drains without treatment.

8 Stabilize Channels and Outlets

Stormwater channels and outlets can themselves erode unless stabilized with rock or other armoring.

Design, construct, and stabilize all on-site conveyance channels to prevent erosion as needed. Use BMP **C209 Outlet Protection** to provide stabilization, including armoring material adequate to prevent erosion of outlets, adjacent streambanks, slopes, and downstream reaches at the outlets of all conveyance systems.

Consider the following additional BMPs:

- C122 Nets and Blankets
- C202 Channel Lining

9 Control Pollutants

Waste materials, demolition debris, and other pollutants that occur onsite during construction can contaminate the stormwater system unless managed. Cement and related products can modify the pH of stormwater.

Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.

Anytime you pour concrete, perform washout of the concrete trucks following BMP C154 Concrete Washout Area at designated washout areas only. Locate washout areas at least 50 ft from sensitive areas such as storm drains, open ditches, or water bodies, including wetlands.

Clean contaminated surfaces immediately following any spill incident. Apply fertilizers and pesticides in a manner and at rates that will not result in loss of chemical via stormwater runoff.

Use the following additional BMPs:

- C151 Concrete Handling
- C152 Sawcutting and Surfacing Pollution Prevention
- C153 Material Storage, Delivery, and Containment

10 Control De-Watering (not shown)

De-watering water extracted from foundations, vaults, or trenches, has similar characteristics to stormwater runoff at the site and can cause the same impacts unless properly managed.

You may discharge clean, non-turbid de-watering, such as well-point ground water, to systems that are tributaries to, or directly into, surface waters if the de-watering flow does not cause erosion or flooding or interfere with the operation of the stormwater system.

Use the following BMPs:

- **C220 Storm Drain Inlet Protection**
- C236 Vegetative Filtration

11 Maintain BMPs (not shown)

All temporary and permanent erosion and sediment control BMPs must be maintained and repaired as needed to assure continued performance of their intended function.

During the dry season, inspect sediment control BMPs weekly or after a runoff-producing storm event. During the wet season, inspect BMPs daily. Use BMP C150 Materials on Hand to ensure you are ready for a heavy rain.

All temporary erosion and sediment control BMPs must be removed within 30 days after the City determines that the site is stabilized or after the temporary BMPs are no longer needed. Trapped sediment must be removed or stabilized on site. Disturbed soil areas resulting from removal of BMPs or vegetation must be permanently stabilized.

12 Manage the Project (not shown)

Phasing a project, especially when revegetation occurs as part of each phase, can help prevent the transport of sediment from the site.

- Fully implement this Construction SWPPP at all times.
- Modify this Construction SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to waters of the state.
- Inspect, maintain, and repair all BMPs as needed to ensure continued performance of their intended function.

13 Protect Low-Impact Development BMPs

Low-Impact Development techniques can be damaged if they are compacted or accumulate sediment during construction.

If there are any Low-Impact Development BMPs planned for the site:

- Use BMP **C103 High Visibility Fence** to exclude all construction and foot traffic from the infiltration, bio-retention, or rain garden areas.
- Protect all infiltration areas or bio-retention and rain garden BMPs from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into those areas.
- Use BMP **C233 Silt Fence** or **C234 Vegetated Strip** to control and avoid introducing sediment onto permeable pavements. Bury the bottom of the filter fabric at least 4 inches below the ground surface. **Backfill and tamp soil in place over the buried portion of the filter fabric, so that no flow can pass beneath the fence and scouring cannot occur.** Drive or place the fence posts into the ground at least 18 inches. A 12-inch minimum depth is allowed if topsoil or other soft subgrade soil is not present and 18 inches cannot be reached.
- If pavements are fouled with sediments or no longer pass an initial infiltration test, clean them using procedures from the Stormwater Manual or the manufacturer's procedures.

Consider the following additional BMPs:

- C102 Buffer Zones
- C208 Triangular Silt Dike
- C231 Brush Barries

****

I acknowledge that I have read the information presented to me and agree to abide by the BMP rules.

Kevin Anderson _____

Printed name **Signature**

5/10/24

Date

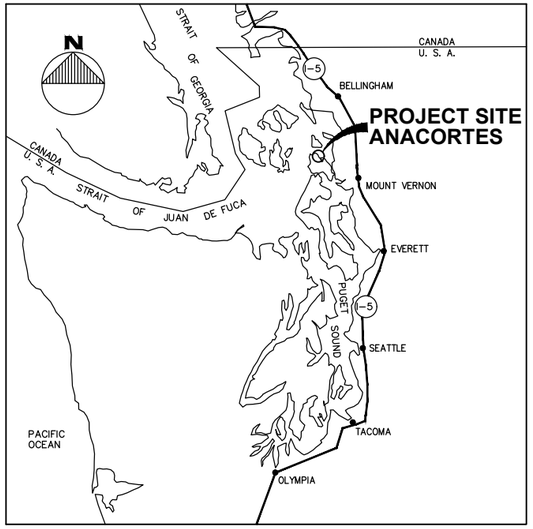
****

PORT OF ANACORTES

T DOCK RECONFIGURATION

ANACORTES, WA

PROJECT #CSM-49



VICINITY MAP

DITAL DATUM:
ELEVATION DATUM FOR THIS PROJECT IS 0.0 FT. MEAN LOWER LOW WATER (MLLW)

TIDAL DATUM PLANE – ANACORTES, GUEMES CHANNEL, SKAGIT COUNTY (FROM WASHINGTON DEPARTMENT OF ECOLOGY)

HIGHEST RECORDED TIDE: ESTIMATED (EHW)	11.00 FT.
ORDINARY HIGH WATER (OHW)	10.20 FT.
MEAN HIGHER HIGH WATER (MHHW)	8.20 FT.
MEAN HIGH WATER (MHW)	7.40 FT.
MEAN (HALF) TIDE LEVEL (MTL)	5.00 FT.
MEAN SEA LEVEL (MSL)	4.42 FT.
MEAN LOW WATER (MLW)	2.60 FT.
MEAN LOWER LOW WATER (MLLW)	0.00 FT.
LOWEST RECORDED TIDE: ESTIMATED (ELW)	−4.50 FT.

CAP SANTE MARINA
(AERIAL IMAGE FROM 8/15/2020)

No.	SHEET TITLE
G-100	COVER SHEET AND SHEET INDEX
G-200	EXISTING SITE PLAN
G-201	NEW SITE PLAN
D-101	DEMOLITION PLAN
D-102	DEMOLITION SECTIONS 1 OF 2
D-103	DEMOLITION SECTIONS 2 OF 2
S-101	NEW GENERAL ARRANGEMENT PLAN
S-102	NEW PILE AND CAP PLAN
S-103	NEW SECTIONS 1 OF 2
S-104	NEW SECTIONS 2 OF 2
S-201	PILE SCHEDULE AND DETAILS
S-202	PILE CAP DETAILS
S-203	PILE-TO-CAP CONNECTION DETAILS
S-301	PRECAST CONCRETE PANEL AND CIP CONCRETE PLAN
S-302	PRECAST CONCRETE PANEL DETAILS
S-401	FENDER DETAILS
S-402	BULLRAIL DETAILS
S-403	LADDER DETAILS
M-101	WATER SUPPLY DETAILS 1 OF 2
M-102	WATER SUPPLY DETAILS 2 OF 2
E-000	SYMBOLS AND ABBREVIATIONS
E-100	ELECTRICAL SINGLE LINE WIRING DIAGRAM
E-101	ELECTRICAL SINGLE LINE WIRING DIAGRAMS – UNIT SUBSTATIONS
E-200	ELECTRICAL DEMOLITION PLAN
E-201	ELECTRICAL SITE PLAN
E-300	ELECTRICAL DETAILS & CUT SHEETS
E-400	PHOTOMETRIC PLAN
CP-XXX	CATHODIC PROTECTION SHEETS (TBD)

INCLUDED FOR REFERENCE:
SURVEY DRAWINGS PROVIDED BY DAVID EVANS AND ASSOCIATES, JUNE 22, 2022. SHEETS 1 THRU 3 OF 3.
SURVEY 1 OF 3
SURVEY 2 OF 3
SURVEY 3 OF 3

60% SUBMITTAL

K:\2022\224024.01 T-Dock\60% Submittal\224024-G-100.dwg
1/2/2024 12:37 PM

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

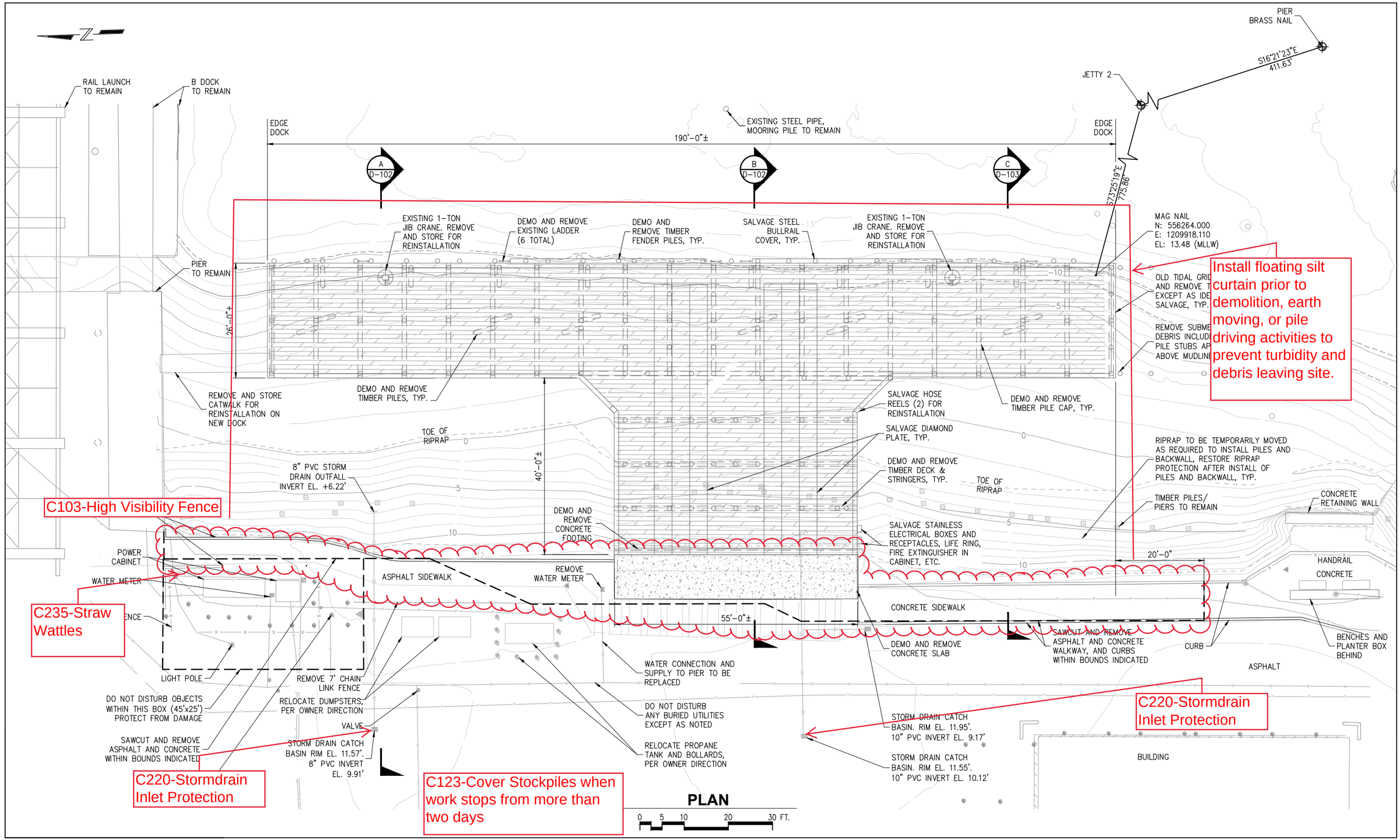
NO.	DATE	BY	REVISION

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

COVER SHEET AND SHEET INDEX

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	JAN 2024
SHEET NO.			

G-100



60% SUBMITTAL

12/27/2023 10:03 AM K:\2022\224024.01 T-Dock\60% Submittal\224024-D-101.dwg

PND ENGINEERS, INC.
3240 Eastlake Avenue E
Seattle, Washington 98102
P: 206.624.1387
www.pndengineers.com

NO.	DATE	BY	REVISION

PORT OF ANACORTES Est. 1878

T DOCK RECONFIGURATION
PORT OF ANACORTES
PROJECT # CSM-49

DEMOLITION PLAN

DRAWN:	WLE	PROJECT NO.:	224024.01
DESIGN:	JDO	SCALE:	N/A
CHECKED:		DATE:	JAN 2024
SHEET NO.			

D-101

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

City of Anacortes
Planning, Community & Economic Development Department
904 6th Street
Anacortes, WA 98221

June 7, 2023

Re: Port of Anacortes T Dock Reconfiguration Project – Cap Sante Marina; Fish and Wildlife Habitat Conservation Areas Assessment and Report

Dear City of Anacortes Planning Staff,

This letter is being provided for the Port of Anacortes (Port) T Dock Reconfiguration Project to verify compliance with the critical areas code within the City of Anacortes (City) Shoreline Master Program (SMP). As part of the permitting process, the Port has prepared a Habitat Improvement Plan (HIP) and verification of compliance with the list of requirements as part of the National Marine Fisheries Service (NMFS) Salish Sea Nearshore Programmatic (SSNP) several ESA species and critical habitats were addressed. The federal permitting documents specifically address the potential direct impacts to each of the listed species, the HIP also provides an analysis of the potential impacts to critical habitat for numerous species and an Essential Fish Habitat (EFH) addressing coastal pelagic and groundfish. The HIP and JARPA for the project also provide a detailed description of the existing habitat, the ecological functions provided by the habitat, and the potential impact of the project on the habitat and functions.

Although the existing federal permitting documents provide a detailed analysis of the impacts of the project on the existing habitat and functions associated with ESA listed species, it does not address all the elements of the Fish and Wildlife Habitat Conservation Areas section in the City's SMP. Section 6.6 of the SMP provides general polices and regulations for the protection of unique, rare, and fragile environments from impacts associated with proposed development. These environments include wetlands and Fish and Wildlife Habitat Conservation Areas (as defined in Section 6.7 of the SMP and Appendix A – Section A-5). The purpose of this letter is to provide responses to the development regulations listed in the Fish and Wildlife Habitat Conservation Areas and critical areas regulations within Section 6.7 of the SMP that are were not covered in the HIP. Specifically, this letter will address the potential impacts of the project on specific critical saltwater habitat that is not addressed as part of the ESA consultation with the federal agencies. The HIP was submitted as part of the permitting package for completeness.

Based on the existing level of disturbance and location of the proposed project (within the Cap Sante Marina), the only critical area that the project could possibly impact is critical saltwater habitat. Critical saltwater habitat is identified in the SMP Guidelines, WAC 173-26-221(2)(iii) and includes kelp beds, eelgrass beds, herring spawning and holding areas, smelt and sand lance

spawning and holding areas, subsistence, commercial and recreational shellfish beds, mudflats, other intertidal habitats with vascular plants, juvenile salmonid migration corridors, rock sole spawning beds, rockfish settlement and nursery areas, and lingcod settlement and nursery areas. In addition, it is important to give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish stocks, such as salmon, some of which are classified as "Threatened" under the Endangered Species Act.

The proposed project will occur within an active marina, and the entire project area has been historically developed to maintain the use of the marina. As a result of the historic development and existing level of disturbance, the proposed project has little potential to impact critical saltwater habitat. This is based on the fact that the majority of these areas are not present within or adjacent to the project area. Each of the areas are listed below along with an assessment of whether these areas are within or adjacent to the project area. A detailed description of the existing conditions within the project area is provided in JARPA, HIP, and the shoreline survey for the project.

- **Kelp beds** – There are no kelp beds located within or adjacent to the project area. The proposed project will result in no net loss of ecological function and values associated with kelp beds.
- **Eelgrass beds** – There are no eelgrass beds within the project area. An eelgrass survey of the project area was completed in summer 2022, and the shoreline survey and eelgrass/macroalgae report is included in the permitting package. The substrates located below approximately 0 ft MLLW within the project area are suitable for eelgrass establishment; however, the existing disturbances, debris, and turbidity likely restrict establishment. There are eelgrass beds within the eastern portion of the Cap Sante Marina, within the proximity of the proposed location where the LWD will be installed. However, there is no potential for these beds to be disturbed by the placement of the LWD due to the elevation of each (LWD above +5 ft MLLW and eelgrass below 0 ft MLLW). Based on the gradual slope of the shoreline, no eelgrass is present within 300 ft of the proposed LWD placement. The proposed project will result in no net loss of ecological function and values associated with eelgrass beds.
- **Herring spawning and holding areas** – The shoreline survey indicated that there is no herring spawning and holding areas within or adjacent to the project area. The nearest identified herring spawning area is located just south of the mouth of Cap Sante Marina; however, recent surveys from WDFW indicate that the use of this portion of Fidalgo Bay is low. As a result, the proposed project will result in no net loss of ecological function and values associated with herring spawning and holding areas.
- **Smelt and sand lance spawning and holding areas** - The shoreline survey indicated that there is no smelt or sand lance spawning and holding areas within or adjacent to the project area. The nearest identified smelt and sand lance spawning area is located just south of the mouth of Cap Sante Marina; however, recent surveys from WDFW indicate that the use of this portion of Fidalgo Bay is low. As a result, the proposed project will result in no net loss of ecological function and values associated with smelt and sand lance spawning and holding areas.
- **Subsistence, commercial and recreational shellfish beds** – The proposed project will occur within the Cap Sante Marina. There is no subsistence, commercial and recreational

shellfish beds within the project area. The proposed project will result in no net loss of ecological function and values associated with subsistence, commercial and recreational shellfish beds.

- **Mudflats** – The proposed project will occur within the Cap Sante Marina. The shoreline within the project area consists of steeply, sloped riprap extending from above the OHWM down to a depth of 0 ft MLLW. Below that elevation, the habitat is considered mudflats with cobble and debris consistent with an active marina. The only disturbance to the mudflats would be associated with the pile removal and installation. The only other substrate disturbance would be associated with the removal of riprap at the top of the bank, above +8.0 ft MLLW. The installation of the LWD structures will result in the placement of logs with rootwads that will be anchored with screw anchors (or similar anchor). This will occur between OWHM and 5 ft MLLW. At this location (northeast portion of the marina), the substrates consist of gravel and cobble down to approximately 4-5 ft MLLW. The placement of the LWD will occur immediately landward of the mudflats and will enhance the quality of the intertidal habitat. The proposed project will result in no net loss of ecological function and values associated with mudflats.
- **Other intertidal habitats with vascular plants** – At T Dock, the only portion of the intertidal habitat with vascular plants are the piles and the riprap slope, although both provide poor quality habitat. The existing piles will be removed and replaced with a smaller number of piles and the proposed project will not alter the riprap. The impacts of the removal of pile will not result in any adverse impact on vascular plants. The LWD structures will be installed along a portion of shoreline with saltmarsh vegetation. The installation of the LWD structures will occur adjacent to the saltmarsh; however, no anchors or structures will be placed within the saltmarsh vegetation. The proposed project will result in no net loss of ecological function and values associated with intertidal habitats with vascular plants.
- **Juvenile salmonid migration corridors** – The Cap Sante Marina does not provide quality juvenile salmonid migration corridors. This is due to the distance from natal rivers and the existing level of use and configuration of the marina basin. The impacts to juvenile salmonid migration corridors is expected to be minimal due to the lack of quality habitat at the project location that would be favorable to juvenile salmonids. The existing shoreline currently lacks habitat complexity and consists of riprap slope. The increase in overwater coverage is expected to reduce the quality of habitat within the marina for juvenile salmonids migrating through the marina; however, the change from the existing conditions is negligible. Juvenile fish species migrating through the marina are expected to utilize the shallow water portions of the shoreline, which is significantly degraded based on the existing riprap slope. The removal of creosote timber piles and structure will also improve the water quality within the marina. Creosote piles continually leach contaminants into the aquatic environment, and removal will help increase the water quality within the marina. The final migration action will occur within the northeast portion of the marina in order to provide aquatic habitat for migrating fish species. The marina basin provides limited habitat for fish species and the LWD structures will be installed within a portion of the basin with riprap along the shoreline. The proposed project will result in no net loss of ecological function and values associated with juvenile salmonid migration corridors.

- **Rock sole spawning beds** - There are no rock sole spawning beds within or adjacent to the project area. The proposed project will result in no net loss of ecological function and values associated with rock sole spawning beds.
- **Rockfish settlement and nursery areas** - There is no rockfish settlement and nursery areas within or adjacent to the project area. An assessment on ESA listed rockfish is provided in the HIP. The proposed project will result in no net loss of ecological function and values associated with rockfish settlement and nursery areas.
- **Lingcod settlement and nursery areas** - The environmental baseline condition within the project area indicated that there is no lingcod settlement and nursery areas within or adjacent to the project area. The proposed project will result in no net loss of ecological function and values associated with lingcod settlement and nursery areas.
- **Species listed as "Threatened or Endangered" under the Endangered Species Act** – The potential impacts on species listed as "threatened" under the endangered species act was analyzed in detail in the HIP. This analysis also addressed associated critical habitat for the species. The effects determination for the species and critical habitat were either *no effect* or *may affect, not likely to adversely affect*. A detailed discussion of the effects of the project on "threatened or endangered" species and critical habitat are provided in the HIP.

In addition, this letter will provide responses to the development regulations within the Fish and Wildlife Habitat Conservation Areas ensuring that the proposed project meets these regulations. The regulations and responses are presented below.

C. Development Regulations

DR-6.7.1. *- Water-dependent development and uses, including marinas, docks, piers, mooring areas, underwater parks, utility crossings, and shoreline modifications, shall not intrude into or be built over critical saltwater habitat unless the applicant can show that all of the following criteria can be met:*

a. The use preference listing in RCW 90.58.020 for uses in Shoreline of Statewide Significance shall be adhered to.

The proposed T Dock replacement will adhere to the use preference listing in RCW 90.58.020. The list of use preference's are provided below

(1) Recognize and protect the statewide interest over local interest;
Both statewide and local interests will be positively impacted by the proposed project. T Dock serves as the Port's primary commercial dock for loading and unloading commercial vessels. The reconfiguration will ensure the continued safe use and operation of the dock and reduce the congestion within the marina and upland parking areas adjacent to T dock. The reconfiguration will ensure that the existing use of the dock stays within Cap Sante Marina and does not relocate to another location, supporting the local and regional maritime industry. These users provide benefits throughout the northern Puget Sound by maintaining economic activity.

(2) Preserve the natural character of the shoreline;
The proposed project will occur within an active marina. The existing shoreline consists of a steep riprap slope. The proposed project will have no impact on the existing shoreline, thus will preserve the existing character of the shoreline.

(3) Result in long term over short term benefit;
T Dock is currently heavily utilized for commercial, fishing, and private use, and the current dock is outdated and is approaching the end of its useful life both functionally and structurally. The proposed project will completely remove and reconfigure the existing T Dock in order to ensure the continued safe use of the dock and support future user requirements. Without upgrades, users may be forced to relocate, resulting in additional strain on other facilities or construction of new facilities elsewhere. Upgrading existing facilities, within historically developed aquatic environments, minimizes overall regional impacts. This proposed project will result in long term benefits as it will ensure that the existing uses are maintained, and no additional impacts occur.

(4) Protect the resources and ecology of the shoreline;
The proposed project will have no adverse impacts on the existing resources and ecology of the existing shoreline within the marina. The proposed project will occur adjacent to a steep riprap shoreline within an active marina, which provides limited resources and ecological functions. The proposed dock replacement will not alter the shoreline within the marina, and the potential for impacts will be further minimized by installing the dock further waterward of the MHHW. The potential impacts associated with the increase in overwater coverage will be offset by the removal of creosote treated timber and pile and the installation of LWD structures within the northeastern portion of the marina. The installation of LWD would result in an increase in resources and shoreline functions. Overall, with the installation of LWD structures will protect the resources and ecology of the shoreline.

(5) Increase public access to publicly owned areas of the shorelines;
T Dock is located on the southwestern portion of the marina. T Dock was constructed in 1977 and is an aged creosote timber dock structure that supports commercial marine activities at Cap Sante Marina. The purpose and need for the replacement of T Dock would be to ensure the continued safe use of the dock while increasing structural capacity, work area, and dock access. Additionally, the proposed replacement of T Dock is required to meet the needs of current and future user groups for the dock and reduce the unsafe bottleneck associated with the narrow entrance to the dock. T Dock is the only dock within the marina with the ability to load and unload vessels. Currently, trucks are backed onto T Dock on the existing steel diamond plates for loading and unloading of gear or commercial goods. Further, the reconfiguration T Dock will continue to provide access to the marina and surrounding aquatic resources. The proposed dock replacement will result in increase in public safety during the loading and unloading of vessels.

(6) Increase recreational opportunities for the public in the shoreline;
As stated above, the overarching goal of the project is to maintain existing user needs and support future user requirements. The project does not propose any change to the existing uses.

T Dock has been, and will continue to be, an important and heavily used commercial dock at the marina. It supports local commercial fishing fleets and marine contractor vessels. Currently, use of the existing T Dock is at capacity and causes delays and congestion (aquatic and upland), and based on the marina's geographic location, it is not anticipated to decrease. The existing T Dock structure is exhibiting substantial wear and tear with failing structural elements as well as a highly restricted configuration. The proposed project will both maintain the existing utilization of the T Dock but will increase future opportunities by upgrading the facility to meet future needs.

b. The public's need for such a structure is clearly demonstrated and an alternative alignment or location on the applicant's property that would avoid impacts to critical saltwater habitats is not feasible or would result in unreasonable and disproportionate cost to accomplish the same general purpose. An alternatives analysis will be required for any non–exempt project proposed within FWHCAs. The analysis should include in part, shoreline bathymetry, shoreline features at the site, and substrate composition.

The existing T Dock facility, originally constructed in 1977 as a commercial load and offload facility and is aging and nearing the end of the structure's useful life. The Port proposes to replace T Dock with a modern, highly capable, and serviceable dock. The Port prepared a Basis of Design Memorandum summarizing the planning process to date and describe the various operational, design, and environmental factors that were considered while designing the in-water and shoreline elements of this project. In planning and designing the project, the Port worked collaboratively with a variety of stakeholders to identify existing T Dock needs and develop a more operationally functional configuration. The existing design was based on the extensive public outreach process as well as consideration for potential adverse impacts to the aquatic environment.

c. The project is consistent with the state's interest in resource protection and species recovery.

The proposed project has avoided and minimized the impacts to the extent possible.

d. Impacts to critical saltwater habitat functions are mitigated to result in equal or better ecological function.

The potential impacts to specific elements of the critical saltwater habitat was described in detail above. Overall, the proposed project does not have the potential to result in a net loss of ecological functions and values. This is due to the lack of habitat within the project area. The potential impacts of the proposed project have been avoided and minimized by nature of where the proposed project will occur. The Cap Sante Marina is a heavily utilized marina and the portion of the marina where the T Dock is located has been historically modified and continually maintained. The shoreline consists of riprap from the top of the bank to a depth of between 0 ft MLLW. The riprap transitions to a mudflat to a depth of approximately -11 ft MLLW at the waterward edge of the existing T Dock. The marina basin waterward of T Dock has been dredged to a depth of -12 ft to -14 ft, and there is no eelgrass or macroalgae present on the soft bottom. Based on these factors, the proposed T Dock reconfiguration will occur within a portion of the aquatic environment that

is providing a low level of habitat functions and values and fish species. As a result, fish and wildlife species are expected to avoid this portion of the marina. Overall, the proposed T Dock will result in minimal impacts to the aquatic environment. The following write-up provides additional project elements to ensure no net loss of ecological functions and values.

The potential impacts of the proposed project are associated with the increase of overwater coverage (~5,400 sq ft of new pier supported overwater coverage; concrete deck). The impacts associated with the proposed T Dock reconfiguration will be mitigated for by:

- The removal of the existing T Dock (~7,175 sq ft of overwater coverage).
- Removal of existing creosote from the aquatic environment; entire deck and substructure (~239 cubic yards).
- Removal of pressure treated fender piles (29).
- Removal of 115 creosote treated piles up to 16-inches in diameter (~95 cubic yards).
- Installing ten (10) large woody debris (LWD) structures in the northeast portion of the CSM. LWD would consist of 16-20 ft logs with rootwads (18-30-inch diameter) anchored with screw anchors and cables.

The existing shoreline consists of riprap, and the marina basin has been dredged to a depth of -12 to -14 feet. Therefore, the proposed project will occur within a portion of the aquatic environment that is already highly altered and is providing low levels of habitat function, value, or presence of fish species. Potential adverse impacts associated with the dock replacement and increase in overwater coverage will be further mitigated for by the following conservation measures and BMPs:

- Proposed work will not begin prior to obtaining all necessary local, state, and federal permits and/or approvals.
- Work will begin only after the in-water work window for the area opens, to avoid key migration periods for protected aquatic species.
- All cast in place concrete work associated with the reconfigured dock will occur in the dry and will be allowed to fully cure prior to inundation. All other concrete will be precast offsite and delivered to the site.
- A containment basin or other suitable positive means of capturing debris from demolition operations will be provided to keep debris from entering the waterway. Containment measures must be in place and approved prior to starting demolition.
- Pile extraction will be accomplished with a vibratory hammer to the maximum extent practicable.
- Pile will be gripped above the waterline, and work will be completed during low water and low current conditions to the maximum extent practicable.
- Pile will not be intentionally broken by twisting or bending.
- Pile will be lifted slowly from the sediment and through the water column placed on a barge deck, dock, or shoreline.

- If for any reason a pile needs to be cut, it will be cut at or near the mudline, or below the mudline if necessary to facilitate possible future dredging. The location of the cut off pile will be recorded using a hand-held GPS unit.
- Creosote-treated wood piles will be disposed in an approved upland disposal facility.
- Installation of sheet pile wall above the existing OHW will occur in the dry.
- Any riprap relocated to allow for the installation of pile along the shoreline will be replaced in roughly the same location. Rock will be retained on the riprap slope.
- Construction barges will be staged in areas of sufficient water depth so as to not ground out during low water conditions.
- For pile driving activities, vibratory pile driving will be used to the extent possible. A bubble curtain will be used during all impact pile proofing.
- Pile sizes have been minimized to the smallest diameter necessary to achieve seismic and dock loading requirements.
- When possible, construction at the top of the bank will be performed in the dry, landward of MHHW line along the shoreline.
- The selected contractor shall comply with all state water quality standards and use standard marine BMPs throughout construction. These BMPs will include the maintenance of vessels and equipment to avoid leaks and spills into surface waters and the avoidance of allowing construction debris from entering U.S. waters when conducting shoreline or in-water work. A Spill Prevention, Control, and Countermeasures (SPCC) plan and erosion control BMPs will be required during the work for the abutment and covered shelter dock entrance area improvements to minimize dust, soil, and construction debris from entering surface waters.
- Construction equipment will be inspected daily for fluid leaks. Any leaks detected will be repaired before resuming construction.
- No discharge of waste materials to surface water will occur as part of this project. Collected debris will be removed from the water and disposed of at an appropriate upland facility.
- Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc. shall be checked regularly for drips or leaks and shall be maintained and stored properly to prevent spills into state waters. Proper security shall also be maintained to prevent vandalism.
- Additional BMPs and conservation measures, required or specified during the permitting process as the Port works and coordinates with the applicable resource agencies, will also be adhered to.

The proposed project will adhere to the conservation measures and requirements developed by NMFS to allow the project to utilize the SSNP.

Potential adverse impacts associated with the dock replacement will be mitigated for by the removal of the existing creosote structure and associated creosote pile and the installation of large woody debris (LWD) structures in the northeast portion of the Cap Sante Marina. The potential

mitigation need for the proposed project was calculated utilizing the SSNP, which resulted in a mitigation need of 1.93 dsays. There is no opportunity to insert the number of LWD into the calculator to ensure sufficient mitigation is being provided. Rather the Port is proposing to install a total of ten (10) LWD structures that will be installed over approximately 6,000 square feet. This level of mitigation is consistent with the recent permitting of the A Dock reconfiguration. The A Dock reconfiguration is located immediately south of T Dock and resulted in an overall increase in overwater coverage of approximately 7,000 square feet and the mitigation for that project consists of the placement of twelve (12) LWD structures in the northeast portion of the Cap Sante Marina. The total number of LWD structures was based on the successful permitting of the A Dock reconfiguration and the similar conditions at each of the project locations resulting in similar overall impacts.

The removal of creosote timber piles will improve water quality impacted within the marina. Creosote piles continually leach contaminants into the aquatic environment, and their removal will help increase the water quality within the marina. Although the existing project area is providing minimal habitat functions and values, the northeast/eastern portion of the marina is providing a greater level of habitat due to the gradual slopes, riparian and saltmarsh vegetation, and eelgrass. This action will result in an overall lift in habitat conditions within the portion of the marina where aquatic use is greatest. A total of ten (10) LWD structures will be installed over an approximately 6,000 square foot area. LWD would consist of 16-20 ft logs with rootwads (18-30-inch diameter) anchored with screw anchors and cables. The LWD structures will be installed at a depth of between +8.2 ft and +5 ft MLLW. Existing substrates where the LWD structures will be installed consist of a combination of sand and gravel at the upper elevations and gravel and cobble at the lower elevations. The LWD structures will be installed on the boundary between the gravel and cobble and the finer, sand and silt substrates at lower elevations. Care will be taken to avoid any existing saltmarsh vegetation. It is expected that the proposed mitigation actions will provide a level of compensatory mitigation for the adverse impacts to the aquatic habitat and functions associated with the increase of overwater structure. Mitigation at this location will be more impactful than if proposed adjacent to the steeper riprap slope adjacent to T Dock and will provide improved aquatic habitat for migrating fish species.

The proposed mitigation actions above will provide a level of compensatory mitigation for the adverse impacts to the aquatic habitat and functions associated with the project.

DR-6.7.2 *- Except as a habitat improvement or restoration measure, aquatic herbicide treatments, mechanical removal of vegetation and aquatic pesticide treatments shall not be used on critical salt-water habitats.*

The proposed project will not entail aquatic herbicide treatments, mechanical removal of vegetation or aquatic pesticide treatments within critical salt-water habitats.

DR-6.7.3 *- Sand, gravel or other materials shall neither be added nor removed from critical salt-water habitats, except when part of an approved restoration effort or beach nourishment program or as allowed in DR-6.7.1, above.*

The proposed project will not result in the placement of any substrates within the critical saltwater habitats. The only proposed disturbance to substrates will be associated with pile removal and installation. The proposed project will result in the removal of riprap at the top of the bank at an elevation greater than +8 ft MLLW. No other materials will be removed.

DR-6.7.4 *- New outfalls (including stormwater and sewer outfalls) and discharge pipes shall not be located in critical salt water habitats or areas where outfall or discharge will adversely affect critical salt water habitats unless the applicant can show that all of the following can be met:*

a. There is no alternative location for the outfall or pipe.

The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

b. The outfall or pipe is placed below the surface of the beach or bed of the water body.

The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

c. The outfall discharges waterward of the intertidal zone

The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

d. The disturbed area will be revegetated with native plants.

The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

e. The discharge point(s) on the outfall or discharge pipe is located so the discharges, including nutrients in the discharge and currents, do not adversely affect critical salt-water habitats.

The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

DR-6.7.5 *- The City shall maximize the use of existing outfalls.*

The existing T Dock consists of a solid decked pier attached to the concrete sidewalk and asphalt parking area, all of which are impervious surfaces. The project activities within the upland will not impact the amount of impervious surfaces. The T Dock reconfiguration will result in the installation of an additional approximately 5,400 sq ft increase in overwater coverage, impervious surfaces located over the aquatic environment. The proposed project does not entail a new outfall or pipe. Stormwater from the dock will be collected and routed to the existing sanitary sewer system. For the replaced dock system, the Port will continue to enforce operational BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that prevent pollution from work and activities on vessels or docks.

DR-6.7.6 *- In addition to requiring compliance with DR-6.5.9 for certain types of developments and uses (e.g., minimum ten-foot wide planting bed(s) of riparian vegetation along marine shorelines), the City shall require the establishment of buffer areas for activities adjacent to fish and wildlife habitat conservation areas on a case by case basis through a critical area report when needed to protect such habitat conservation areas, pursuant to Section A-5.3(G)(1) of the shoreline specific Critical Areas Regulations contained in Appendix A. In order to determine the need or extent of a buffer, a critical area report shall be required for all development in or adjacent to a habitat conservation area (see also DR-6.7.7).*

The demolition and replacement of T Dock will occur within the Cap Sante Marina. The shoreline consists of steeply sloped riprap with no vegetation. The entire shoreline above the top of the bank (riprap) consists of concrete sidewalks and asphalt. There is no riparian vegetation or habitat within the project area. The proposed project does not have the potential to negatively impact the existing habitat conservation areas. As a result, the proposed project does not entail the development of a buffer adjacent to the fish and wildlife habitat conservation areas.

DR-6.7.7 *- Until an inventory of critical saltwater habitat is done, prior to construction all over water and near-shore developments shall conduct an inventory of site and adjacent beach sections to assess the presence of critical saltwater habitats and functions. The methods and extent of inventory shall be consistent with accepted research methodology. New studies shall be developed only where existing information is inadequate or does not exist.*

The presence and potential impacts of the proposed project on critical saltwater habitats and functions is discussed above. Overall, there are few critical saltwater habitats and functions within the project areas, and the proposed project will result in no net loss of habitat functions and values. This is based on the low quality of habitat and high level of existing disturbance within the marina.

If you have any questions, please contact Larry Lehman, at (509) 663-6300 or larryl@gretteassociates.com.

Sincerely,
Grette Associates[LLC]

Larry Lehman
Senior Biologist

Pacific Surveying & Engineering, Inc

land surveying • civil engineering • consulting • environmental
909 Squalicum Way #111, Bellingham, WA 98225
Phone 360.671.7387 Facsimile 360.671.4685 Email info@psesurvey.com

January 12, 2024

Kevin Anderson, Environmental Specialist
Port of Anacortes
100 Commercial Avenue
Anacortes, WA 98221

RE: **T Dock Repair Project**
Cap Sante Marina- FEMA Boundary

Dear Kevin,

At your request, I have attached for review and approval an existing conditions exhibit map depicting the difference between FEMA and surveyed floodplain boundaries in the vicinity of the proposed T Dock repair project. Based on previous correspondence with the City Floodplain Manager, Rob Frisinger, and pursuant to the provisions of City of Anacortes Municipal Code 19.74.040(C)(5) you can use this information to request a formal determination from the City that the proposed project is not actually located in the floodplain (despite current FIRM map designations) and may continue without the need for a Flood Development Permit.

The attached map depicts the following features for your review:

- Proposed Upland Dock Support Repair Area
- FEMA FIRM Map Floodplain Boundary intended to represent the Base Flood Elevation of 7' (NGVD 29 vertical datum). This line is shown as a blue dashed line.
- Ground Survey determined Floodplain Boundary representing the true location of the 7' NGVD 29 contour. This line is shown as a solid green line near the Cap Sante Marina shoreline

As can plainly be seen on the attached exhibit map and based on the results of an actual ground survey using the methods prescribed in WAC 332-130-145, it has become evident that the FEMA FIRM Maps for this area are inaccurate and not based on reliable topographic data.

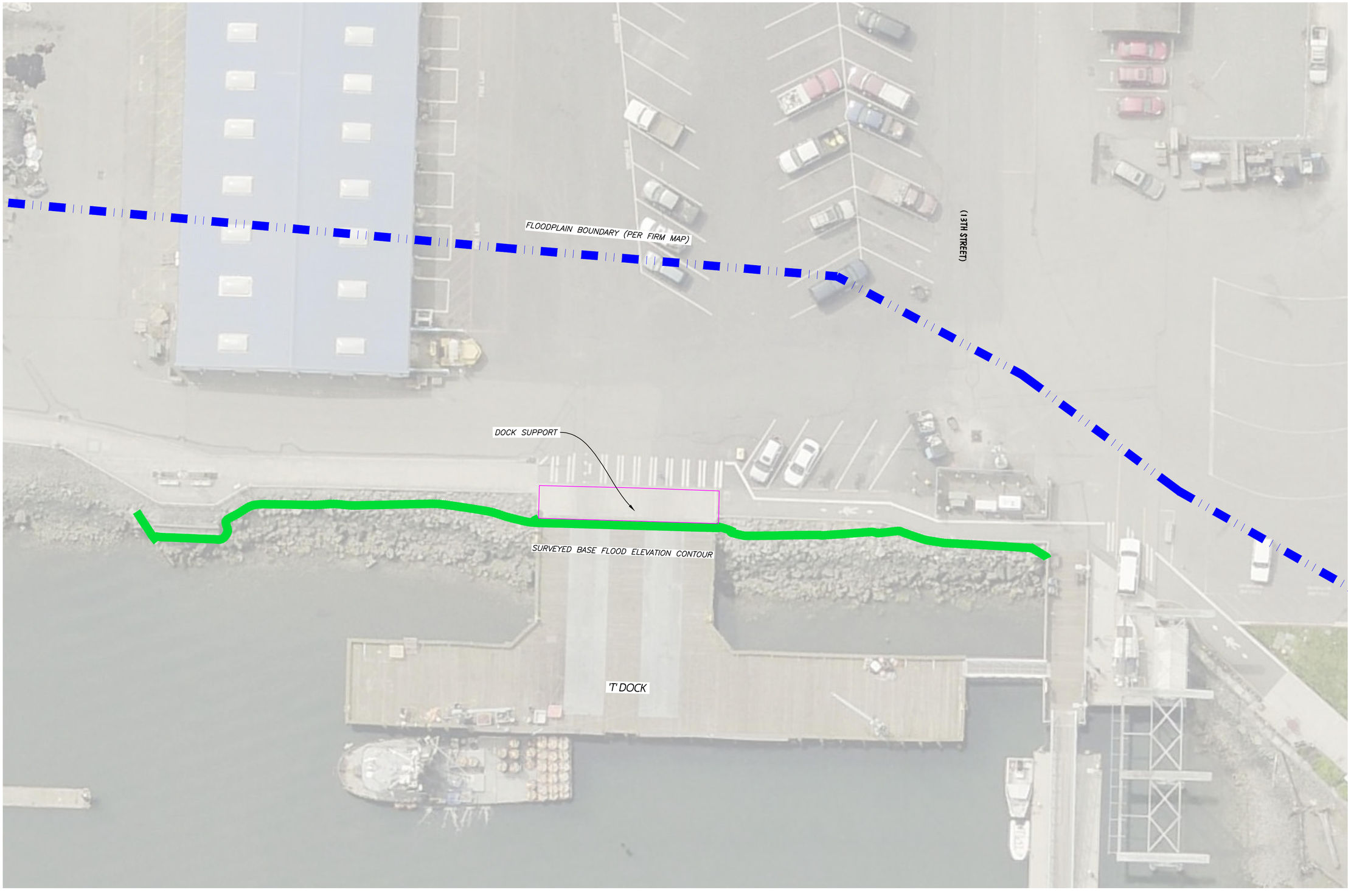
Please take note that contours depicted in the West Basin vicinity base map is projected on a Port vertical datum (MLLW- Tidal). A conversion factor of -4.3 feet was used to convert Port datum to FEMA datum (NGVD 29) for this exercise. The translated Base Flood Elevation would represent the 11' contour (rounded) on our West Basin existing conditions map, which actually lands just below the top of slope of the existing Cap Sante Marina revetment rock wall (see map). Vertical Datum conversions were determined using a published elevation benchmark records and verified using NOAA's VDatum conversion tool. A copy of these results are attached for your records.

Please let us know if you have any questions or need additional information to support this request for determination.

Sincerely,
Pacific Surveying and Engineering

Adam Morrow, PLS
Survey Project Manager
Principal

CAP SANTE MARINA - T-DOCK SUPPORT FEMA EXHIBIT



DATA	
DRAWN:	TJM
CHECKED:	ASM
DATE:	01/12/2024
DWG:	2024003_sht_FEMA_recover000_recover_recover_recover.dwg
SCALE:	1" = 20'
JOB#:	2024003
FIELD BOOK:	N/A
SHEET	1 OF 1

FEMA EXHIBIT MAP

PORT OF ANACORTES
100 COMMERCIAL AVENUE
ANACORTES, WA 98221

PACIFIC SURVEYING & ENGINEERING, INC.
909 Squalicum Way, Suite 111 | BELLINGHAM, WA 98225
T: 360.671.7387 | F: 360.671.4685
WWW.PSESURVEY.COM | INFO@PSESURVEY.COM

GRAPHIC SCALE
(US SURVEY FEET)
0 20
20 10 40
1 inch = 20 feet

National Flood Hazard Layer FIRMette

FEMA

122°36'50"W 48°30'53"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

122°36'12"W 48°30'30"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/8/2024 at 7:36 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevation** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevation (BFEs) shown on this map apply only landward of 0.0' National Geodetic Vertical Datum (NGVD). Users of this FIRM should be aware that coastal flood elevations may also be provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map is Universal Tranverse Mercator (UTM) zone 10. The **horizontal datum** is NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242,** or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the City of Anacortes, Washington.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

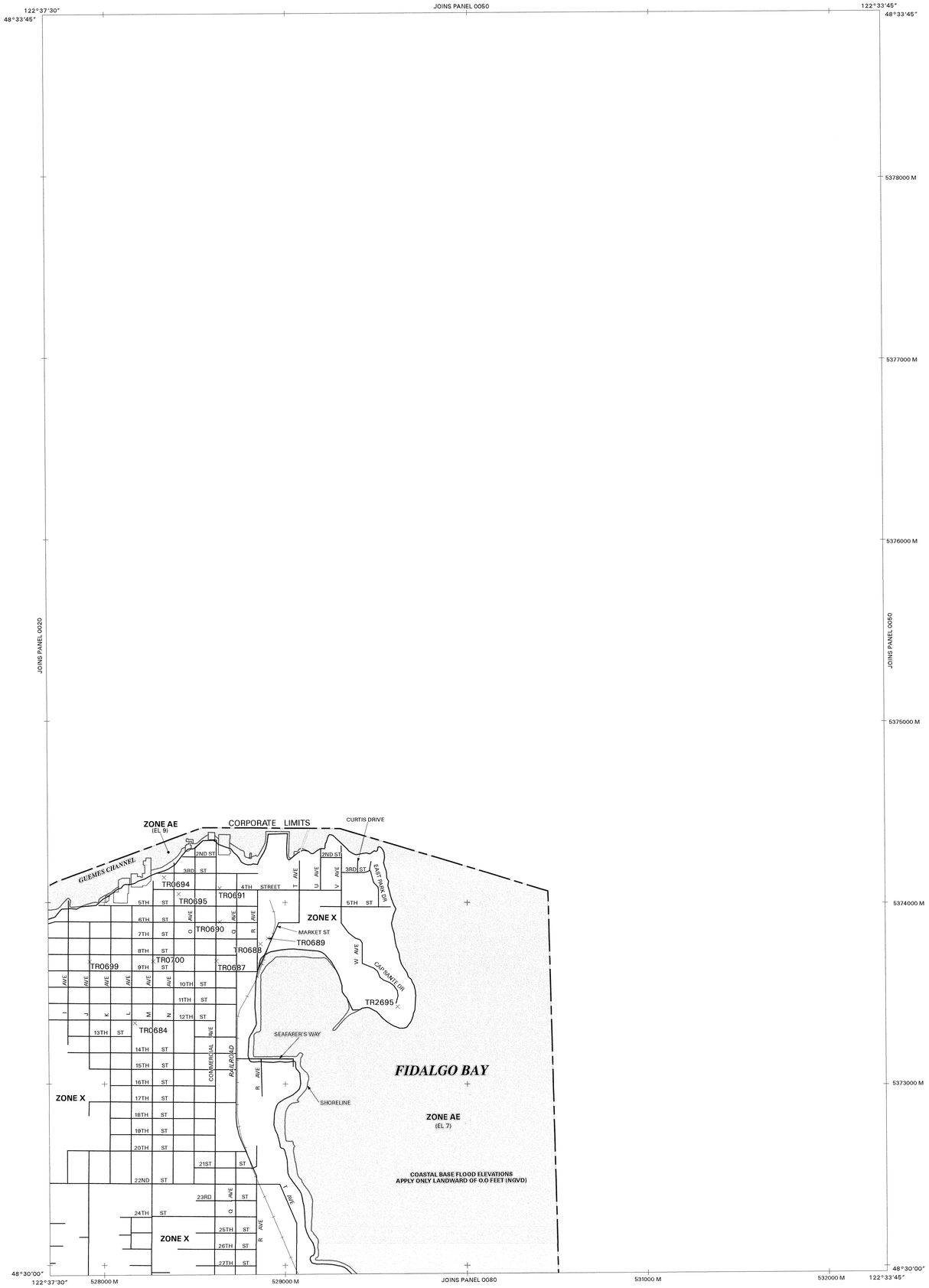
An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment revising portions of this panel, and digital versions of this PANEL may be available. Contact the **FEMA Map Service Center** at the following phone numbers and Internet address for infomation on all related products available from FEMA;

Phone: 800-358-9616
FAX: 800-358-9620
www.fema.gov/msc

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.

All Special Flood Hazard Areas shown within the City of Anacortes were previously published for the Unincorporated Areas of Skagit County, Washington. Dates shown below are from the Effective FIRM for Skagit County: Initial Identification - October 25, 1974; Flood Hazard Boundary Map Revision(s) - September 13, 1977 & April 1, 1980; Flood Insurance Rate Map Effective - January 3, 1985



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood event.

ZONE A99 Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no base flood elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929

- A — A — Cross Section Line
- 23 — 23 — Transect Line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4276000M — 1000-meter Universal Transverse Mercator grid values, zone 10
- 600000 FT — 5000-foot grid ticks
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel).
- M1.5 — River Mile

MAP REPOSITORY
City of Anacortes City Hall 904 6th Street Anacortes, WA 98221
(Maps available for reference only, not for distribution.)

INITIAL IDENTIFICATION
See Notes to Users Area
FLOOD HAZARD BOUNDARY MAP REVISIONS
See Notes to Users Area
FLOOD INSURANCE RATE MAP EFFECTIVE
See Notes to Users Area
FLOOD INSURANCE RATE MAP REVISIONS

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0040A

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
ANACORTES,
WASHINGTON

SKAGIT COUNTY

PANEL 40 OF 100

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ANACORTES, CITY OF	530317	0040	A

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
5303170040A

EFFECTIVE DATE:
SEPTEMBER 17, 2003

Federal Emergency Management Agency

BENCHMARK	TIDAL MLLW (US Survey Ft)	NAVD88 (US Survey Ft)	NGVD29 (US Survey Feet)	MLLW-NGVD 29 Difference
Q 329	**17.005**	**16.457**	**12.674**	4.331
P 329	**31.394**	**30.846**	**27.060**	4.334
Cap Sante	**201.059**	**200.511**	**196.752**	4.308
Tidal 14	**27.290**	**26.742**	**22.976**	4.314
S 329	**70.912**	**70.364**	**66.588**	4.324
R 329	**159.193**	**158.645**	**154.859**	4.334

Home | About VDatum | Download | Docs & Support

Regional Information

* Region : Contiguous United States

Horizontal Information

	Source	Target
Reference Frame:	NAD 1927	NAD83(2011)
Coor. System:	Geographic (Longitude, Latitude)	Geographic (Longitude, Latitude)
Unit:	meter (m)	meter (m)
Zone:	AL E - 0101	AL E - 0101

Vertical Information

	Source	Target
Reference Frame:	NGVD 1929	MLLW
Unit:	foot (U.S. Survey) (US_ft)	foot (U.S. Survey) (US_ft)
	Height / Sounding	Height / Sounding
	GEOID model:	GEOID model:

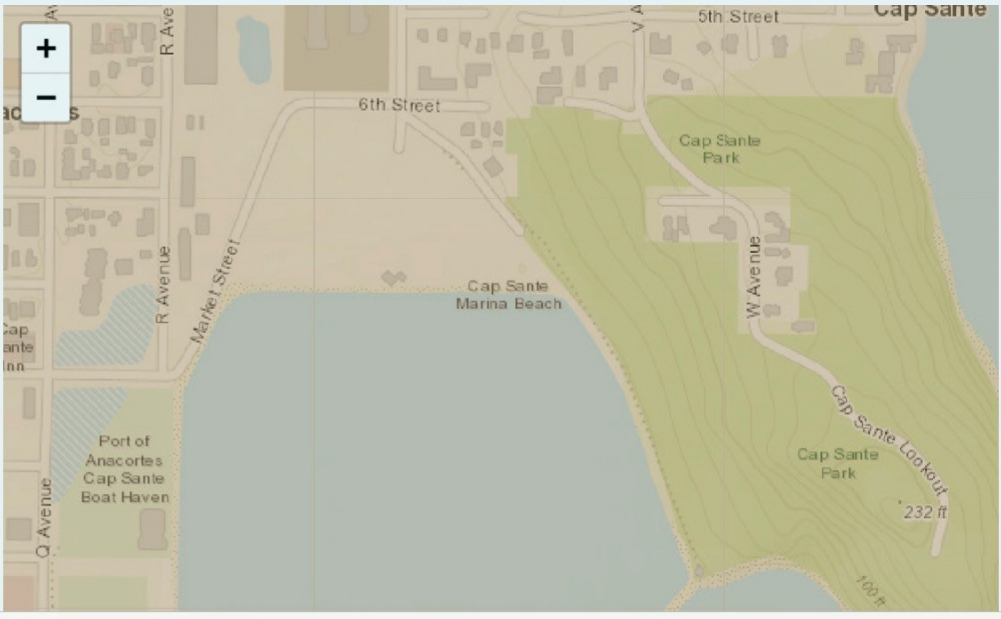
Point Conversion | ASCII File Conversion

Input			Output
Latitude:	48.516156	Convert	Latitude: 48.5159840554
	e.g. 33.7586 or 33 45 30.9600		
Longitude:	-122.606811	Reset	Longitude: -122.6080893779
	e.g. -118.7691 or -118 46 8.7600		
Height:	7	DMS	Height: 11.285
	e.g. 3.037		
	Drive to on map		Drive to on map
	Reset Map		Reset Map
	to DMS		Vertical Uncertainty (+/-): 0.3985678 US_ft

Vertical_Area: WAjdfuca03_8301:3:0

Valid Tidal area | Non-Tidal area | Non-Valid area

IGLD85 | SVU area



vdatum.noaa.gov

Port of Anacortes
317 Commercial Avenue
Anacortes, WA 98221

5/21/2024

Attention: Libby Grage, Planning Manager
Planning and Economic and Community Development Department
City of Anacortes
904 6th St, Anacortes, WA 98221

As a part of the shoreline substantial development permit process, the City of Anacortes (City) requires the submittal of a Shoreline No Net Loss Analysis and Mitigation Plan (NNL) developed by the Department of Ecology. As part of the Section 7 ESA consultation process with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS), the Port of Anacortes (Port) has prepared a Habitat Improvement Plan (HIP) that was part of the submittals for review for a Shoreline Substantial Development Permit application. Additionally, as part of the USACE Section 10 permit process the Port prepared an Alternatives Analysis (AA) that addresses alternatives to the proposed project that would meet the project purpose and need. The detailed descriptions provided within the HIP and AA satisfies the required level of detail for the Project Description, Existing Conditions, and Project Impacts sections of the NNL. The HIP and JARPA for the project also provides a detailed description of the proposed mitigation action and goal and objectives of the proposed mitigation actions, which have been approved by both the NMFS, USFWS, and Washington Department of Fish and Wildlife (WDFW; issuance of Hydraulic Project Approval). As a result, these sections are not addressed within this submittal.

This submittal will address the remaining components of the NNL, which are:

- Performance standards
- Contingency plan
- Monitoring program
- Financial assurance
- Permanent protection

PERFORMANCE STANDARDS

No performance standards have been developed or required for the proposed mitigation action. The project will require an “as-built” verification that the LWD was installed per the approved permits. Specifically, the “as-built” report will verify location (elevation), species,

anchoring, and number. Once installed, the LWD will provide the require functions and values and no quantitative monitoring is required. As a result, no performance standards for this mitigation action are proposed or required. With that being said, the Port will provide regular visual observations of the anchoring of the logs to ensure they are secure and are not a hazard to public use of the shoreline or marina.

CONTINGENCY PLAN

Problem Recognition Process

The problem recognition process is an integral part of adaptive management. The goals and objectives for the installation of the LWD is to enhance the overall habitat within the shoreline. There are no required quantitative performance standards for this mitigation action and the primary requirement is proper installation (elevation, anchoring, species, etc). Once installed, the LWD will provide the required functions. The Port will routinely visually inspections of the LWD to ensure the anchoring of the structures as the this is the primary concern. These visual observations areto determine if there is a problem and if so, the nature and extent of the problem.

Contingency Planning Process

The purpose of the contingency planning and response process is to develop and implement contingency actions as necessary, depending on the results of the visual inspections and problem recognition step. The contingency planning process could result in the implementation of an approved response action. Alternatively, it could result in agreement on an approach or set of criteria for taking further action. The permitting agencies would make a final determination on an appropriate response, available information and scientifically and economically feasible recommendations. No contingency action would be undertaken until the permitting agencies give approval in writing. Potential responses include, but are not limited to, one or more of the following:

1. Concluding that the situation does not require further action.
2. Re anchoring the LWD structure.

MONITORING PROGRAM

Monitoring programs are designed to evaluate the implementation and success of the mitigation action site relative to the objectives for the actions. This evaluation is typically done by establishing performance standards, and the monitoring program ensures that the mitigation action is meeting the performance standards.

Monitoring of the mitigation for T-Dock mitigation will consist of “as-built” compliance only. As stated above, the mitigation entails the installation of 18 LWD structures and as soon as the LWD are installed the required functions and values are provided. Thus, no long-

term monitoring is required beyond the initial verification that the structures are installed and well anchored. The Port will visually observe the LWD structures to verify the anchoring of the log protect the safety in the Cap Sante Marina basin, but there is no biological monitoring proposed for the LWD.

This monitoring is identical to the A-Dock mitigation monitoring proposed for LWD installed in 2021 as part of the A-Dock replacement project. Given the similarity and approval of this approach, the Port has adopted the monitoring plan and performance standards. The Port contact for the mitigation action is Kevin Anderson, Environmental Specialist, 360-770-5194.

Reports presenting the demolition of the reconfiguration of T-Dock and verifying the installation of the LWD structures will be submitted to the Corps, NMFS, USFWS, and WDFW. The "as-built" report will be submitted within 3 months of completion of project. The report would include the Corps permit number and NMFS and USFWS tracking number. The report will verify the configuration and exact location of the new T-Dock, the number of piles installed, and a description of any issues that occurred during the reconfiguration of T-Dock. Additionally, the report will include photographic documentation of the installation of the LWD in the east portion of the CSM.

FINANCIAL ASSURANCE

The proposed mitigation action will be installed either prior to or concurrent with the project. The installation of the LWD will be part of the T-Dock Reconfiguration contractor bid and is a required part of the project. Compliance with the state and federal permits requires the installation of the LWD and will be verified in the "as-built" report. As a result, no financial assurance will be provided.

PERMANENT PROTECTION

The proposed mitigation action will install large woody debris as habitat enhancement in the eastern portion of the Cap Sante Marina basin. The LWD is designed to be a lasting mitigation; however, the service life of LWD is not specified. Per guidance from the state and federal agencies, the Port will install native, durable tree species such as Western red cedar, yellow cedar or Douglas fir to prolong the benefits of the mitigation. These will become waterlogged and remain in the marine environment as they slowly decompose. Once the LWD is in place, the habitat benefits will continue as long as the LWD exists will provide sufficient compensatory mitigation for the proposed project.

The LWD will be installed at an elevation of between +5 feet and +8.2 feet MLLW on a small portion of the larger parcel P32897. This portion of the shoreline is already highly protected as part of the existing shoreline master program and critical areas codes. Additionally, the existing site constraints, distance from existing marina infrastructure, and existence of eelgrass, salt marsh vegetation, and shallow bathymetry, the LWD area is

highly unlikely to be considered for redevelopment. However, if development in this area is required in the future the Port recognizes that this mitigation action will need to be addressed in that permit process. As a result, no formal permanent protection will be provided for this area.

REFERENCES

A-Dock Demolition and Replacement-Cap Sante Marina (NWS 2017-1125) Mitigation Plan, Grette Associates 2019

T Dock Reconfiguration, Salish Sea Nearshore Programmatic, Habitat Improvement Plan. Grette Associates 2023

PORT OF ANACORTES
T DOCK RECONFIGURATION PROJECT

SALISH SEA NEARSHORE PROGRAMMATIC HABITAT IMPROVEMENT PLAN

PREPARED FOR:

PORT OF ANACORTES
100 COMMERCIAL AVENUE
ANACORTES, WA 98221

PREPARED BY:

GRETTE ASSOCIATES LLC
151 SOUTH WORTHEN, SUITE 101
WENATCHEE, WASHINGTON 98801
(509) 663-6300

2709 JAHN AVENUE NW, SUITE H-5
GIG HARBOR, WA 98335
(253) 573-9300

JUNE 2023

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

1. INTRODUCTION

The Port of Anacortes (Port) proposes to replace an existing but aging commercial dock (T Dock) in the southwest portion of Cap Sante Marina, located in downtown Anacortes, Washington, as part of the T Dock Reconfiguration Project (Project). T Dock is a creosote-treated timber pier that was constructed in 1977 to support commercial marine activities at Cap Sante Marina. T Dock is the only dock within the marina that provides vessel loading and unloading capabilities.

The primary concerns regarding the existing T Dock are the continued wear and tear of existing dock structural components and loss of load bearing capacity; the narrow vehicle entrance to the dock that limits the number of trucks allowed to access the dock at a time for loading and offloading vessels; and the limited area of usable dock space for commercial marine operations. The proposed replacement of the T Dock will meet the needs of current and future user groups for the dock and reduce the unsafe bottleneck associated with the narrow entrance to the dock.

The Port will remove the existing T-shaped creosote-treated timber pier, substructure, and pile, and replace it with a rectangular concrete pier. A portion of shoreline armoring will also be removed. To offset the remaining impacts, the Port will place approximately ten (10) pieces of large woody debris (LWD) on the opposite shoreline over an area that is a 1:1 offset of square footage of the new dock (Figure 1~~Figure 1~~). LWD was installed on the shoreline adjacent to the north of this proposed placement as offsets for habitat impacts as part of the A Dock Reconfiguration Project in 2017; that LWD continues to provide habitat benefits (Figure 2~~Figure 2~~).

Figure 1. Cap Sante Marina showing the T Dock project location (lower left) and the location of proposed LWD placement (top right).

Figure 2. A Dock LWD placed in 2017 (photo June 2022).

The National Marine Fisheries Service (NMFS) Conservation Calculator (Calculator) is designed to quantify project impacts to the Puget Sound nearshore environment while maintaining consistency across projects and applicants. The Calculator functions as a general tool which covers common project activities and components; however, sometimes project details cannot be addressed using the calculator. To accommodate scenarios in which benefits cannot be quantified

in the Calculator, the 2022 Salish Sea Nearshore Programmatic (SSNP) Biological Opinion describes a second option, Option 2, in Section 8(b)ii. Option 2 offers:

> "Implementing applicant-responsible within-basin habitat improvements (including on-site habitat improvements). Within-basin applicant-responsible habitat improvements are those that would occur within the boundaries of the applicant's property (on-site)…"

A Calculator has been prepared that includes all Project elements that are quantifiable with the tool. Since large woody debris (LWD) is proposed to offset a portion of the impacts of this Project and the benefits of large woody debris are not currently included or quantified by the Calculator, the Port has prepared this Habitat Improvement Plan as described Under Option 2 in the SSNP Biological Opinion.

2. PROJECT DESCRIPTION

The Port proposes to completely remove the existing creosote-treated timber "T"-shaped pier and associated pile and replace it with a rectangular pier. In addition, armoring beneath and adjacent to the T Dock will be partially removed and replaced, and the concrete retaining wall will be removed.

The existing T Dock is a 7,175 square foot creosote-treated timber T-shaped pier that is perpendicular from shore, extending east into the Cap Sante Marina. The elevation of the pier is slightly higher than the adjacent asphalt parking area (top of deck +13.5 Mean Lower Low Water [MLLW]). The elevation of the approach dock is +10.2 feet MLLW which is also the highest astronomical tide line (HAT; ~+10.26 ft MLLW). The approach dock is approximately 55 feet wide by 40 feet long. The dock then widens to approximately 190 feet at the "tee" and extends an additional 26 feet into the marina. Due to shoreline variations, the pier face is located approximately 59 feet waterward of HAT on the north end, and 71 feet waterward of HAT on the south end. The pier is supported by 115 creosote-treated timber pile and has 29 pressure-treated fender pile along the eastern side of the pier that is used for moorage. All substructures and decking associated with the pier are also comprised of creosote-treated timber.

Demolition/Removal

The proposed Project will demolish the entire T Dock, including creosote-treated timber decking, stringers, bullrails, and all associated 144 12–14-inch creosote-treated timber pile. In addition, miscellaneous submerged timber debris and 4 to 5 12–14-inch creosote-treated timber pile stubs that extend approximately 1–5 feet above the mudline on the south end of the dock will be removed. The demolition portions of the Project will be completed using hand tools and either a land or barge mounted excavator and/or land-based equipment. All pile will be removed using a vibratory hammer; pile that break during removal will be cut below the mudline. All materials removed and demolished will be loaded on trucks or a disposal barge, and transported offsite for disposal at an approved upland facility. All best management practices (BMPs) for pile removal and installation will be followed, including those described in the 2017 Washington Department of Natural Resources (WDNR) *Derelict Creosote Piling Removal Best Management Practices for Pile Removal and Disposal*.

The concrete retaining wall and footing located at the top of the bank below the HAT will also be removed. The toe of the concrete retaining wall is located at approximately +9.5 feet MLLW. In order to remove the retaining wall, the upper portions of the riprap slope will be temporarily

removed and replaced following the installation of the new pier. The existing riprap slope currently extends from MLLW to approximately +9.5 feet MLLW. To accommodate the new pier, 190 feet of the upper portion of the riprap slope will be removed from +9.5 feet MLLW to approximately +8.2 feet MLLW, and leveled to a flat bench. All excavated material will be loaded in trucks and disposed at an approved upland facility offsite.

Installation/Replacement

The Port proposes to replace the T Dock with a 12,575 square foot rectangular pier below the ordinary high-water mark (OHWM), that is 190 feet long on the eastern side, and 59 feet and 71 feet wide on the northern and southern sides respectively. Overwater coverage will be increased by 5,400 square feet as a result of this replacement. The new pier will be supported by 35 24-inch diameter galvanized steel pipe pile, and 5 30-inch diameter galvanized steel pipe pile for areas which experience heavy loads (e.g., mounted crane locations). In addition to the structural support pile, 24 10-inch diameter galvanized steel pipe fender pile will be installed along the eastern side of the pier. HDPE pipe fender sleeves will be fitted around all fender pile following installation.

Pile will be primarily installed using a vibratory hammer from a land based or barge-mounted crane, and proof loaded using an impact hammer. If pile reach premature refusal during installation, an impact hammer will be used to reach the desired pile tip elevation. A bubble curtain and wooden block will be utilized during all impact pile driving to attenuate noise and minimize impacts to aquatic species. All appropriate BMPs will be followed for pile installation.

3. HABITAT IMPROVEMENTS

Habitat improvements proposed for this project include removal of approximately 11.35 tons of creosote from the upper shore zone, 119.01 tons from the lower shore zone, and miscellaneous debris (including additional creosote-treated timber pile stubs) from the shoreline. These removals will improve water quality within the marina. Further, 190 linear feet of riprap armoring will be removed to bring the top elevation of the bulkhead from approximately +9.5 feet MLLW to +8.2 feet MLLW, which will avail aquatic habitat. The existing vertical concrete wall will be removed from the nearshore and a new one installed above the HAT. These improvements are quantified and accounted for in the attached Calculator. After accounting for these benefits, the Port shows a debit of -1.93 DSAYs remaining.

To offset remaining impacts, the Port proposes to install approximately 10 pieces of LWD over approximately 6,000 square feet on the beach along the east shoreline of their Cap Sante Marina property. This equates to an approximately 1:1 ratio of square footage of impacts with square footage of benefits. The marina basin currently provides limited habitat for fish species. Cap Sante provides critical habitat for Puget Sound Chinook salmon and bocaccio. According to Washington Department of Fish and Wildlife's (WDFW's) forage fish spawning online mapper (accessed June 12, 2023), the beach along the breakwater that extends to the south of the east beach is mapped for smelt spawning. Herring spawning is mapped just outside of Cap Sante Marina in Fidalgo Bay (WDFW 2023). The beach is also below a feeder bluff and in a transport zone (Ecology 2023). The shoreline has riparian and saltmarsh vegetation and eelgrass. In the Calculator, these are "Site Specific Factors" that add a 50% benefit to quantify the habitat quality in the Project or Habitat Enhancement areas. These Site Specific Factors are not present in the part of the marina at which the impact will occur.

LWD would consist of 16-20-foot logs with rootwads (18-30-inch diameter) anchored with screw anchors and cables. The LWD structures will be installed at an elevation of between +5 feet and +8.2 feet MLLW. Existing substrates where the LWD structures will be installed consist of a combination of sand and gravel at the upper elevations and gravel and cobble at the lower elevations. The LWD structures will be installed on the boundary between the gravel and cobble and the finer, sand and silt substrates at lower elevations. Care will be taken to avoid any existing saltmarsh vegetation.

LWD placement would occur as part of the T Dock Reconfiguration Project; improvements and impacts would occur concurrently. There would be no delay in habitat benefits.

It is expected that the proposed LWD will provide appropriate offsets to compensate for the remaining balance of adverse impacts to the aquatic habitat and functions associated with the increase of overwater structure. Habitat benefits at this location in Cap Sante Marina will be more impactful than if LWD were placed on the slope adjacent to T Dock and will provide improved aquatic habitat for migrating fish species (Figure 3~~Figure 3~~). Additionally, placement of LWD would provide a level of habitat benefits that exceed the habitat provided at the project location where the increase in overwater will occur.

Figure 3. Shoreline in east Cap Sante Marina along which LWD placement is proposed.

4. SPECIES AND CRITICAL HABITAT

Endangered Species Act (ESA)-listed species that may be found in or near the Project area include:

Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*),

Coastal-Puget Sound bull trout (*Salvelinus confluentus*),

Puget Sound steelhead trout (*O. mykiss*),

Bocaccio (*Sebastes paucispinis*),

Yelloweye rockfish (*S. ruberrimus*),

Southern Resident killer whale (SRKW; *Orcinus orca*),

Humpback whale (*Megaptera novaeangliae*), and

Marbled murrelet (*Brachyramphus marmoratus*).

Critical habitat identified within the Project area includes:

Puget Sound Chinook salmon

Coastal-Puget Sound bull trout

Bocaccio – Nearshore

Southern Resident Killer Whale (SRKW)

4.1 Effects on Species

All ESA-listed species in the Project area benefit from nearshore habitat improvements, either directly (e.g., juvenile salmonids using it for rearing) or indirectly (e.g., prey species using it for breeding, rearing, and foraging/cover). All of the above species feed on planktonic organisms and/or insects or on species that feed on planktonic organisms and/or insects at some stage of their lives.

The Project impacts will occur in an armored, heavily trafficked, commercial area of the nearshore within Cap Sante Marina. While the Project will result in an increase in 5,400 square feet of overwater coverage, the new coverage will be over a riprapped portion of shoreline.

Project benefits will extend to all of Cap Sante Marina, including higher value habitats along the eastern shore. Water quality will be dramatically improved by the removal of approximately 130 tons of creosote. Placement of 10 pieces of LWD in the upper shore zone will provide habitat (refuge) and a food source (insects) for common prey species of ESA-listed species.

The Project will result in a net improvement in habitat value in Cap Sante Marina. Further, benefits will occur in an area that is more likely to be utilized by species than the impact area, and thus will have a bigger benefit on the species than if the benefits were to occur in the impact area.

4.2 Effects on Critical Habitat

Following is a discussion of Project impacts and benefits on Puget Sound Chinook salmon, Coastal-Puget Sound bull trout, Bocaccio, and SRKW critical habitats.

Puget Sound Chinook Salmon Critical Habitat

The National Oceanic and Atmospheric Administration (NOAA) has identified six Primary Constituent Elements (PCEs) (i.e., physical and biological features) essential to the conservation of Chinook salmon critical habitat (NOAA 2005). The Project Area is considered to be in an estuarine/nearshore marine area. Thus, of the six PCEs identified, only numbers four and five apply to this Project (bold font). The features identified within each PCE are underlined below:

1. *Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.*
2. *Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.*
3. *Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.*
4. ***Estuarine areas free of obstruction and excessive predation with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.***
5. ***Nearshore marine areas free of obstruction and excessive predation with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.***
6. *Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.*

The Project's impacts and benefits are the same for both PCEs #4 – Estuarine Areas and PCE #5 – Nearshore Marine Areas. Applicable features for both PCEs are discussed below.

PCEs #4 and #5

Obstruction and Excessive Predation

The Project will result in additional overwater coverage and an additional 46 square feet of pile under the dock along the low-habitat-quality portion of Cap Sante Marina. Riprap will be removed to avail water quantity under the pier, which will remove some obstruction. The aquatic habitat around the riprap provides refuge for both prey and predatory species; however, because it is under the dock, it is less likely that juvenile salmonids or other prey fish will be found amidst the riprap. Further, this is in a heavily trafficked, commercial area that is not preferred habitat for these small fishes.

LWD will be placed along the opposite, undisturbed shoreline to provide cover for prey species in a higher quality habitat area, thus reducing predation opportunities for predatory fish and piscivorous birds.

Water Quality and Quantity

Impacts on water quality would be localized, temporary reductions in water quality due to turbidity associated with the removal and installation of pile. The Project will have a considerable long-term benefit to the water quality in Cap Sante Marina, as approximately 130 tons of creosote will be removed from in and over the estuarine and nearshore aquatic environment.

Available water quantity will be decreased by approximately 775 cubic feet through installation of new pile beyond the replacement pile, but will be increased by approximately 2,660 cubic feet through removal riprap at the top of the slope. This will result in an overall increase in water quantity of approximately 1,880 cubic feet.

Salinity will not be affected by the Project.

Forage

The Project would result in an increase of overwater coverage; however, the increase in over-water coverage would occur in the nearshore over an existing riprap slope in a heavily trafficked, commercial environment. Contaminants will be removed from the estuarine and nearshore environments, which will benefit prey species. These benefits are quantified in the Calculator.

Benefits not quantified in the calculator are those obtained through placement of LWD. LWD provides refuge for planktonic prey, and the area in which placement will occur is largely devoid of such refuge. The beach is an undisturbed beach with a healthy riparian zone at the base of a feeder bluff, so provides good habitat for Chinook salmon prey. Further, LWD provides nutrients to the nearshore, and habitat for insects and other small prey items for juvenile Chinook salmon.

Overall, the Project would have long-term benefits to the quality of forage habitat.

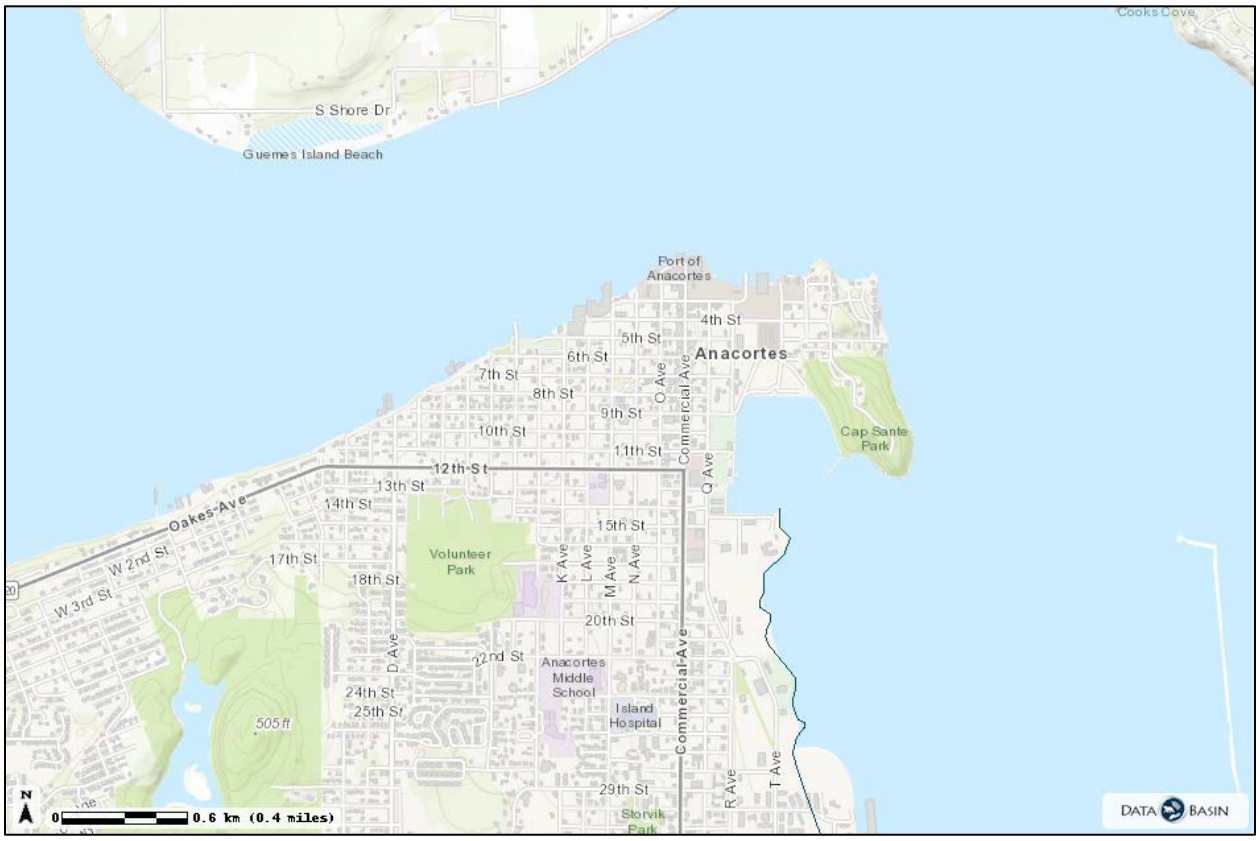
Natural Cover

Natural cover in the Action Area is limited to small, sparse patches of eelgrass and macroalgae, which is located within the eastern portion of the Action Area. There are also numerous LWD structures along the western shoreline of the Cap Sante Marina that provide some cover and LWD along the north shoreline placed in 2017 as part of the A Dock project. No side-channels or naturally-occurring boulders occur in the Action Area. Placement of LWD will provide overhanging large wood resulting in natural cover for juvenile salmonids and their prey.

Coastal-Puget Sound Bull Trout Critical Habitat

According to the United States Fish and Wildlife Service (USFWS) bull trout critical habitat mapper tool, bull trout critical habitat has not been identified within Cap Sante Marina. Thus, impacts on bull trout critical habitat are not discussed further (Data Basin USFWS Bull Trout Critical Habitat Mapper; queried June 12, 2023).

Figure 4. Bull trout critical habitat (navy line). Note that critical habitat is not present within Cap Sante Marina.



Bocaccio Critical Habitat – Nearshore

Although both nearshore and deepwater critical habitat has been identified for rockfish, since the Action Area is only within nearshore habitat, and not deepwater habitat, only the nearshore habitat is addressed below. NOAA has identified two essential features of rockfish nearshore critical habitat. The essential habitat features identified by NOAA are listed below:

1. ***Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities.***
2. ***Water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.***

The Project's effects on rockfish critical habitat is analyzed with respect to the effects on the essential habitat features mentioned above. The applicable features are addressed below.

Essential Feature #1: Prey

Juvenile rockfish feed on very small organisms such as zooplankton, copepods and phytoplankton, small crustaceans, invertebrate eggs, krill, and other invertebrates (NOAA 2014). These prey species are planktonic, floating in the water column and feeding on phytoplankton. The proposed replacement of and increase in overwater structure is occurring in a portion of the marina that contains degraded habitat: the bank is armored, there is scattered debris along the shoreline, it is heavily trafficked, and it does not have

any of the features considered in the multiplying factors in the Calculator (e.g., forage fish presence, pocket estuary, feeder bluff, etc.). Although overwater coverage is expanding, and thus resulting in shading that will reduce primary productivity for a small area of aquatic habitat, the habitat that will be shaded is low quality. Turbidity generated during pile removal and installation may temporarily affect juvenile rockfish's ability to detect and capture prey items within close proximity to the pile; however, juvenile rockfish are not anticipated to be present in the low habitat-quality portion. Any water quality impact would be localized and temporary.

The replacement will result in the removal of approximately 130 tons of creosote, which will lead to a localized improvement in water quality for rockfish prey species and their phytoplankton prey. Further, the top of the 190-foot riprap bulkhead will be removed from +9.5 feet MLLW to approximately +8.2 feet MLLW, and leveled to a flat bench. This will avail upper shore zone rugose aquatic habitat to prey species of bocaccio. Both of these habitat improvements are quantified in the Calculator, and will also benefit Essential Feature #1 of bocaccio nearshore critical habitat.

Benefits not quantified in the calculator are those obtained through placement of LWD. LWD provides refuge for planktonic prey, and the area in which placement will occur is largely devoid of such refuge. Further, LWD provides nutrients to the nearshore, and habitat for insects and other small prey items.

Overall, the Project will have a net benefit on juvenile rockfish prey items.

Essential Feature #2: Water Quality

There would be localized, temporary reductions in water quality due to pile removal and installation. However, the Project will result in removal of approximately 130 tons of creosote from the aquatic environment, which will have a long-term benefit to the waters of Cap Sante Marina. Further, addition of LWD along the higher-quality east shoreline of Cap Sante will provide nutrients in the nearshore waters.

Over the long-term, the Project will have a net benefit on water quality in the Project Area.

Overall, the Project will have a net benefit on proposed rockfish critical habitat.

Southern Resident Killer Whale Critical Habitat

NOAA has identified three primary constituent elements (PCEs; i.e., physical and biological features) essential to the conservation of Southern Resident killer whale critical habitat (NOAA 2006). The applicable PCE for this project is depicted in bold font.

1. *Water quality to support growth and development;*
2. ***Prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development, as well as overall population growth;***
3. *Passage conditions to allow for migration, resting and foraging;*

Designated critical habitat for Southern Residents includes only waters in Puget Sound deeper than -20 feet relative to Extreme High Water (EHW; +10.4 feet MLLW; Station 9449211, Bellingham, WA), or -9.6 feet MLLW. The Project area extends to -10 feet MLLW, but is in a heavily trafficked, tight marina with jetties and breakwaters at the entrance, and thus does not provide

suitable habitat for SRKWs. For this reason, only the effects of the Project on the PCE #2 – Prey is applicable to this Project.

Primary Constituent Element #2: Prey Quantity, Quality, and Availability

SRKWs prey mainly on salmonids and may prefer chinook and chum salmon runs within Puget Sound (NOAA 2006a). Consumption of a considerable biomass of fish is vital to growth and sexual maturity in SRKWs and enables population growth of the pods. The Project will result in a reduction of un-shaded nearshore, but the reduction will occur over a riprapped slope in a heavily trafficked area.

The Project will also result in removal of approximately 130 tons of creosote from the aquatic area, which will improve water quality in parts of Cap Sante Marina where SRKW prey (salmonids) and their prey (zooplankton) may be found. Further, the placement of LWD in a high-quality habitat area will provide refuge for juvenile and adult fish and provide a source of food and habitat for insects that are prey for juvenile salmonids.

Overall, the Project will have a net benefit on SRKW prey resources and thus, on SRKW Critical Habitat.

5. SUMMARY

- Quantitative Description of Improvements:

  Placement of approximately 20 pieces of 16- to 20-foot logs with 18 to 30-inch root balls along approximately 6,000 square feet of high-quality shoreline in Cap Sante Marina.

- Location of Improvements:

  East shoreline of Cap Sante Marina between +5 feet MLLW and +8.2 feet MLLW.

- Methods/Mechanism for Improvements:

  Building on the successful installation of LWD on the shoreline adjacent to the north, 10 pieces of LWD will be anchored along the shoreline between +5 feet MLLW and +8.2 feet MLLW with screw anchors and cables.

- Timing of Improvements:

  Immediately upon installation, which will occur as part of the proposed Project, and continuing for the duration of the life of the LWD.

6. CONCLUSIONS

The T Dock Reconfiguration Project has been designed to provide net habitat benefits by offsetting impacts to degraded habitat with improvements to quality habitat at a 1 to 1 ratio of square footage. Habitat improvements will occur within-basin, on-site, and will provide long-term and widespread benefits to Cap Sante Marina, forage fish, and any predators that rely on those stocks of forage fish. The proposal is consistent with the terms presented in Section 8 of the SSNP Biological Opinion and the conclusions of the consultation with NMFS as communicated to the Port on June 2, 2023.

7. REFERENCES

NOAA Fisheries (NOAA). 2005b. Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionary Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho. 50 CFR Part 226. RIN No. 0648-AQ77. September 2, 2005.

National Oceanic and Atmospheric Administration (NOAA). 2006. Endangered and threatened species; designation of critical habitat for the Southern Resident Killer Whale. Final rule. November 29, 2006. Fed. Reg. 71(229):15666-15680.

National Oceanic and Atmospheric Administration (NOAA). 2014. Endangered and Threatened Species: Designation of Critical Habitat for the Puget Sound/Georgia Basin Distinct Population Segments of Yelloweye Rockfish, Canary Rockfish, and Bocaccio; Final Rule. Federal Register, Volume 79, Number 219:68042-68087. November 13, 2014.

United States Fish and Wildlife Service (USFWS). 2023. Data Basin USFWS Bull Trout Critical Habitat Mapper. Accessed June 12, 2023. URL: https://databasin.org/maps/new/#datasets=9dbe7d1e7d1c45c99dbd042278155b63.

Washington State Department of Ecology (Ecology). 2023. Washington State Coastal Atlas. https://apps.ecology.wa.gov/coastalatlas/. Accessed June 12, 2023.

Washington Department of Fish and Wildlife (WDFW). 2023. Forage Fish Spawning Map (online mapper). Accessed June 12, 2023. URL: https://wdfw.maps.arcgis.com/home/webmap/viewer.html?webmap=19b8f74e2d41470cbd80b1af8dedd6b3&extent=-126.1368,45.6684,-119.6494,49.0781

Washington Department of Natural Resources (WDNR). 2017. Derelict Creosote Piling Removal Best Management Practices for Pile Removal and Disposal. January 25, 2017.

GEOTECHNICAL REPORT
30% Design for T-Dock Replacement
Port of Anacortes, Washington

PROJECT NO. 22-204
February 2023

Prepared for:

PND Engineers, Inc.

PanGEO INCORPORATED

Geotechnical & Earthquake Engineering Consultants

PanGEO INCORPORATED
Geotechnical & Earthquake
Engineering Consultants

February 20, 2023
File No. 22-204

John Olson, P.E.
P|N|D Engineers, Inc.
3240 Eastlake Avenue East
Seattle, Washington 98102

Subject: Geotechnical Report For 30% Design
T-Dock Replacement
Port of Anacortes, Washington

Dear Mr. Olson:

As requested, PanGEO, Inc. has completed a geotechnical study to support the 30% design for the proposed T-Dock replacement in Anacortes, Washington. The results of our study are presented in the attached report. Our recommendations may need to be modified during the final design phase of the project, based on the final design layout.

In summary, the site is underlain by thick sequences of very soft soils over very dense glacial material at about 80 feet below the pavement grade adjacent to the dock. The use of open-ended pipe piles for foundation support as currently envisaged is appropriate for the project.

Although the site soils are soft, they have a relatively high plasticity index (i.e., sticky) and hence the liquefaction potential of the site soils is considered low. However, strong seismic shaking could result in instability of the slope along the shoreline. The risk of seismic slope instability can be mitigated with a sheetpile bulkhead extending to MLLW Elevation -25 feet or lower, based on geotechnical considerations; deeper embedment maybe needed from the structural demand standpoint. This would also mitigate the risk of the potential slope movements impacting the foundation piles. Without the bulkhead, we anticipate the shoreline could experience a few feet of lateral movements and the piles supporting the new dock should be designed for lateral loads due to the potential slope movements.

We appreciate the opportunity to work on this project. Please call if there are any questions regarding this report. We are available to meet to discuss our findings at your convenience.

3213 Eastlake Ave E, Ste B
Seattle, WA 98102
Tel:(206) 262-0370
Fax:(206) 262-0374

Sincerely,

Siew L. Tan, P.E.
Principal Geotechnical Engineer
(Stan@pangeoinc.com)

Encl: Geotechnical Report

TABLE OF CONTENTS

1.0 INTRODUCTION **1**

2.0 SITE AND PROJECT DESCRIPTION **1**

3.0 SUBSURFACE EXPLORATIONS **2**

3.1 Current Test Boring 2
3.2 Laboratory Testing 3
3.3 Previous Explorations 3
3.4 Previous Pile Driving Records 3

4.0 SUBSURFACE CONDITIONS **4**

4.1 Site Geology 4
4.2 Soils 4
4.3 Groundwater 5

5.0 CONSIDERATIONS FOR GEOLOGIC HAZARD AREAS **6**

5.1 Erosion Hazard Areas 7
5.2 Landslide Hazard Areas 7
5.3 Seismic Hazard Areas/Liquefaction 8
5.4 Mine Hazard Areas 9
5.5 Volcanic Hazard Areas 10
5.6 Tsunami Hazard Areas 10
5.7 Other Hazard Areas 11

6.0 CONCLUSIONS AND RECOMMENDATIONS **11**

6.1 Seismic Site Class and Ground Response Analysis 11
6.2 Shoreline Slope Stability Analysis 12
6.2.1 Basis of Analysis 12
6.2.2 Results and Discussion/Recommendations 13
6.2.3 Existing Timber Piles 13
6.3 New Pile Foundations 13
6.3.1 Previously Installed Piles at A-Dock 14
6.3.2 Axial Pile Capacity of New Piles 14
6.3.3 Lateral Capacity and LPile Analysis 15
6.3.4 Lateral Loads on Piles Due to Potential Seismic Shoreline Instability 16
6.4 Earth Pressure for Bulkhead 16

7.0 EARTHWORK AND CONSTRUCTION CONSIDERATIONS 17

7.1 CONSTRUCTION CONSIDERATIONS FOR PILES 17
7.2 TEMPORARY EXCAVATIONS 18
7.3 MATERIAL REUSE 18
7.4 STRUCTURAL FILL PLACEMENT AND COMPACTION 18
7.5 UNDERGROUND UTILITIES 19
7.6 TEMPORARY AND PERMANENT SURFACE DRAINAGE AND EROSION CONSIDERATIONS 19
7.7 WET WEATHER EARTHWORK 20

8.0 UNCERTAINTY AND LIMITATIONS 20

9.0 REFERENCES 23

ATTACHMENTS:

Figure 1 Vicinity Map
Figure 2A Site and Exploration Plan with Selected Pile Records from B-Dock and A-Dock
Figure 2B Site and Exploration Plan Showing T-Dock Area
Figure 3 Generalized Subsurface Profile Section A-A'
Figure 4 Static Global Slope Stability Analysis, Profile A-A'
Figure 5 Pseudo-Static (Seismic) Global Slope Stability Analysis, with Steel Sheetpile Bulkhead - Profile A-A'
Figure 6 Pile Capacity Chart, Ultimate Compression Capacity
Figure 7 Pile Capacity Chart, Ultimate Tension Capacity

Appendix A Summary Boring Log
Figure A-1 Terms and Symbols for Boring Logs
Figure A-2 Log of Test Boring PG-1

Appendix B Laboratory Testing
Figure B-1 Atterberg Limits

Appendix C Previous Explorations
Summary Log of Test Boring B-05-01
Summary Log of CPT Sounding CPT-05-01

Appendix D Pile Driving Records from B-Dock

Appendix E Pile Driving Records from A-Dock

Appendix F Site Specific Ground Response Analysis

- Summary report by Global Geophysics (Shear Wave Velocity Profile)
- Summary report by Clarity Engineering (Site Specific Ground Response Analysis)

1.0 INTRODUCTION

This report presents the results of our geotechnical study to support the 30% design of the T-Dock replacement in Anacortes, Washington. This study was performed in accordance with our mutually agreed scope of work as outlined in our proposal dated April 8, 2022 and revised April 12, 2022. Our scope of work includes reviewing readily available geologic and geotechnical data in the site vicinity, conducting a site reconnaissance, performing subsurface explorations and laboratory testing, performing engineering analyses, and developing the conclusions and recommendations presented in this report.

2.0 SITE AND PROJECT DESCRIPTION

The T-Dock at the Cap Sante Marina in Anacortes is at the southwest corner of the boat basin, just east of Q Avenue and 13th Street, and flanked by the B-Dock to the north and A-Dock to the south. The approximate location of the project area is shown on Figures 1, 2A, and 2B.

The mudline of the basin in this area is at about Elevation -12 feet (MLLW), and the upland street and parking areas are at about Elevation 12 to 13 feet. The vertical datum used for this project is based on the survey provided by David Evans & Associates, Inc., dated June 22, 2022: Mean Lower Low Water (MLLW) National Tidal Datum Epoch 1941 – 1959 (NTDE41-59), based on Port of Anacortes Survey Control Monument "Jetty-2".

The existing T-Dock is a T-shaped timber pier supported by timber piles. It is approximately 7,500 square feet in size. The main dock section is 190 feet by 25 feet, with a 55-foot by 50-foot wood and concrete approach. The dock surface is level at about elevation 13 feet, roughly matching the adjacent street grade. Two one-ton cranes are attached to the pier.

We understand that the existing T-Dock will be replaced with a new rectangular dock, approximately 190 feet by 75 feet in size. The new structure will be constructed with steel pipe piles, steel caps, concrete deck panels, and steel pipe fender piles, and will tie into the existing parking lot grading in the upland area.

From correspondence with P|N|D, we understand that the new dock will be designed for an estimated live load of 400 psf and a dead load of about 250 psf, along with a new 100-ton crane.

The conclusions and recommendations in this report are based on our understanding of the proposed development, which is in turn based on the project information provided. If the above project description is incorrect, or the project information changes, we should be consulted to review the recommendations contained in this study and make modifications, if needed. In any case, PanGEO should be retained to provide a review of the final design to confirm that our geotechnical recommendations have been correctly interpreted and adequately implemented in the construction documents.

3.0 SUBSURFACE EXPLORATIONS

3.1 CURRENT TEST BORING

One test boring (PG-1) was drilled at the site on June 27, 2022, at the approximate location shown on Figures 2A and 2B. The test boring was advanced to 101½ feet below grade using mud rotary drilling techniques. Soil samples were obtained at 2½- and 5-foot depth intervals in conjunction with Standard Penetration Test (SPT) sampling methods in general accordance with ASTM test method D-1586, the Standard Test Method for Penetration Test and Split Barrel Sampling of Soils, using a 2-inch outside diameter split-spoon sampler. The sampler was driven into the soil a total length of 18 inches using a 140-pound auto-trip hammer with a falling distance of 30 inches per stroke.

The number of blows required for each 6-inch increment of sampler penetration was recorded. The summed blowcount for the last 12 inches of penetration is defined as the SPT N-value, which provides an empirical measure of soil strength via the relative density of coarse-grained soil, or the relative consistency of fine-grained soils.

A PanGEO engineer was present for the duration of the field explorations to observe the drilling, assist in sampling, and describe and document the soil samples obtained from the boring. The soils were described using the system outlined in Figure A-1. The summary boring log is included in Appendix A.

3.2 LABORATORY TESTING

Selected soil samples were tested in general accordance ASTM guidelines. The tests include samples for moisture content and Atterberg limits determination. The test results are included on the boring log. The Atterberg limits test results are also plotted and included as Figure B-1 in Appendix B.

Moisture Content Testing – Moisture content tests were performed on representative samples obtained from the test boring and in general accordance with ASTM D-2216. The test results are included on the appropriate summary boring logs in Appendix A.

Atterberg Limits – Atterberg limits tests were performed on representative soil samples obtained from the test boring and in general accordance with ASTM D-4318. The test results are included in Appendix B of this report. The test results indicate the estuarine deposits at the site have a relatively high plasticity. The soil sample from the upper estuarine deposits has a plasticity index (PI) of 43, and the three soil samples from the lower estuarine indicate have a PI of 18 to 21. In all cases, the moisture contents of the tested soil samples are near its liquid limit, indicating very soft consistency.

3.3 PREVIOUS EXPLORATIONS

In addition to the boring PG-1, we also collected and reviewed the summary log of a previous test boring (B-05-01) and a CPT sounding (CPT-05-01) conducted near T-Dock, which were completed by PanGEO in 2005. The approximate locations of these previous explorations are indicated on Figure 2A and 2B. The summary logs are included in Appendix C.

3.4 PREVIOUS PILE DRIVING RECORDS

We reviewed select driving records of piles installed at the adjacent Dock A and Dock B, to gain an understanding of the depth to bearing soils for the offshore area of the dock. The approximate locations of these piles that used in our evaluation are indicated on Figure 2A. The pile driving records are included in Appendices D and E of this report for references.

4.0 SUBSURFACE CONDITIONS

4.1 SITE GEOLOGY

According to the *Geologic Map of the Bellingham 1:100,000 Quadrangle, Washington* (Lapen, 2000). The project vicinity is mapped as artificial fill, with Everson-age glaciomarine drift mapped inland. Not indicated on terrestrial geologic maps are the modern-age estuarine and marine sediments out in the bay.

Everson-age glaciomarine drift materials consist of thick sequences of gravel, sand, silt, and clay, deposited out of processes related to melting ice, such as from floating ice debris, during the Everson Interstade of the Fraser Glaciation. Where deposited as marine sediment, bedding is massive and locally cross-bedded with sand.

4.2 SOILS

Based on the results of our subsurface explorations at the site and review of geology maps, we have summarized our interpretation of the subsurface conditions below. For a detailed description of the subsurface conditions encountered at each exploration location, please refer to the summary boring logs provided in Appendices A and C. The stratigraphic contacts indicated on the boring logs represent the approximate depth to boundaries between soil units. Actual transitions between soil units may be more gradual or occur at different elevations.

Asphalt Pavement: Approximately three inches of asphalt was observed at the surface at PG-1, with gravelly base course and fill below.

Soil Unit 1 – Fill: Fill was encountered directly beneath the asphalt and base course, to a depth of about 7 feet below grade (or MLLW elevation 6 feet). The fill consisted of medium dense gravelly sand and sandy gravel. High SPT blowcount was noted at 5 feet below grade and likely inflated due to hammering on a cobble.

Soil Unit 2 – Upper Estuarine Deposits: Directly below the fill, our explorations encountered very thinly laminated and interbedded very soft silt with interbeds of very loose sand, with trace fine gravel. Fine wood and shell fragments throughout, with a prominent briny marine smell. This soil unit extended to a depth of about 30 feet below grade (MLLW elevation -17 feet). Based on the CPT-05-01, the equivalent SPT N-value within this layer generally ranged from about 5 to 10 blows per foot (bpf), where the higher

equivalent blowcounts are associated with sandy interbeds. For report discussion purposes, we designate this soil layer as Upper Estuarine.

Soil Unit 3 – Lower Estuarine Deposits: From 30 to 74 feet below grade (MLLW elevation -17 to -61 feet), boring PG-1 encountered very soft to soft, laminated clay, with very thin lenses of very fine sand along bedding planes. Based on the CPT-05-01, the equivalent SPT N-value in this layer is about 5 bpf. For report discussion purposes, we designate this soil layer as Lower Estuarine.

Soil Unit 4 - Glaciomarine Drift: Glaciomarine drift was encountered directly below the estuarine deposits, to termination depth at 101½ feet below grade (MLLW elevation -88.5 feet) in boring PG-1. This material consisted of laminated and interbedded to massive, very stiff to hard silt and very dense sand, with some fine gravel throughout and one thin layer of organic material at 101 feet below grade. The upper 10 feet of this unit, from about 74 to 84 feet below grade (MLLW elevation -61 to -71 feet), was observed to be medium to very stiff, gravelly, sandy, laminated silt. While described in preexisting borings as a separate material, this transitional sequence constitutively appears to be more closely related to the glaciomarine drift material and is most likely tidally-reworked and disturbed glaciomarine drift. Further out into the bay and away from the shoreline, the disturbed thickness of the upper portion of the drift may be minimal to nonexistent.

Our subsurface descriptions are based on the conditions encountered at the time of our exploration. Soil conditions between our exploration locations may vary from those encountered. The nature and extent of variations between our exploratory locations may not become evident until construction. If variations do appear, PanGEO should be requested to reevaluate the recommendations in this report and to modify or verify them in writing prior to proceeding with earthwork and construction.

4.3 GROUNDWATER

Due to limitations with the drilling technique (i.e., mud rotary) used to advance PG-1, the groundwater level was not determined in the test boring. However, upon review of our previous explorations in the vicinity, groundwater was observed below depths of 7.5 to 25 feet below grade, and most likely subject to tidal influences and seasonal influences.

The vertical tidal datum from the client-provided survey provides a range of anticipated water levels at the project site, shown on Figures 2A, 2B, and 3. These ranges, in elevation-feet, are as follows:

Ordinary High Water, OHW:	10.2 feet, about 3 feet below grade at PG-1
Mean Higher-High Water, MHHW:	8.2 feet, about 5 feet below grade
Mean High Water, MHW:	7.4 feet, about 5.5 feet below grade
Mean Tide Level, MTL:	5 feet, about 8 feet below grade
Mean Low Water, MLW:	2.6 feet, about 10 feet below grade
Mean Lower-Low Water, MLLW:	0 feet, about 13 feet below grade

Groundwater fluctuations at the T-Dock location should be expected to range between MLLW elevations of 10 feet and 0 feet. For our analyses, we assumed high-high tide conditions of approximately elevation 8 feet, or 5 feet below grade.

5.0 CONSIDERATIONS FOR GEOLOGIC HAZARD AREAS

We conducted a review of potential geologic hazards at the project site as described in the City of Anacortes Municipal Code (AMC) Chapter 19, Article IV, *Geologically Hazardous Areas*. Section 19.70.415 of the AMC defines these as the following:

"Geologically hazardous areas" refers to areas that, because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns. The following types of geologically hazardous area are:

A) Erosion Hazard

B) Landslide Hazard

C) Seismic Hazard

D) Mine Hazard

E) Volcanic Hazard

F) Tsunami Hazard

G) Other Hazards, including mass wasting, debris flows, rock falls, and differential settlement.

The City's criteria for these various hazard areas and our assessment of the hazard areas with respect to the planned improvements are discussed below:

5.1 EROSION HAZARD AREAS

Erosion hazard areas are identified in AMC Section 19.70.415 (A)(1) as *"areas likely to become unstable, such as bluffs, steep slopes, and areas with unconsolidated soils,"* and include:

a. *Areas located within the following soil map units: Nos. 46 and 47 Dystric Xerochrepts; No. 90 Lithic Haploxerolls-Rock outcrop complex (LH); or mapped severe erosion hazard, as identified in the U.S. Department of Agriculture Natural Resources Conservation Service Soil Survey of Skagit County Area, WA (1989).*
b. *Coastal, erosion-prone areas such as beaches or marine bluffs.*
c. *Areas susceptible to rapid stream incision and stream bank erosion.*

Based on review of the City of Anacortes Interactive GIS Map for Critical Areas, the project site is not subject to erosion hazards from soil units, coastal erosion, or stream erosion. None of the listed features are mapped at the project site. It is in our opinion that erosion hazards at the site are low and can be effectively addressed with best management practices during construction of the project. The long-term erosion hazards can be addressed with proper landscaping design.

Further recommendations for considerations pertaining to construction-related earthwork and erosion control are described in Section 7 of this report.

5.2 LANDSLIDE HAZARD AREAS

Landslide hazard areas are identified in AMC Section 19.70.415 (A)(2) as *"areas subject to landslide activity based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors,"* and include:

a. *Areas designated in the Washington State Department of Ecology Coastal Zone Atlas, Washington, Volume Two Skagit County (1978) as U (unstable), UB (unstable bluff), URS (unstable recent slide), or UOS (unstable old slide).*
b. *Areas of previous failure such as earth slumps, earthflows, mudflows, lahars, debris flows, rock slides, landslides, or other failures as observed in the field or as indicated on maps or in technical reports published by the U.S. Geological Survey, the Geology and Earth*

Resources Division of the Washington Department of Natural Resources, or other documents authorized by government agencies.

c. *Slopes having gradients of 15 percent or greater:*
    a. *That intersect geologic contacts with permeable sediments overlying low-permeability sediment or bedrock and springs or groundwater seepage are present; or*
    b. *That are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials.*
d. *Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or that are underlain or covered by mass wastage debris of that epoch.*
e. *Slopes having gradients steeper than 80 percent subject to rock fall during seismic shaking.*
f. *Potentially unstable areas resulting from rapid stream incision, stream bank erosion, and undercutting by wave action.*
g. *Slopes with a gradient of 40 percent or more with a vertical relief of 10 feet or more, including marine bluffs, except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and is measured by averaging the inclination over at least 10 feet of vertical relief.*

Based on review of the City of Anacortes Interactive GIS Map for Critical Areas, the project site is not subject to landslide hazards from unstable slopes, previous failures in the vicinity, high slope gradients above 15 percent, historical mass-wasting, seismically induced rockfall, stream or wave undercutting, or high vertical relief.

The slope along the shoreline is mapped as modified, likely in reference to the extent of regraded, modified fill in the vicinity. The slope along the shoreline and below the dock has a gradient of about 33%. Slope gradients between 15 to 40% are typically considered at moderate risk of instability.

A slope stability analysis was performed to evaluate the stability of the shoreline slope. The results are detailed in Section 6.3 of this report.

5.3 SEISMIC HAZARD AREAS/LIQUEFACTION

Seismic hazard areas are identified in AMC Section 19.70.415 (A)(3) as *"lands that, due to a combination of soil and groundwater conditions, are subject to risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement or subsidence, soil liquefaction, or surface faulting,"* and include:

a. *Areas having "high" and "moderate to high" risk of liquefaction as mapped on the Liquefaction Susceptibility and Site Class Maps of Western Washington State by County published by the Washington State Department of Natural Resources. These are typically underlain by cohesionless soils of low density typically and must have a low groundwater table.*
b. *Areas located within one-quarter mile of an active fault as indicated on investigative maps or described in studies by the United States Geologic Survey, Geology and Earth Resources Division of the Washington Department of Natural Resources, or other documents authorized by government agencies, or identified during site inspection.*
c. *Those known or suspected landslide hazards referenced in subsection (A)(2).*

According to the mapping compiled by the Department of Natural Resources, the site soils are mapped as prone to soil liquefaction. Liquefaction occurs when saturated predominately sand and silt soils are subjected to cyclic loading. This causes the porewater pressure to increase in the soil, thereby reducing the inter-granular stresses. As the inter-granular stresses are reduced, the shearing resistance of the soil decreases. If pore pressures develop to the point where the effective stresses acting between the grains become zero, the soil particles will be in suspension and behave like a viscous fluid. Soil liquefaction may cause the temporary loss/reduction of foundation capacity, settlement, and movement of the slope along the shoreline. Since the proposed structure will be pile-supported, the greatest risk of soil liquefaction, if it occurs, would be to the stability of the slope.

The risk of liquefaction or cyclic softening is low for soils with relatively high plasticity. According to various researchers, soils with a plasticity index greater than 18 is considered non-liquefiable. Based on the Atterberg limits tests conducted for this project, the plasticity index of the submerged soft soils ranged from 18 to 43. As such, it is our opinion that the risk of soil liquefaction is low. Liquefaction may still occur within sand seams confined in the upper estuarine deposits. However, these sandy layers appear to be of limited thickness and not continuous and hence should not impact the overall performance of the slope.

5.4 MINE HAZARD AREAS

Mine hazard areas are identified in AMC Section 19.70.415 (A)(4) as *"areas underlain or affected by mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sinkholes, gas releases, or subsidence due to mine workings. Factors that should be considered*

include proximity to development, depth from ground surface to mine working, and geologic material."

Based on review of the Washington State Department of Natural Resources Geologic Information Portal, the project site is not subject to mine hazards. The nearest mine in the project vicinity is a sand and gravel pit mine mapped about 1.9 miles to the southwest. There are no mine-related activities at the project site that could cause sinkholes, gas releases, or subsidence.

5.5 VOLCANIC HAZARD AREAS

Volcanic hazard areas are identified in AMC Section 19.70.415 (A)(5) as *"areas subject to pyroclastic flows, lava flows, debris avalanche, and inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity. Though there are no significant risks identified for the city and immediate surrounding area, other than airborne particulate impacts from an eruption."*

As described in the AMC, specific risks for the project vicinity from volcanic hazards are limited to eruption-related plumes and ejecta. It is our opinion that the project site is not subject to volcanic hazards that would need to be accommodated by modifications to the design of the proposed new dock structure.

5.6 TSUNAMI HAZARD AREAS

Tsunami hazard areas are identified in AMC Section 19.70.415 (A)(6) as *"coastal areas and lake shoreline areas susceptible to flooding, inundation, debris impact, and/or mass wasting as the result of coastal wave action generated by seismic events or other geologic events. Suspected tsunami hazard areas are indicated on the Tsunami Hazard Map of the Anacortes-Whidbey Island Area, Washington: Modeled Tsunami Inundation from a Cascadia Subduction Zone Earthquake."*

Based on review of the City of Anacortes Interactive GIS Map for Critical Areas, the project site is subject to tsunami hazards. The mapped hazard area in the vicinity of the project site extends westwards to between Q Avenue and Commercial Avenue, southwards to Seafarers Way, and northwards around the edge of the bay to 6th Street. As described in the Tsunami Design Zone Maps for the 2018 Washington State Building Code, the extent of the tsunami hazard area is "*modeled after a simulated 9.0 magnitude earthquake along the Cascadia subduction zone using a splay fault model with a ~2,500-year recurrence interval."* The inundation elevation estimated from this event is about 14 feet above the NAVD88 datum, equivalent to MLLW elevation 14 feet.

As per ASCE 7-22, "*structures located within the Tsunami Design Zone shall include design for tsunami effects as required by the state or locally adopted building code."* The City of Anacortes defines specific development standards for Tsunami hazards, listed in AMC Section 19.70.430 (D) as the following:

1. *Non-residential activities on sites containing areas susceptible to inundation to tsunami hazards must provide an evacuation and emergency management plan.*
2. *The construction of structures designated Risk Categories III and IV as specified under currently adopted IBC are prohibited within a tsunami hazard area, except that:*
    a. *A vertical evacuation tsunami refuge may be permitted to be located in a tsunami hazard zone provided it is constructed in accordance with FEMA P646;*
    b. *Community critical facilities may be permitted to be located within a tsunami hazard zone when such a location is necessary to fulfill their function, provided suitable structure and emergency evacuation measures have been incorporated.*

As the proposed dock is classified as a Risk Category II structure, AMC 19.70.430 (D)(2) does not apply. However, the City may require an evacuation and emergency management plan, as described above.

5.7 Other Hazard Areas

Other hazard areas are identified in Section 19.70.415 (A)(7) as *"areas determined by the Director to be susceptible to other geological events including mass wasting, debris flows, rock falls, and differential settlement."* The Director is the Director of the Planning, Community, and Economic Development, or the Director's designee.

From field reconnaissance at the project site, it is our opinion that no other geologic hazards are present at the site.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Seismic Site Class and Ground Response Analysis

We understand that the seismic design of the new dock will be accomplished in accordance with ASCE 7-22, based on the site soil conditions and site classifications defined in Chapter 20 of ASCE 7-22. As discussed in Section 5.3 above, it is our opinion that the liquefaction potential of the site soils is low. As such, the site coefficients can be determined based on a Site Class E.

As requested, a site-specific ground response analysis has been completed by our Clarity Engineering under a subcontract to PanGEO. The analysis was in part base on the shear wave velocity profile obtained at the site by Global Geophysics. The results of the shear wave velocity measurements and the site-specific ground response analysis are included as Appendix F of this report.

6.2 SHORELINE SLOPE STABILITY ANALYSIS

6.2.1 Basis of Analysis

As discussed previously, the slope along the shoreline is considered at moderate risk of instability, especially during the design seismic event. To assess the stability of the slope, we performed a quantitative slope stability analysis based on the generalized subsurface profile A-A' as shown on Figure 3. Our slope stability analysis was performed using the Slide2 software developed by RocScience, Inc. A search routine was performed to evaluate the potential failure surfaces for both static and pseudo-static (seismic) conditions.

Soils: Soil parameters were selected for the geologic units based on observed soil types, the results of SPT tests performed in the project vicinity, CPT correlations, and our experience and engineering judgment. Soil parameters utilized in our stability analyses are summarized on Figures 4 and 5.

Groundwater: Groundwater was modeled at the MLLW elevation roughly corresponding to Mean High-High Water, at elevation 8 feet. Saturated soil properties were applied to all soil layers at and below this level.

Peak Ground Accelerations: A modified peak ground acceleration (PGA_m) of 0.47g was obtained based on ASCE 7-22 and a site class E, through the ASCE 7 Hazard Tool website. A horizontal seismic coefficient equal to one half of the PGA_m, or 0.235g, was used in our pseudo-static slope stability analysis, consistent with the current state of practice.

The current state of practice considers acceptable minimum factors of safety (FS) against global instability of 1.5 under static conditions and 1.1 under seismic conditions.

6.2.2 Results and Discussion/Recommendations

As indicated on Figure 4, for static conditions, the results of our analysis indicate that the slope at T-Dock is sufficiently stable, with factor of safety greater than 1.5.

For the pseudo-static condition (i.e., seismic condition), as indicated on Figure 5, the factors of safety are less than 1.0, suggesting a risk of significant lateral slope movement during the design seismic event. We understand that that there is a buried timber bulkhead at the site. Details of the buried timber bulkhead including its location and geometry are not known. As such, we did not consider the presence of the timber bulkhead in our analysis and hence our results are likely conservative.

To stabilize the slope during the design seismic event, one option is to install a sheetpile bulkhead along the top of the slope. The steel sheet pile should extend to at least Elevation -25 feet (i.e., about 8 feet below the Upper Estuarine) based on geotechnical considerations. This would truncate potential upland failures from propagating eastwards beneath the dock and prevent the soil mass from applying excessive lateral loads upon the foundation piles. Deeper embedment maybe needed from the structural design perspective. Please refer to Section 6.4 of this report for the recommended design pressures for the bulkhead.

If the steel bulkhead will not be installed, slope movements during the design seismic event will impose lateral loads on the steel pipe piles supporting the dock. Additional discussions are included in Section 6.3.4 on this report.

6.2.3 Existing Timber Piles

We understand that the existing timber piles will be extracted and removed. However, from the geotechnical engineering and slope stability considerations, unless the existing timber piles interfere with the installation of the new piles, it is beneficial to leave the buried portion of the timber piles in place by cutting it off at the midline. The presence of the timber piles reinforces the slopes and would improve the site slope stability.

6.3 NEW PILE FOUNDATIONS

Currently planned, the replacement dock will be supported with open-ended steel pipe piles. It is our opinion that the selected pile type is appropriate. If desired, piles could be filled with concrete to increase stiffness and reduce deflection.

All piles will need to be driven sufficiently into the dense to very dense glaciomarine deposits. As indicated on the subsurface profile on Figure 3, the very dense deposits are anticipated to be present at about Elevation -72 feet. Significant penetrations into the very dense soils (i.e., below Elevation -72 feet) may be difficult to achieve, depending on pile wall thickness and pile hammer size. As a result, for preliminary planning purposes, we suggest limiting pile penetration to no deeper than Elevation -77 feet (i.e., 5 feet into very dense soils, or about 15 feet below medium dense soils). Deeper pile penetration can be achieved with appropriately sized hammer and adequate wall thickness. Alternatively, pre-drilling from within the piles may be considered to facilitate the pile penetration.

The piles should be galvanized or coated for corrosion protection. The corrosion protection should extend at least 3 feet below the mudline.

6.3.1 Previously Installed Piles at A-Dock

We reviewed the driving records of recently installed, 18-inch diameter, open-end steel pipe piles at A-Dock, to gain a better understanding of the pile behaviors. Specifically, our review focuses on the four abutment piles at A-Dock, designated A1 through A4, that were re-struck with an impact hammer to verify their capacities. These piles were initially driven with an APE-200 vibratory hammer to 10 feet above the design pile tip elevation, and then driven with a Delmag D30-52 diesel impact hammer to the design tip elevation. The ultimate axial capacity was determined based on the WSDOT pile driving formula, and the calculated capacity ranged from 328 and 424 kips, at a tip elevation of -58 feet. However, the WSDOT formula procedure relies on pile set-up (i.e., increase in pile capacity with time) and should be used with ample caution, as not all soils exhibit significant soil set-up. Therefore, the actual pile capacities may not be as high as calculated by the WSDOT formula procedure.

It appears that the piles at A-dock were generally terminated in medium dense to dense soils, or with only a few feet of penetration into the very dense soils.

6.3.2 Axial Pile Capacity of New Piles

To support the 30% design, we consider the use of 18- and 24-inch diameter steel pipe piles. We assume that these piles will be driven into the very dense soils. The estimate axial pile capacities, in both tension and compression, are summarized on the Figures 6 and 7.

The axial capacities of pile groups can be calculated as sums of individual piles, with no reduction for pile group effects, assuming that the piles are spaced at least 3 times its pile diameter (center-to-center spacing).

As previously discussed, because the site soils have relatively high plasticity indexes and hence the risk of soil liquefaction is low, it is our opinion that downdrag due to liquefaction-induced settlement need not be included in the pile design.

6.3.3 Lateral Capacity and LPile Analysis

The lateral capacity of piles can be evaluated using the computer program LPILE^{TM}. The soil parameters for LPILE analysis are presented in Table 1, following page. Soil layers roughly correspond to the soil units described in Section 4.2. The soils parameters are appropriate for both static and cyclic loads.

When running the LPILE program, the sloping ground surface should also be an input parameter, to account for the reduce soil resistance on the downslope side of the piles.

Table 1. Soil Parameters for LPile Analysis

Soil Layer	LPILE Soil Type	Bottom Elev. MLLW (ft.)	Effective Unit Weight (pcf)	Friction Angle ϕ (deg.)	Cohesion (psf)	ε_{50}	Subgrade Modulus (k, pci)
1	Sand	5.5	120	31	0	NA	90
2	Clay	-17	45	0	300	.02	30
3	Clay	-61	45	0	600	.015	45
4	Sand	-71	65	38	0	NA	60
4	Sand	-88.5	68	42	0	NA	125

Group effects should be considered for piles subject to lateral loads. When the P-y method of analysis is used, the value of "P" should be reduced using the P-multiplier (Pm) outlined in Table 2, below.

Table 2. P-Multipliers for Group Effects

Pile Center-to-Center Spacing (in the direction of the loading)	P-Multiplier		
	Leading Row 1 Piles	Trailing Row 2 Piles	Trailing Row 3+ Piles

3 x pile diameter	0.7	0.5	0.35
5 x pile diameter	1.0	0.85	0.7

For piles spaced more than 5 times the pile diameter apart, the ground effect is considered negligible and need not be taken into design considerations.

6.3.4 Lateral Loads on Piles Due to Potential Seismic Shoreline Instability

Without the steel sheetpile bulkhead, our analysis indicates that the slope along the shoreline is likely to experience significant lateral movements during seismic condition. The anticipated slope movements will in turn impinge a lateral load on the steel pipe piles supporting the T-Dock.

Based on our analysis, we recommend that a uniform lateral pressure of 400 psf be applied to the embedded portion of the piles located above Elevation -18 feet. The pressure should be applied over one pile diameter.

The application of the lateral pressure should be limited to the piles located along the western (landside) edge of the dock; piles located east of the westernmost row of piles are not anticipated to experience significant lateral loads from the potential seismic slope movements due to the shadowing effects. In addition, within the footprint of the dock, the presence of new piles would sufficiently reinforce the slope that we do not anticipate significant movements below the dock.

For static/non-seismic conditions, it is not necessary to include the lateral earth pressure in the piles for design.

6.4 EARTH PRESSURE FOR BULKHEAD

If a bulkhead will be installed along the upslope side of the dock to improve seismic slope stability along the shoreline, the bulkhead should either consist of steel sheet piles, or cast-in-place concrete walls supported on driven piles.

Assuming the bulkhead will be located along the top/edge of the existing slope, we recommend that the bulkhead to be designed for a minimum exposed height of 8 feet, to account for potential sloughing of the slope face, especially during a strong seismic event.

We recommend that a lateral earth pressure of 60 pcf be used to size the bulkhead. A uniform surcharge of 100 psf of lateral pressure to account for the traffic surcharge and a seismic surcharge of 8H (where H is the retained height) should be included in the design calculation.

The passive resistance in front of the bulkhead can be estimated based on an allowable passive pressure 85 pcf. The passive pressure takes into account the descending slope and submerged conditions in front of the bulkhead. Due to the relative low passive resistance, additional lateral restraints may need to be provided by battered piles.

We also recommend that weepholes be installed to prevent build up of hydrostatic pressure behind the bulkhead. In general, the weepholes should be at least 1½ inch in diameter, and spaced no more than 8 to 10 feet apart.

7.0 EARTHWORK AND CONSTRUCTION CONSIDERATIONS

7.1 Construction Considerations for Piles

From a construction perspective, in addition to meeting the structural design demands, the steel pipes piles must be of sufficient wall thickness to achieve the design penetration and to withstand the stress during driving. The piles may be initially installed with a vibratory hammer. However, at least 10% of all production piles should be re-struck with an impact hammer to verify the required ultimate axial bearing capacity as determined by a wave equation analysis for piles (WEAP). A WEAP analysis should be performed by the contractor based on the actual pile lengths/sizes, pile driving hammer/equipment.

Spudding or surficial rip rap removal may be required to facilitate installation of the piles. Pile installation could also be obstructed by the presence of cobbles, boulders, buried tree stumps, previous foundations, or other obstructions at depth. To the best extent possible, provisions should be made in the contract documents to deal with potential obstructions during pile driving, and the contractor should be prepared in advance to deal with them.

If the pile meets driving refusal before reaching the minimum embedment, it may be necessary to clear out the soils inside of the pile before continuing driving. Pile cleanout should not occur within 2 pile diameters of the final pile tip elevation.

Individual pile lengths may need to be adjusted in the field based on conditions encountered during driving. Variable pile lengths should be anticipated, and provisions included in the contract

documents to facilitate adjustment in payments to the contractor based on actual lengths of piles installed.

To prevent damage and distortion to the pile tip under heavy driving resistance, we recommend that cast steel driving shoes be affixed to the pile tip. These shoes must be of the flush external fit configuration to ensure that frictional resistance along the pile exterior is not impaired by a projecting tip surface.

7.2 TEMPORARY EXCAVATIONS

All temporary excavations should be performed in accordance with Part N of WAC (Washington Administrative Code) 296-155. The contractor is responsible for maintaining safe excavation slopes and/or shoring.

All temporary excavations should be sloped or shored. Based on the soil conditions at the site, for planning purposes, it is our opinion that temporary excavations for the proposed construction may be sloped 1.5H:1V or flatter. All cuts must be re-evaluated in the field during construction, based on actual observed soil conditions and the presence of groundwater seepage

During wet weather, runoff water should be prevented from entering excavations. We also recommend that heavy construction equipment, building materials, excavated soil, and vehicular traffic should not be allowed within a distance equal to 1/3 of the slope height from the top of any excavation.

7.3 MATERIAL REUSE

In the context of this report, structural fill is defined as compacted fill placed under footings, concrete stairs and landings, slabs, or other load-bearing areas. Based on the soil conditions encountered in the borings, the onsite soil near the ground surface is primarily fine-grained. As such, the onsite soil is not suitable to be used as structural fill but can be used as general fill in the non-structural areas. Our recommendations for structural fill material and soil compaction are shown in Section 7.4. If use of the on-site soil is planned in the non-structural areas, the excavated soil should be stockpiled and protected with plastic sheeting to prevent softening from rainfall in the wet season.

7.4 STRUCTURAL FILL PLACEMENT AND COMPACTION

Structural fill, if needed, should consist of imported, well-graded, granular material, such as Gravel Borrow (Section 9.03.14 (1) of the 2022 WSDOT Standard Specifications), or approved

equivalent. Structural fill should be properly moisture conditioned, placed in loose, horizontal lifts less than 12 inches in thickness, and compacted to a dense and unyielding condition. The adequacy of compaction should be verified by a PanGEO representative. Alternatively, a minimum 95 percent maximum density as determined by ASTM D-1557 (Modified Proctor) may be used to determine the adequacy of the compacted fill.

Depending on the type of compaction equipment used and depending on the type of fill material, it may be necessary to decrease the thickness of each lift in order to achieve adequate compaction. PanGEO can provide additional recommendations regarding structural fill and compaction during construction.

7.5 Underground Utilities

New underground piping should be bedded in crushed rock with a gradation corresponding to the WSDOT Gravel Backfill for Pipe Zone Bedding (9-03.12(3)). The bedding should extend up to the spring line of the pipe. Above this level, the trench excavation spoil maybe be used as backfill provided that the backfill can be compacted to at least 90% of the material's maximum dry density except that the upper two feet of fill beneath pavements should be compacted to 95% of the material's maximum dry density as determined by the Modified Proctor compaction test (ASTM D 1557).

7.6 Temporary and Permanent Surface Drainage and Erosion Considerations

Surface runoff can be controlled during construction by careful grading practices. Typically, this includes the construction of shallow, upgrade perimeter ditches or low earthen berms in conjunction with silt fences to collect runoff and prevent water from entering excavations or to prevent runoff from the construction area from leaving the immediate work site. Temporary erosion control may require the use of hay bales on the downhill sides of the project to prevent water from leaving the site and potential storm water detention to trap sand and silt before the water is discharged to a suitable outlet. All collected water should be directed under control to a positive and permanent discharge system.

Permanent control of surface water should be incorporated in the final grading design. Adequate surface gradients and drainage systems should be incorporated into the design such that surface runoff is directed away from structures and walls, adequately collected, and discharged to a suitable outlet.

Permanent erosion control measures such as covering exposed ground surfaces with topsoil or mulch, and installing landscaping, should be performed as soon as possible after construction to limit the time the exposed surfaces are susceptible to erosion.

7.7 WET WEATHER EARTHWORK

In our opinion, the proposed site construction may be accomplished during wet weather (such as in winter) without adversely affecting the site stability. However, earthwork construction performed during the drier summer months likely will be more economical.

General recommendations relative to earthwork performed in wet conditions are presented below:

- Earthwork should be performed in small areas to minimize subgrade exposure to wet weather. Excavation or the removal of unsuitable soil should be followed promptly by the placement and compaction of clean structural fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance.
- During wet weather, the allowable fines content of the structural fill should be reduced to no more than 5 percent by weight based on the portion passing ¾-inch sieve. The fines should be non-plastic.
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water. Due to the sensitivity of the silt and clay soils to moisture, a rocked construction pad consisting of 2-inch crushed rock should be considered over the footprint of the proposed buildings.
- Bales of straw and/or geotextile silt fences should be strategically located to control erosion and the movement of soil. Erosion control measures should be installed along all the property boundaries.
- Excavation slopes and soils stockpiled on site should also be covered with plastic sheets.

8.0 UNCERTAINTY AND LIMITATIONS

We have prepared this report for use by P|N|D Engineers, Inc., and the Port of Anacortes. Recommendations contained in this report are based on a site reconnaissance, a subsurface exploration program, review of pertinent subsurface information, and our understanding of the project. The study was performed using a mutually agreed-upon scope of work.

Variations in soil conditions may exist between the explorations and the actual conditions underlying the site. The nature and extent of soil variations may not be evident until construction

occurs. If any soil conditions are encountered at the site that are different from those described in this report, we should be notified immediately to review the applicability of our recommendations. Additionally, we should also be notified to review the applicability of our recommendations if there are any changes in the project scope.

The scope of our work does not include services related to construction safety precautions. Our recommendations are not intended to direct the contractors' methods, techniques, sequences or procedures, except as specifically described in our report for consideration in design. Additionally, the scope of our work specifically excludes the assessment of environmental characteristics, particularly those involving hazardous substances. We are not mold consultants nor are our recommendations to be interpreted as being preventative of mold development. A mold specialist should be consulted for all mold-related issues.

This report may be used only by the client and for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both off and on-site), or other factors including advances in our understanding of applied science, may change over time and could materially affect our findings. Therefore, this report should not be relied upon after 24 months from its issuance. PanGEO should be notified if the project is delayed by more than 24 months from the date of this report so that we may review the applicability of our conclusions considering the time lapse.

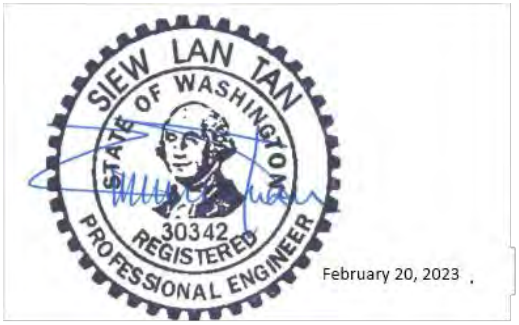
It is the client's responsibility to see that all parties to this project, including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk. Any party other than the client who wishes to use this report shall notify PanGEO of such intended use and for permission to copy this report. Based on the intended use of the report, PanGEO may require that additional work be performed and that an updated report be reissued. Noncompliance with any of these requirements will release PanGEO from any liability resulting from the use this report.

Within the limitation of scope, schedule and budget, PanGEO engages in the practice of geotechnical engineering and endeavors to perform its services in accordance with generally accepted professional principles and practices at the time the Report or its contents were prepared. No warranty, express or implied, is made.

We appreciate the opportunity to be of service to you on this project. Please feel free to contact our office with any questions you have regarding our study, this report, or any geotechnical engineering related project issues.

Sincerely,

PanGEO, Inc.



Amanda One, EIT
Staff Geotechnical Engineer

Siew L. Tan, P.E.
Principal Geotechnical Engineer

9.0 REFERENCES

Lapen, T.J. (2000), *Geologic Map of the Bellingham 1:100,000 Quadrangle, Washington.* U.S. Geological Survey Open File Report 2000-5, scale 1:100,000.

WSDOT (2023), *Standard Specifications for Road, Bridge and Municipal Construction, M 41-10, Washington State Department of Transportation.*

Base Map: Skagit County iMap

N

Not to Scale

PanGEO INCORPORATED

T-Dock Replacement
Port of Anacortes
Anacortes, Washington

VICINITY MAP

Project No.	Figure No.
22-204	**1**

N

A3
A4
A2
A1
F5
F6
M4
F3
F4
M3
F2
M2
F1
M1
2SF
3NF
4M
2NF
1SF
3M
2M
1M
A'
A
B-Dock
A-Dock
CPT-05-01
B-05-01
PG-1
SEE SHEET 2

LEGEND

TIDAL DATUM
OHW = 10.2
MHHW = 8.2
MHW = 7.4
MTL = 5.0
MLW = 2.6
MLLW = 0.0

- Subject Site
- Proposed New Dock Footprint
- Approximate Location of Profile AA'
- Approximate Boring Location, Pangeo, Inc., (June, 2022)
- Approximate Exploration Location, Pangeo, Inc., (January, 2005)
- 2NF — Select Pile Records Reviewed from B-Dock (1999)
- F3 — Select Pile Records Reviewed from A-Dock (2020)

Note: Site plan modified from site survey prepared by DEA, dated June 22, 2022.

Approx. Scale (ft)
0 25 50 100

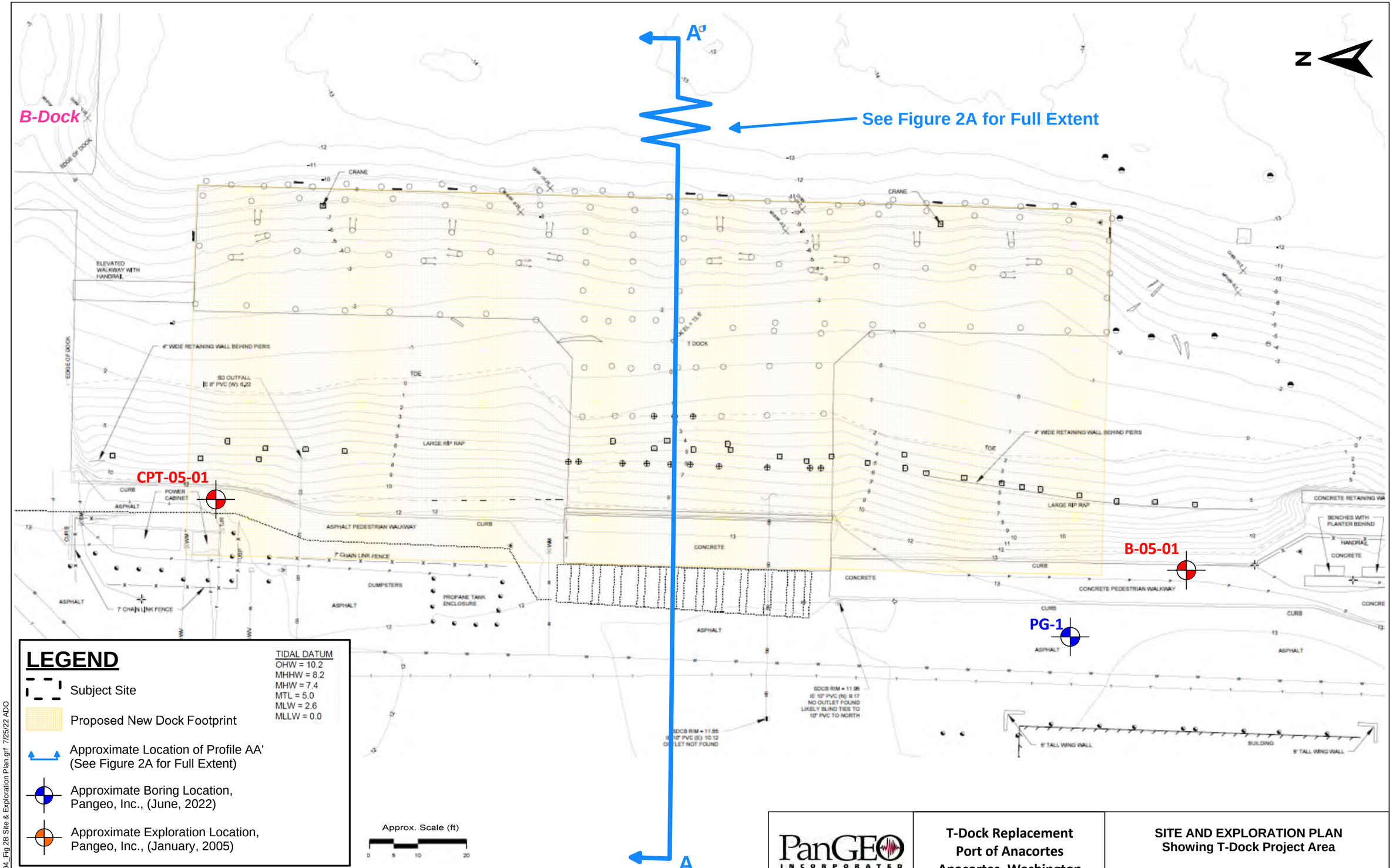
PanGEO INCORPORATED

T-Dock Replacement
Port of Anacortes
Anacortes, Washington

SITE AND EXPLORATION PLAN with Selected Pile Records from B-Dock and A-Dock

Project No. 22-204
Figure No. 2A

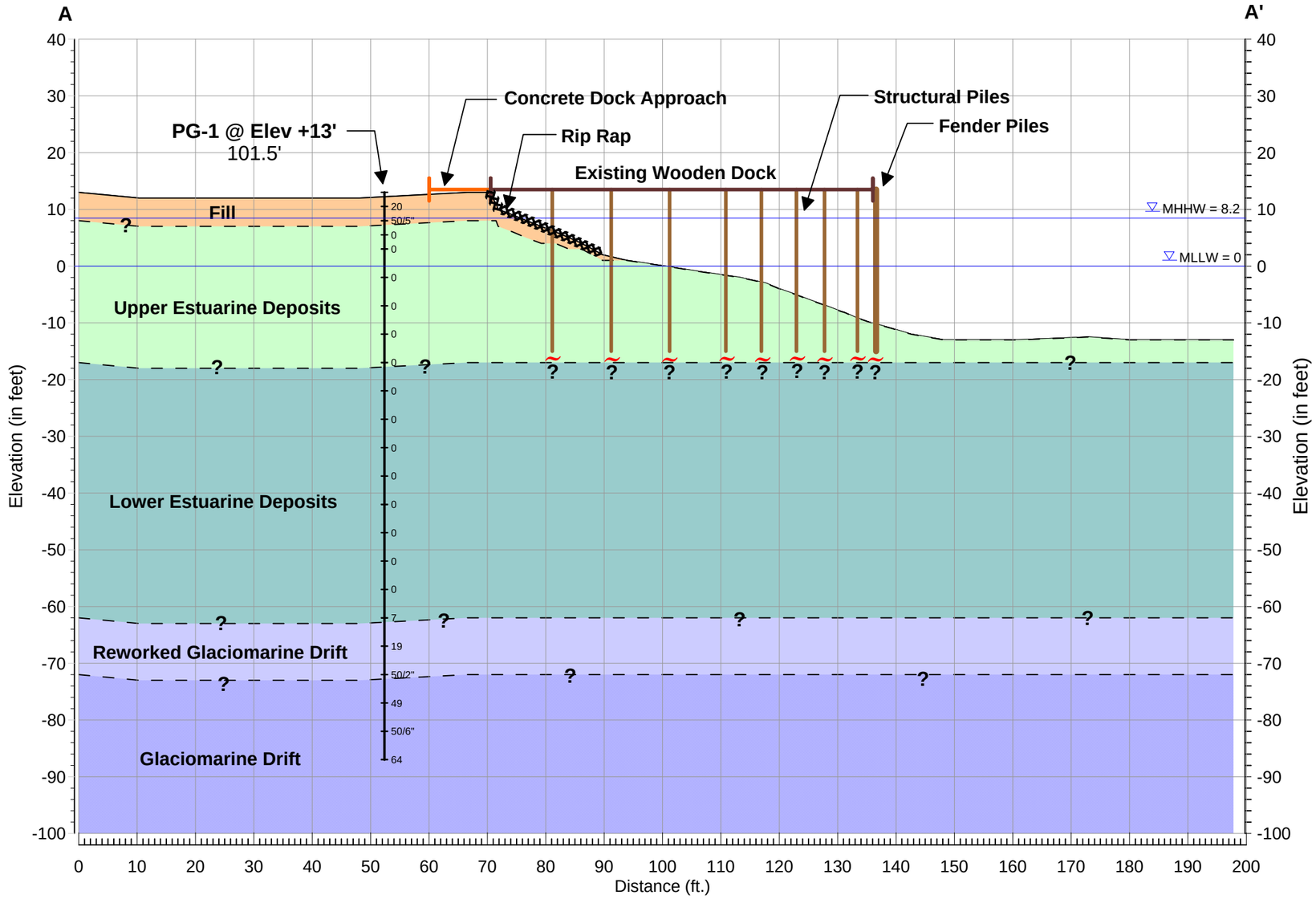
22-204_Fig 2A Site & Exploration Plan.grf 7/25/22 ADO



Note: Site plan modified from site survey prepared by DEA, dated June 22, 2022.

PanGEO INCORPORATED	T-Dock Replacement Port of Anacortes Anacortes, Washington	SITE AND EXPLORATION PLAN Showing T-Dock Project Area
		Project No. 22-204 / Figure No. 2B

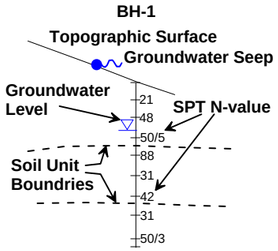
22-204_Fig 2B Site & Exploration Plan.grf 7/25/22 ADO



TIDAL DATUM, in elevation-feet: (See Note 10)

OHW, Ordinary High Water	= 10.2
MHHW, Mean Higher-High Water	= 8.2
MHW, Mean High Water	= 7.4
MTL, Mean Tide Level	= 5
MLW, Mean Low Water	= 2.6
MLLW, Mean Lower-Low Water	= 0

Graphics Legend:



Notes:

1. See Figure 2B for Site Plan view for detailed profile alignment and exploration locations.
2. Profile as drawn shows existing conditions at the T-Dock location.
3. Profile as drawn shows approximate locations and extents of supporting dock structures.
4. PG-1 offset from southwest corner of west side dock approach, by 50 feet south and 5 feet west.
5. No information exists for the installation of the existing timber pile lengths beneath the current T-Dock. Pile lengths and embedment depths unknown.
6. Transitions between soil units are best estimates and may vary from actual soil conditions.
7. Profile drawn from Sheet No. 3 of site topographic and bathymetric survey, provided by David Evans and Associates, Inc., dated May 27, 2022.
8. Topographic survey dated 5/2022, bathymetric survey dated 5/2019.
9. Horizontal Datum: North American Datum of 1983 with the 1991 adjustment (NAD/91) State Plane Coordinate System (SPCS), Washington North Zone based on survey control provided to DEA from Port of Anacortes.
10. Vertical Datum: Mean Lower Low Water (MLLW) National Tidal Datum Epoch 1941 - 1959 (NTDE41-59), based on Port of Anacortes Survey Control Monument "Jetty-2".

PanGEO INCORPORATED

T-Dock Replacement
Port of Anacortes
Anacortes, WA

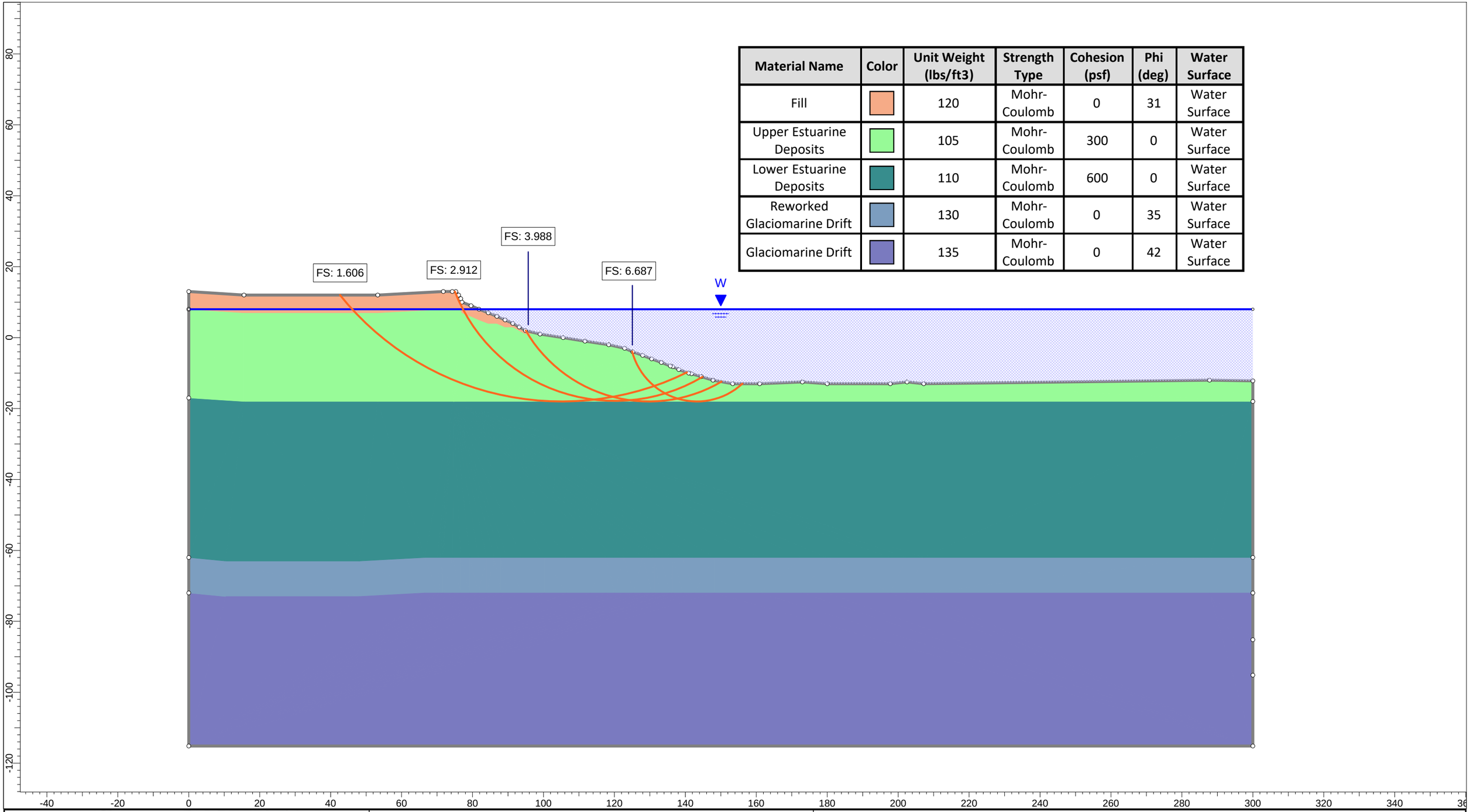
GENERALIZED SUBSURFACE PROFILE SECTION A-A'

Project No. **22-204**

Figure No. **3**

22-204 Figure 3.grf w/ 22-204 standard profile data.xls 7/13/22 (12:36:44) LAD

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface
Fill		120	Mohr-Coulomb	0	31	Water Surface
Upper Estuarine Deposits		105	Mohr-Coulomb	300	0	Water Surface
Lower Estuarine Deposits		110	Mohr-Coulomb	600	0	Water Surface
Reworked Glaciomarine Drift		130	Mohr-Coulomb	0	35	Water Surface
Glaciomarine Drift		135	Mohr-Coulomb	0	42	Water Surface



PanGEO INCORPORATED

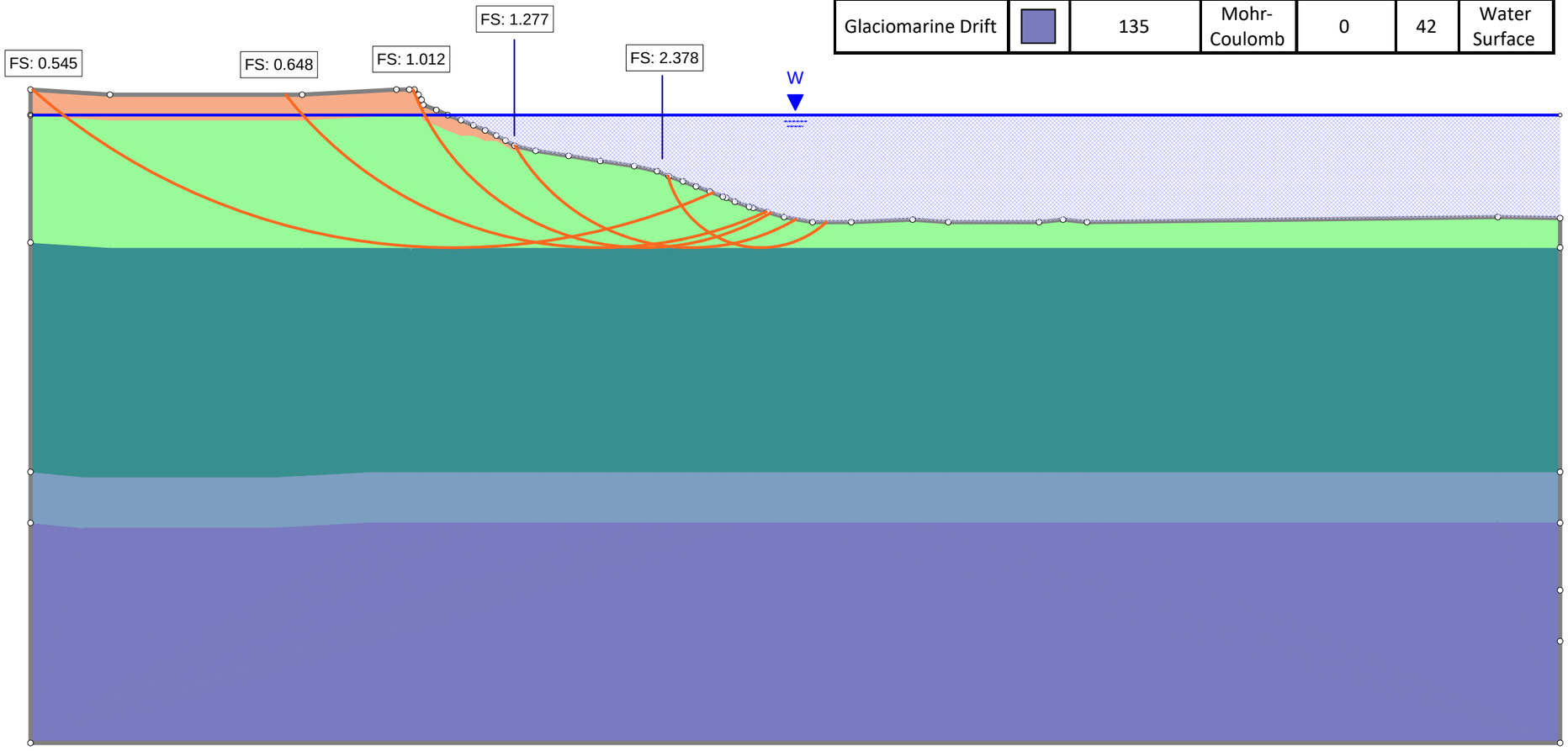
SLIDEINTERPRET 9.023

T-Dock Replacement
Port of Anacortes
Anacortes, WA

Static Global Stability Analysis
Profile AA'

Scale:	Project No.	Figure No.
1:300	22-204	4

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface
Fill		120	Mohr-Coulomb	0	31	Water Surface
Upper Estuarine Deposits		105	Mohr-Coulomb	300	0	Water Surface
Lower Estuarine Deposits		110	Mohr-Coulomb	600	0	Water Surface
Reworked Glaciomarine Drift		130	Mohr-Coulomb	0	35	Water Surface
Glaciomarine Drift		135	Mohr-Coulomb	0	42	Water Surface



PanGEO INCORPORATED

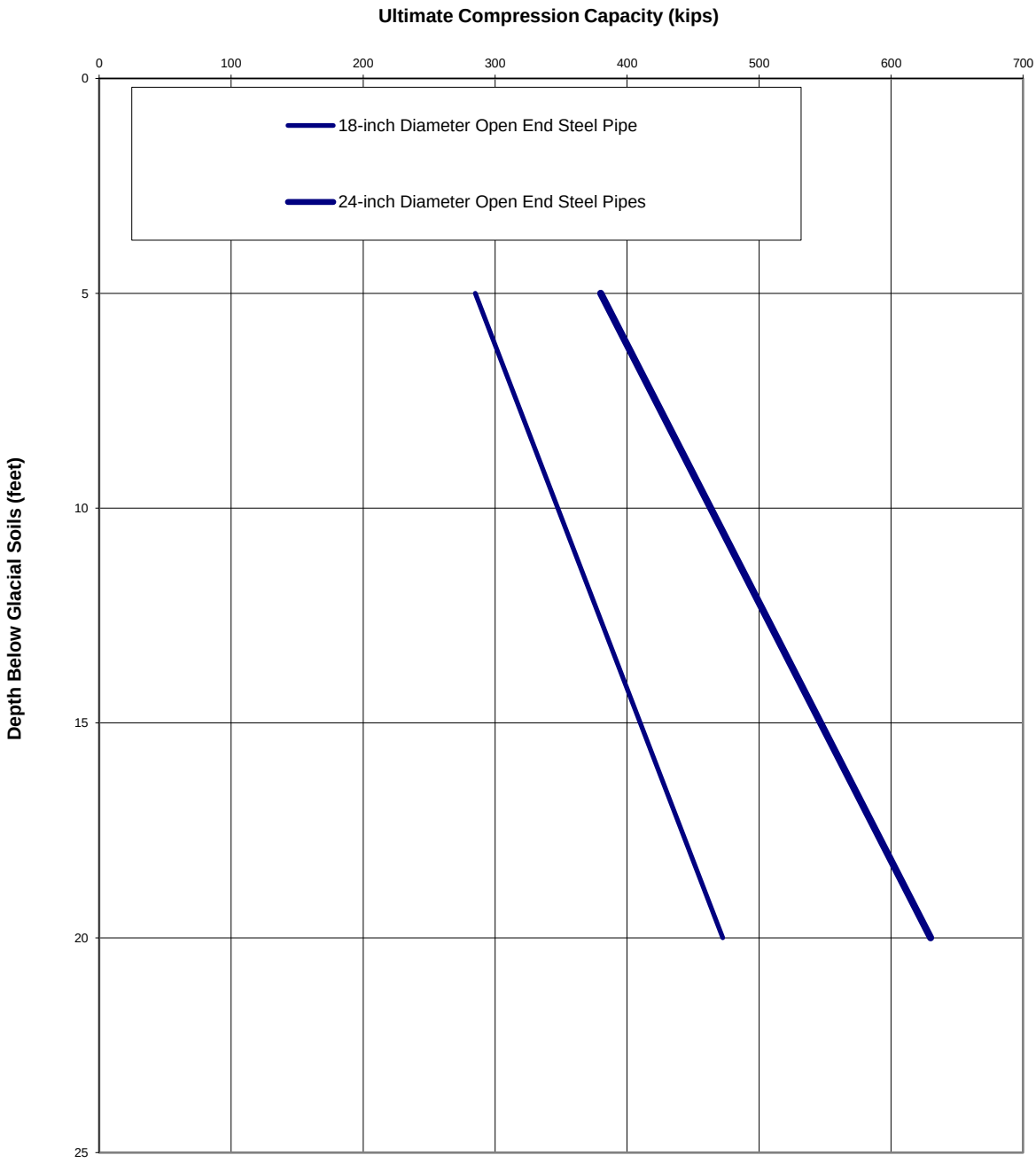
SLIDEINTERPRET 9.023

T-Dock Replacement
Port of Anacortes
Anacortes, WA

Pseudo-Static (Seismic) Global Stability Analysis

Profile AA'

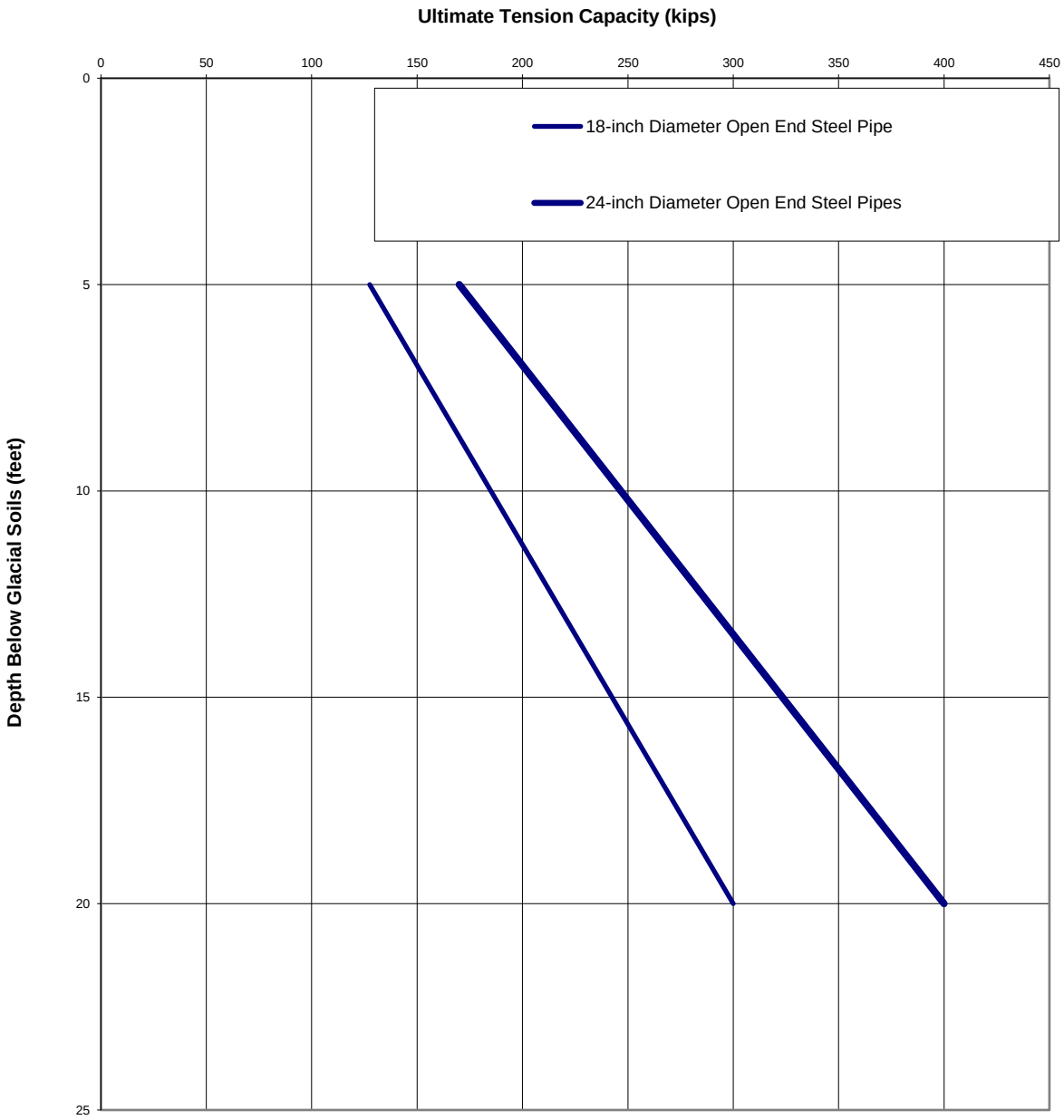
Scale:	Project No.	Figure No.
1:300	22-204	5



Note:

Top of glacial deposits estimated at Elevation -72 feet based on land-side exploratoions. See subsurface profile on Figure 3. Top of glacial soils may vary across the site.

PanGEO INCORPORATED	**T-Dock Replacemet Port of Anacortes Anacortes, WA**	**PILE CAPACITY CHART ULTIMATE COMPRESSION CAPACITY**	
		Project No. **22-204**	Figure No. **6**



Note:

Top of glacial deposits estimated at Elevation -72 feet based on land-side exploratoions. See subsurface profile on Figure 3. Top of glacial soils may vary across the site.

PanGEO INCORPORATED	**T-Dock Replacemet Port of Anacortes Anacortes, WA**	**PILE CAPACITY CHART ULTIMATE TENSION CAPACITY**	
		Project No. **22-204**	Figure No. **7**

APPENDIX A

SUMMARY BORING LOG

RELATIVE DENSITY / CONSISTENCY

SAND / GRAVEL			SILT / CLAY		
Density	SPT N-values	Approx. Relative Density (%)	Consistency	SPT N-values	Approx. Undrained Shear Strength (psf)
Very Loose	<4	<15	Very Soft	<2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Med. Dense	10 to 30	35 - 65	Med. Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	>50	85 - 100	Very Stiff	15 to 30	2000 - 4000
			Hard	>30	>4000

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		GROUP DESCRIPTIONS	
Gravel 50% or more of the coarse fraction retained on the #4 sieve. Use dual symbols (eg. GP-GM) for 5% to 12% fines.	GRAVEL (<5% fines)	GW	Well-graded GRAVEL
		GP	Poorly-graded GRAVEL
	GRAVEL (>12% fines)	GM	Silty GRAVEL
		GC	Clayey GRAVEL
Sand 50% or more of the coarse fraction passing the #4 sieve. Use dual symbols (eg. SP-SM) for 5% to 12% fines.	SAND (<5% fines)	SW	Well-graded SAND
		SP	Poorly-graded SAND
	SAND (>12% fines)	SM	Silty SAND
		SC	Clayey SAND
Silt and Clay 50%or more passing #200 sieve	Liquid Limit < 50	ML	SILT
		CL	Lean CLAY
		OL	Organic SILT or CLAY
	Liquid Limit > 50	MH	Elastic SILT
		CH	Fat CLAY
		OH	Organic SILT or CLAY
Highly Organic Soils		PT	PEAT

Notes: 1. Soil exploration logs contain material descriptions based on visual observation and field tests using a system modified from the Uniform Soil Classification System (USCS). Where necessary laboratory tests have been conducted (as noted in the "Other Tests" column), unit descriptions may include a classification. Please refer to the discussions in the report text for a more complete description of the subsurface conditions.

2. The graphic symbols given above are not inclusive of all symbols that may appear on the borehole logs. Other symbols may be used where field observations indicated mixed soil constituents or dual constituent materials.

DESCRIPTIONS OF SOIL STRUCTURES

Layered: Units of material distinguished by color and/or composition from material units above and below

Laminated: Layers of soil typically 0.05 to 1mm thick, max. 1 cm

Lens: Layer of soil that pinches out laterally

Interlayered: Alternating layers of differing soil material

Pocket: Erratic, discontinuous deposit of limited extent

Homogeneous: Soil with uniform color and composition throughout

Fissured: Breaks along defined planes

Slickensided: Fracture planes that are polished or glossy

Blocky: Angular soil lumps that resist breakdown

Disrupted: Soil that is broken and mixed

Scattered: Less than one per foot

Numerous: More than one per foot

BCN: Angle between bedding plane and a plane normal to core axis

COMPONENT DEFINITIONS

COMPONENT	SIZE / SIEVE RANGE	COMPONENT	SIZE / SIEVE RANGE
Boulder:	> 12 inches	Sand	
Cobbles:	3 to 12 inches	Coarse Sand:	#4 to #10 sieve (4.5 to 2.0 mm)
Gravel		Medium Sand:	#10 to #40 sieve (2.0 to 0.42 mm)
Coarse Gravel:	3 to 3/4 inches	Fine Sand:	#40 to #200 sieve (0.42 to 0.074 mm)
Fine Gravel:	3/4 inches to #4 sieve	Silt	0.074 to 0.002 mm
		Clay	<0.002 mm

TEST SYMBOLS

for In Situ and Laboratory Tests listed in "Other Tests" column.

ATT	Atterberg Limit Test
Comp	Compaction Tests
Con	Consolidation
DD	Dry Density
DS	Direct Shear
%F	Fines Content
GS	Grain Size
Perm	Permeability
PP	Pocket Penetrometer
R	R-value
SG	Specific Gravity
TV	Torvane
TXC	Triaxial Compression
UCC	Unconfined Compression

SYMBOLS

Sample/In Situ test types and intervals

- 2-inch OD Split Spoon, SPT (140-lb. hammer, 30" drop)
- 3.25-inch OD Spilt Spoon (300-lb hammer, 30" drop)
- Non-standard penetration test (see boring log for details)
- Thin wall (Shelby) tube
- Grab
- Rock core
- Vane Shear

MONITORING WELL

- Groundwater Level at time of drilling (ATD)
- Static Groundwater Level
- Cement / Concrete Seal
- Bentonite grout / seal
- Silica sand backfill
- Slotted tip
- Slough
- Bottom of Boring

MOISTURE CONTENT

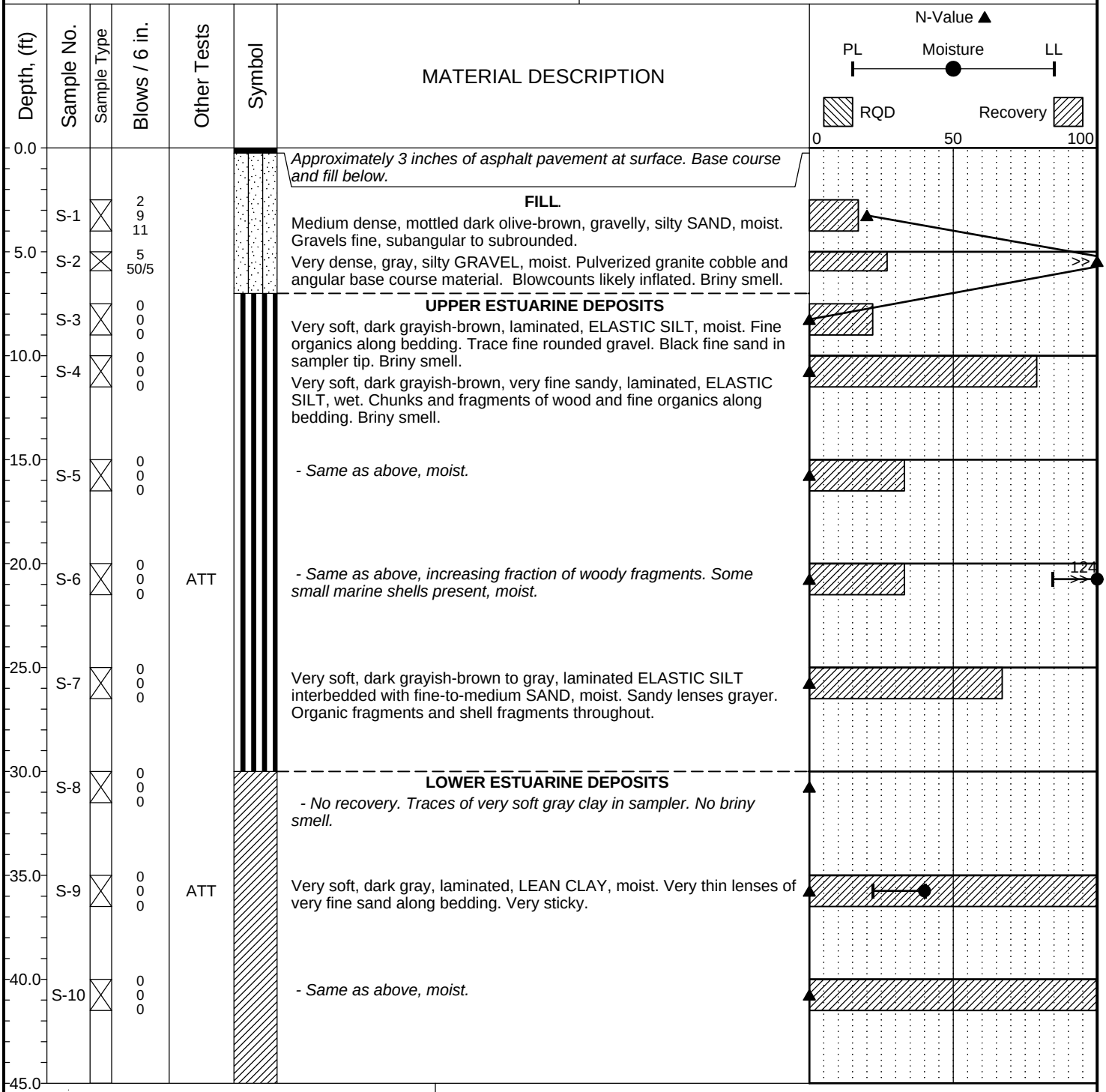
Dry	Dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water

PanGEO INCORPORATED
Phone: 206.262.0370

Terms and Symbols for Boring and Test Pit Logs

Figure A-1

Project:	T-Dock Replacement	Surface Elevation:	13.0ft
Job Number:	22-204	Top of Casing Elev.:	N/A
Location:	Port of Anacortes, Anacortes, Washington	Drilling Method:	Mud Rotary, Dietrich D-120 Truck Rig
Coordinates:	Northing: , Easting:	Sampling Method:	SPT, Automatic



Completion Depth:	101.5ft
Date Borehole Started:	6/27/22
Date Borehole Completed:	6/27/22
Logged By:	A. Ong
Drilling Company:	Holocene Drilling, Inc.

Remarks: Standard penetration test (SPT) sampler driven with a 140 lb. safety hammer w/30" drop. Hammer operated with an automatic mechanism. Elevation is approximate from client-provided site survey and coordinates based on their relative location to known site features. This information is provided for relative information only and is not a substitution for field survey. **Vertical datum: Mean Lower-Low Water (MLLW), taken from bathymetric survey provided by DEA, Inc., dated May 27, 2022.**

PanGEO INCORPORATED

LOG OF TEST BORING PG-1

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

Project:	T-Dock Replacement	Surface Elevation:	13.0ft
Job Number:	22-204	Top of Casing Elev.:	N/A
Location:	Port of Anacortes, Anacortes, Washington	Drilling Method:	Mud Rotary, Dietrich D-120 Truck Rig
Coordinates:	Northing: , Easting:	Sampling Method:	SPT, Automatic

Depth, (ft)	Sample No.	Sample Type	Blows / 6 in.	Other Tests	Symbol	MATERIAL DESCRIPTION
45.0	S-11		0 0 0	ATT		**LOWER ESTUARINE DEPOSITS** *- No recovery. Traces of very soft gray clay in sampler. No briny smell.* (Continued)
						- Same as above, moist.
50.0	S-12		0 0 0			*- Same as above, moist. Low recovery.*
55.0	S-13		0 0 0			*- No recovery.*
60.0	S-14		0 0 0	ATT		*- Same as above, moist. Sand fraction decreases.*
65.0	S-15		0 0 0			*- Same as above, moist. Stickiness increases. Slightly firmer to the touch than above samples.*
70.0	S-16		0 0 0			*- Same as above, moist.*
75.0	S-17		12 3 4			**REWORKED GLACIOMARINE DRIFT** *- Drilling action changed at 74 feet below grade to firmer material.* Sample split into two. Upper 6 inches at 75 feet, loose, dark gray, slightly silty to clean, fine to coarse SAND, wet. Lower 12 inches at 75.5 feet, medium stiff, dark gray, very fine sandy, laminated SILT, moist.
80.0	S-18		7 8 11			Very stiff, dark gray, very fine sandy, laminated SILT, moist. Trace subangular fine gravels.
85.0	S-19		11 50/2			**GLACIOMARINE DRIFT** Hard to very dense, dark gray, very fine sandy, laminated SILT interbedded with silty, fine SAND, moist. Some subrounded fine-to-medium gravel and coarse sand. Broken gravel in sampler tip.
90.0						

N-Value ▲
PL Moisture LL
RQD Recovery
0 50 100

Completion Depth:	101.5ft
Date Borehole Started:	6/27/22
Date Borehole Completed:	6/27/22
Logged By:	A. Ong
Drilling Company:	Holocene Drilling, Inc.

Remarks: Standard penetration test (SPT) sampler driven with a 140 lb. safety hammer w/30" drop. Hammer operated with an automatic mechanism. Elevation is approximate from client-provided site survey and coordinates based on their relative location to known site features. This information is provided for relative information only and is not a substitution for field survey. **Vertical datum: Mean Lower-Low Water (MLLW), taken from bathymetric survey provided by DEA, Inc., dated May 27, 2022.**

PanGEO INCORPORATED

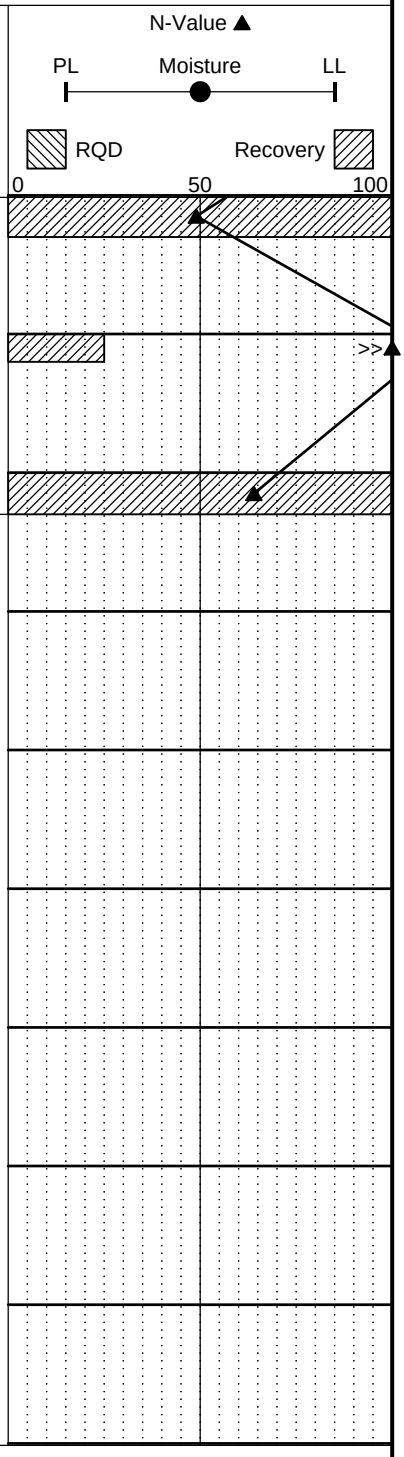
LOG OF TEST BORING PG-1

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

Project:	T-Dock Replacement	Surface Elevation:	13.0ft
Job Number:	22-204	Top of Casing Elev.:	N/A
Location:	Port of Anacortes, Anacortes, Washington	Drilling Method:	Mud Rotary, Dietrich D-120 Truck Rig
Coordinates:	Northing: , Easting:	Sampling Method:	SPT, Automatic

Depth, (ft)	Sample No.	Sample Type	Blows / 6 in.	Other Tests	Symbol	MATERIAL DESCRIPTION
90.0	S-20		16 23 26			**GLACIOMARINE DRIFT** Hard to very dense, dark gray, very fine sandy, laminated SILT interbedded with silty, fine SAND, moist. Some subrounded fine-to-medium gravel and coarse sand. Broken gravel in sampler tip. *(Continued)*
95.0	S-21		37 50/6			*- Same as above, moist. Becomes dense and massive in textrue.* *- Same as above, moist. Low recovery. Sample only in sampler tip.*
100.0	S-22		21 26 38			Hard, dark gray, slightly very fine sandy, SILT, moist. Alternates between laminated and massive textures. Some thin lenses of very fine sand. 1 thin layer of laminated organics at about 101 feet.
105.0						Boring terminated at approximately 101.5 feet below ground surface. No groundwater encountered. Boring abandoned with bentonite and pavement repaired with dyed concrete.
110.0						
115.0						
120.0						
125.0						
130.0						
135.0						



Completion Depth:	101.5ft
Date Borehole Started:	6/27/22
Date Borehole Completed:	6/27/22
Logged By:	A. Ong
Drilling Company:	Holocene Drilling, Inc.

Remarks: Standard penetration test (SPT) sampler driven with a 140 lb. safety hammer w/30" drop. Hammer operated with an automatic mechanism. Elevation is approximate from client-provided site survey and coordinates based on their relative location to known site features. This information is provided for relative information only and is not a substitution for field survey. **Vertical datum: Mean Lower-Low Water (MLLW), taken from bathymetric survey provided by DEA, Inc., dated May 27, 2022.**

PanGEO INCORPORATED

LOG OF TEST BORING PG-1

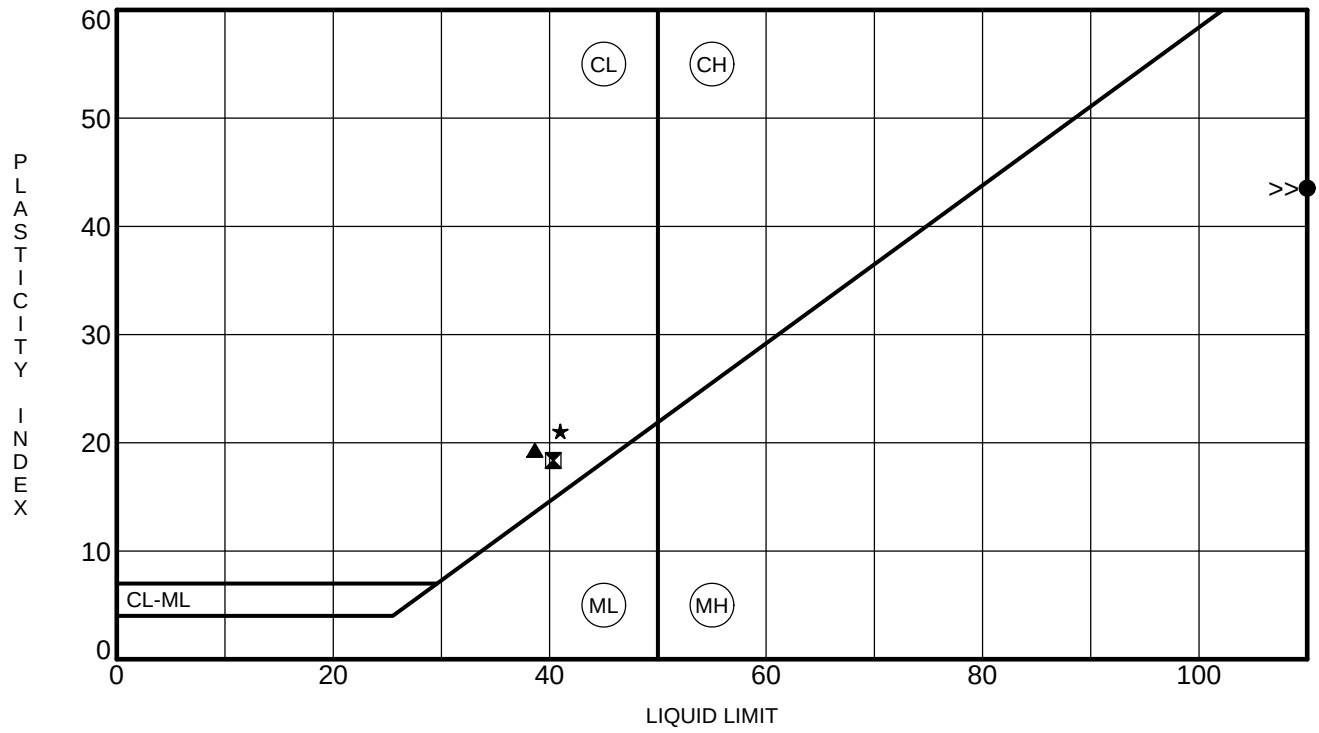
Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

Sheet 3 of 3

APPENDIX B

LABORATORY TESTING



	Specimen Identification		M	LL	PL	PI	Fines	Classification
●	**PG-1**	**20.0**	**124**	**128**	**85**	**43**		**Grayish-brown, ELASTIC SILT**
⊠	**PG-1**	**35.0**	**40**	**40**	**22**	**18**		**Dark gray, LEAN CLAY**
▲	**PG-1**	**45.0**	**41**	**39**	**19**	**20**		**Dark gray, LEAN CLAY**
★	**PG-1**	**60.0**	**41**	**41**	**20**	**21**		**Dark gray, LEAN CLAY**

PanGEO INCORPORATED
Phone: 206.262.0370

ATTERBERG LIMITS

Project: T-Dock Replacement
Job Number: 22-204
Location: Port of Anacortes, Anacortes, Washington

Figure B-2

ATTERBERG LIMITS 22-204 GINT LOGS.GPJ PANGEO.GDT 7/8/22

APPENDIX C

PREVIOUS EXPLORATIONS

Project:	Cap Sante Boat Haven Marina	Surface Elevation:	
Job Number:	04-076	Top of Casing Elev.:	N/A
Location:	Anacortes, Washington	Drilling Method:	Hollow Stem Auger
Coordinates:	Northing: , Easting:	Sampling Method:	SPT

Depth, (ft)	Sample No.	Sample Type	Blows / 6 in.	Other Tests	Symbol	MATERIAL DESCRIPTION
0						SILT to silty SAND. Non-plastic silt, fine sand, trace of wood debris, charcoal & roots, very loose to loose, gray, moist **(FILL)**.
	S-1		2 2 1			
5						
	S-2		0 0 3			Wet below 7.5 ft.
10						
	S-3		3 5 4			
15						
	S-4		3 4 5			Sample has mild petroleum smell.
20						
	S-5		2 3 4			
25						SILT. Medium-to-high plastic, occasional fine sand seams (< 1/4"), trace fine gravel, very soft, gray, moist to wet, sticky **(Estaurine Mud)**.
	S-6		0 0 2			
30						
	S-7		0 2			

N-Value ▲

PL Moisture LL

RQD Recovery

0 50 100

Completion Depth:	99.0ft
Date Borehole Started:	1/13/05
Date Borehole Completed:	1/13/05
Logged By:	CKM
Drilling Company:	Holocene Drilling, Inc.

Remarks:

PanGEO INCORPORATED

Phone: 206.262.0370

LOG OF TEST BORING B-05-01

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

LOG OF BOREHOLE 04-076-1.GPJ PANGEO.GDT 12/1/05

Project:	Cap Sante Boat Haven Marina	Surface Elevation:	
Job Number:	04-076	Top of Casing Elev.:	N/A
Location:	Anacortes, Washington	Drilling Method:	Hollow Stem Auger
Coordinates:	Northing: , Easting:	Sampling Method:	SPT

Depth, (ft)	Sample No.	Sample Type	Blows / 6 in.	Other Tests	Symbol	MATERIAL DESCRIPTION
35			1			SILT. Medium-to-high plastic, occasional fine sand seams (< 1/4"), trace fine gravel, very soft, gray, moist to wet, sticky **(Estaurine Mud)**. *(Continued)*
	S-8					Push Shelby tube.
40	S-9		0 11 6			
45	S-10		0 0 0			
50	S-11		0 0 0			
55	S-12		0 0 0			
60	S-13		0 0 0			
65			0			

N-Value ▲

PL Moisture LL

RQD Recovery

0 50 100

Completion Depth:	99.0ft
Date Borehole Started:	1/13/05
Date Borehole Completed:	1/13/05
Logged By:	CKM
Drilling Company:	Holocene Drilling, Inc.

Remarks:

PanGEO INCORPORATED
Phone: 206.262.0370

LOG OF TEST BORING B-05-01

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

LOG OF BOREHOLE 04-076-1.GPJ PANGEO.GDT 12/1/05

Project:	Cap Sante Boat Haven Marina	Surface Elevation:	
Job Number:	04-076	Top of Casing Elev.:	N/A
Location:	Anacortes, Washington	Drilling Method:	Hollow Stem Auger
Coordinates:	Northing: , Easting:	Sampling Method:	SPT

Depth, (ft)	Sample No.	Sample Type	Blows / 6 in.	Other Tests	Symbol	MATERIAL DESCRIPTION
	S-14		0 0			1" thick seam of coarse sand observed at midpoint of sample, sand has salt and pepper appearance.
70						Silty SAND, fine to coarse sand, grades coarser with depth, medium dense to dense, gray, sand has salt and pepper appearance, wet **(RECESSIONAL OUTWASH)**
	S-15		6 14 22			
75						
	S-16		7 10 10			
80						SILT. Non-plastic, trace fine sand, trace fine gravel, dense to very dense, gray, moist **(GLACIAL TILL)**
	S-17		5 17 17			
85						
	S-18		28 50/5			
90						
	S-19		16 26 31			No gravel below 92 ft.
95						
	S-20		19 32 36			
100						Bottom of Boring at 99 ft..

N-Value ▲
PL Moisture LL
RQD Recovery
0 50 100

Completion Depth:	99.0ft
Date Borehole Started:	1/13/05
Date Borehole Completed:	1/13/05
Logged By:	CKM
Drilling Company:	Holocene Drilling, Inc.

Remarks:

PanGEO INCORPORATED
Phone: 206.262.0370

LOG OF TEST BORING B-05-01

Figure A-2

The stratification lines represent approximate boundaries. The transition may be gradual.

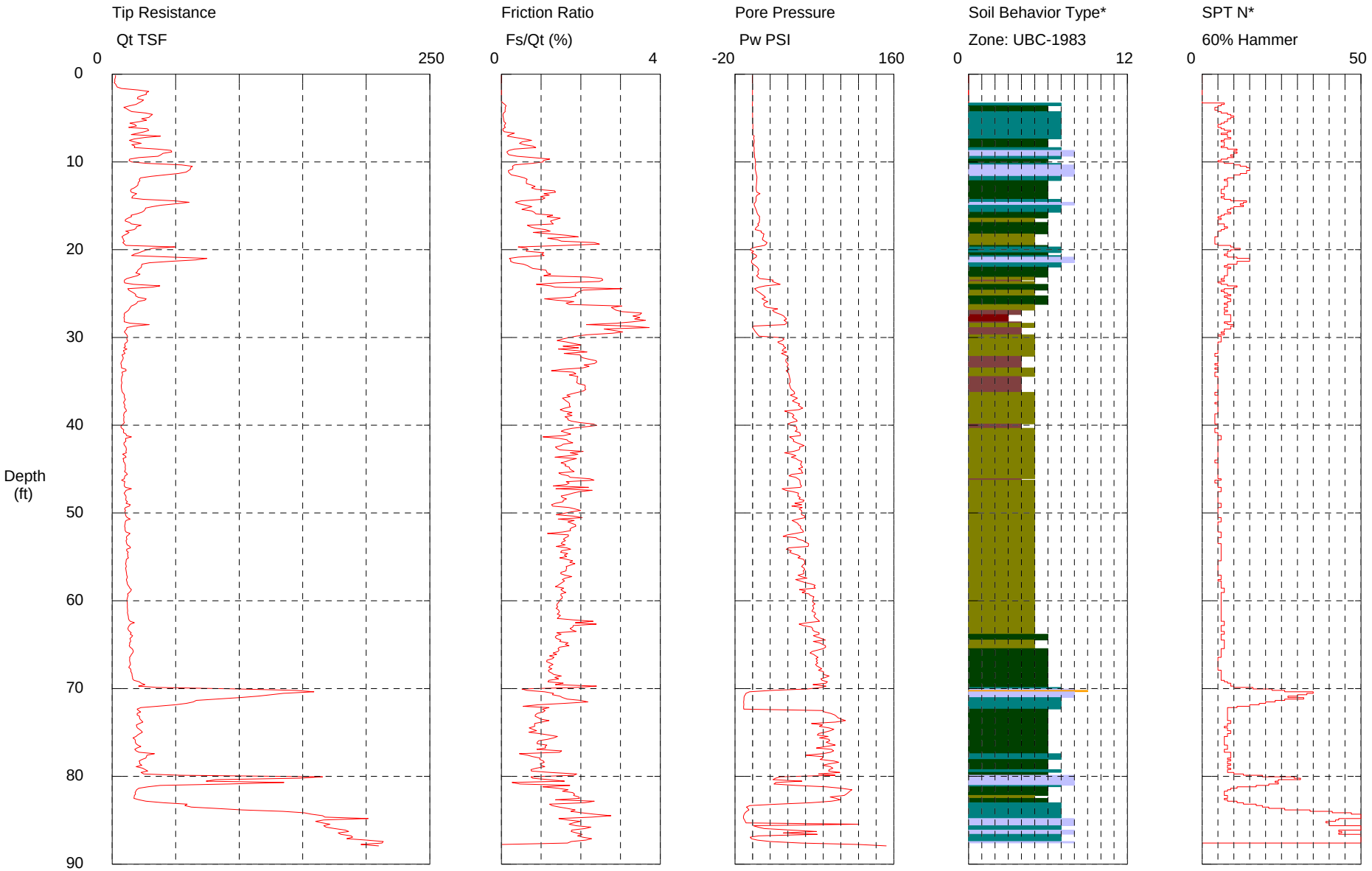
Sheet 3 of 3

LOG OF BOREHOLE 04-076-1.GPJ PANGEO.GDT 12/1/05

PanGeo

Operator: Brown
Sounding: CPT-05-01
Cone Used: DSG0851

CPT Date/Time: 1/25/2005 8:51:04 AM
Location: Cap Sante Boat Haven
Job Number:



Maximum Depth = 87.93 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*Soil behavior type and SPT based on data from UBC-1983

Northwest Cone Exploration

APPENDIX D

PILE DRIVING RECORDS FROM B-DOCK

PILE LOG AND DRIVING RECORD

PROJECT NO. 004-98 PREPARED BY: Terry Culbertson

PROJECT POA 'B-dock' DATE: March 5, 1999

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
1				1	4	114		Initial water depth was -7'
2				2	5	114		
3				3	7	114		
4				4	7	114		
5				5	9	114		
6				6	11	114		
7				7	10	114		
8				8	12	114		
9				9				
10				0				
1				1				
2				2				
3				3				
4				4				
5	Weight			5				
6	of pile			6				
7	+ hammer			7				
8				8				
9				9				
20				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
30				0				
1				1				
2				2				
3	▼			3				
4	5	114		4				
5	5	114		5				
6	3	114		6				
7	3	114		7				
8	4	114		8				
9	4	114		9				
40	5	114		0				

PILE TYPE: Galv Steel 12 3/4" X 70' Dia. & Tip

LOCATION: Float #1 (1M)

DATE DRIVEN: March 5

HAMMER TYPE: Union #1

MANUFACTURER: Union Iron Works

RATED ENERGY: 13,100 ft. lbs

CONTRACTOR: Culbertson Marine Const Co.

FOREMAN: Andy Culbertson

CUTOFF ELEV.: +15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

PROJECT NO. 004-98 PREPARED BY: Terry Culbertson

PROJECT POA B-dock DATE: March 5, 1999

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
1				1	7	96		Initial water depth was -7'
2				2	5	96		
3				3	9	96		
4				4	10	96		
5				5	10	96		
6				6	11	96		
7				7	9	96		
8				8	11	96		
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7	Weight			7				
8	of pile			8				
9	& hammer			9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4	↓			4				
5	5	96		5				
6	6	96		6				
7	8	96		7				
8	1	96		8				
9	5	96		9				
0	7	96		0				

PILE TYPE: Galv Steel 12¾ x .500 x 70' OA Tip

LOCATION: Float #2 (2M)

DATE DRIVEN: March 5, 1999

HAMMER TYPE: Union #1

MANUFACTURER: Union Iron Works

RATED ENERGY: 13,100 ft. lbs.

CONTRACTOR: Culbertson Marine Const. Inc

FOREMAN: Andy Culbertson

CUTOFF ELEV.: +15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

PROJECT NO. 004-98 PREPARED BY: Mike Anderson

PROJECT POA B-dock DATE: 3-9-99

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
10				0				

14-wds

3 wds

PILE TYPE: Steel 12¾ Ø .250 wall Tip
LOCATION: Float #3 West 3M
DATE DRIVEN: March 9, 1999
HAMMER TYPE: Union #1
MANUFACTURER: Union
RATED ENERGY: 13,100 ft lb

CONTRACTOR: Culbertson Marine Construction
FOREMAN: Andy Culbertson
CUTOFF ELEV.: +15
INITIAL LENGTH: 70'
SPLICE LENGTH: —
FINAL LENGTH: 70'
EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

PROJECT NO. 004-94 PREPARED BY: Mike Anderson

PROJECT POA 13-dock DATE: March 9, 1999

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
12 1				21	10			4th pile out from shore north side
13 2				22	10			
14 3				23	12			
15 4	14			24	13			
16 5	9			25	11			
17 6				26	13			
18 7				27	12			
19 8				28	11			
20 9	4			29	11			
21 10				30	17			
22 1				31				
23 2				32				
24 3				33				
25 4				34				
26 5				35				
27 6				36				
28 7				37				
29 8				38				
30 9				39				
31 0				40				
32 1				41				
33 2				42				
34 3				43				
35 4				44				
36 5				45				
37 6				46				
38 7				47				
39 8				48				
40 9	4			49				
41 0	12			50				
42 1	10			51				
43 2	10			52				
44 3	9			53				
45 4	9			54				
46 5	10			55				
47 6	12			56				
48 7	5			57				
49 8	9			58				
50 9	10			59				
				60				

PILE TYPE: Steel 12¾ ø Open end

LOCATION: (4M)

DATE DRIVEN: March 9, 1999

HAMMER TYPE: Union #1

MANUFACTURER: Union

RATED ENERGY: 13,100 FB 14

CONTRACTOR: Culbertson Marine Construction

FOREMAN: Andy Culbertson

CUTOFF ELEV.: #15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

Mike Anderson

PROJECT NO. 004-98 PREPARED BY: _____

PROJECT POA B-dock DATE: March 9, 1999

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
19 1				1	57	CB		18' wide
20 2				2	60	7		
21 3	1c			3	61	8		
22 4				4	62	9		
23 5	91			5	63			
24 6				6	64			
25 7				7	65			
26 8				8				south side short dock
27 9				9				
28 0				0				
29 1				1				
30 2				2				
31 3				3				
32 4				4				
33 5				5				
34 6				6				
35 7	4			7				
36 8				8				
37 9				9				
38 0	5			0				1 st dock
39 1				1				
40 2	6			2				
41 3				3				
42 4				4				
43 5				5				
44 6				6				
45 7				7				
46 8				8				
47 9				9				
48 0	4			0				
49 1	4			1				
50 2	4			2				
51 3	4			3				
52 4	4			4				
53 5	6			5				
54 6	6			6				
55 7	6			7				
56 8	7			8				
57 9	8			9				
58 0				0				

PILE TYPE: Steel 12¾ ø

LOCATION: (SF)

DATE DRIVEN: March 7, 1999

HAMMER TYPE: Union #1

MANUFACTURER: Union

RATED ENERGY: 13,100 Ft. lbs

CONTRACTOR: Culbertson Marine Const., Inc.

FOREMAN: Andy Culbertson

CUTOFF ELEV.: +15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY: _____

PILE LOG AND DRIVING RECORD

PROJECT NO. 604-96 PREPARED BY: Mike Hutchison

PROJECT POA - B dock DATE: 1-20-99

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
23 1	pk			68 1	16			Water 22'
24 2				69 2	14			
25 3				69 3	20			
26 4				62 4				
27 5				63 5				
28 6				66 6				
25 7				65 7				
30 8				66 8				
31 9				67 9				
32 0				66 0				end 205
33 1				1				
34 2				2				
35 3				3				
36 4	*			4				
37 5	10			5				
38 6	5			6				
39 7	6			7				
40 8	7			8				
41 9	9			9				
42 0	13			0				
43 1	12			1				
44 2	20			2				
45 3	10			3				
46 4	8			4				
47 5	8			5				
48 6	8			6				
49 7	6			7				
50 8	6			8				
51 9	7			9				
52 0	9			0				
53 1	11			1				
54 2	15			2				
55 3	14			3				
56 4	9			4				
57 5	10			5				
58 6	11			6				
59 7	14			7				
60 8	15			8				
61 9	19			9				
62 0	17			0				

PILE TYPE: Steel 14 Ø Uniform tip (25 F)
LOCATION:
DATE DRIVEN: Jan 20, 1999
HAMMER TYPE: Unim #1
MANUFACTURER: Unim
RATED ENERGY: 13,100 ft. lbs

CONTRACTOR: Cultesdon Marine Construction, Inc.
FOREMAN: Mike Stanton
CUTOFF ELEV.: +15
INITIAL LENGTH: 70'
SPLICE LENGTH: —
FINAL LENGTH: 70'
EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

Ted Kitzmiller

PROJECT NO. 004-98 PREPARED BY: TK

PROJECT POA DATE: 2/16/99 9:30"

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
1				60 1	30			
2				61 2	29			
3				62 3	111			
4				63 4	158			
5				64 5	190			
6				65 6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				

PILE TYPE: Steel 16" ø (151) END 1

LOCATION:

DATE DRIVEN: 2-16-99

HAMMER TYPE: Union #1

MANUFACTURER: Union

RATED ENERGY: 13,100 ft lbs

CONTRACTOR: Culbertson Marine Const. Inc.

FOREMAN: Mike Stuckey

CUTOFF ELEV.: +15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY:

PILE LOG AND DRIVING RECORD

PROJECT NO. 004-98 PREPARED BY: Terry Culbertson for Mike Anderson

PROJECT P.A B-dock DATE: March 8, 1999

DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	DEPTH OF PENET.	BLOWS/FT	BLOWS /MIN.	EST. ENERGY	REMARKS
1	weight of			1	12	110		Initial water
2	↓			2	12	110		depth - 12
3				3				
4				4				
5				5				
6				6				
7				7				
8				8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5				5				
6				6				
7	Weight of			7				
8	hammer			8				
9				9				
0				0				
1				1				
2				2				
3				3				
4				4				
5	↓			5				
6	6	110		6				
7	5	110		7				
8	6	110		8				
9	4	110		9				
0	5	110		0				
1	7	110		1				
2	7	110		2				
3	7	110		3				
4	5	110		4				
5	8	110		5				
6	6	110		6				
7	7	110		7				
8	8	110		8				
9	9	110		9				
0	9	110		0				

PILE TYPE: 12.75 x .500 x 70' Open End

LOCATION: [illegible] 3NF

DATE DRIVEN: March 8, 1999

HAMMER TYPE: Unim #1

MANUFACTURER: Union Iron Works

RATED ENERGY: 13,100 ft lbs.

CONTRACTOR: Culbertson Marine Const. Inc.

FOREMAN: Andy Culbertson

CUTOFF ELEV.: +15

INITIAL LENGTH: 70'

SPLICE LENGTH: —

FINAL LENGTH: 70'

EST. BEARING CAPACITY:

APPENDIX E

PILE DRIVING RECORDS FROM A-DOCK

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock - Abutment **Project No:** 04-076-20

Date: 12/23/20 **Weather:** 30 degs, overcast **Start Time:** 8:03 **Stop Time:** 8:12

Pile No.: A1 **Pile Type:** 18"ϕ OPEN END **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 72½ ft. **Length Driven:** 70½ ft. **Ref. Elev.** Ground 12 ft. **Tip Elev.** -58' ft. **Cutoff Elev.** ____ ft.

Steel Pile Grade/Heat: ____ **Wall Thickness:** ½ in. **Shoe:** — as built Tip -58½

Precast Pile Mfr. Cert./Pile No.: ____ **Mfr.:** ____ **Date Cast:** ____ **Weight:** ____ lbs.

Hammer M&M: D-30-52 APE **Helmet:** ____ lbs. **Ram Wt.:** 6,615 lbs. **Rated Energy:** 74,419 ft.-lbs.

Pile Cushion thickness/material: 1-inch Micarta **PanGEO Repr.:** S. Scott

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			Driven ~61½'	31			
2			w/APE 200	32			
3			Vibratory hammer	33			
4			prior to visit (12 hz)	34			
5				35			
6				36			
7				37			
8				38			
9				39			
60 ~~10~~				40			
11	16.0	5.7		41			
12	16.0	5.3		42			
13	16.0	5.3		43			
14	16.0	6.0		44			
15	16	5.7		45			
16	16	6.0		46			
17	16	5.3		47			
18	16	5.7		48			
19	16	6.0		49			
70 ~~20~~	16	6.0	to bottom of excavation	50			
21			~ 12' EL	51			
22			~164 tons capacity	52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			
29				59			
80 ~~30~~				60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A dock -Abutment Project No: 04-076-201

Date: 12/30/20 * 01/04/21 Weather: 40s - rain/overcast Start Time: 8:58 am Stop Time: 9:15

Pile No.: A2 Pile Type: 18" Φ open end Tip Ø: — in. Butt Ø: — in. Batter: —

Pile Length: 72 ft. Length Driven: ____ ft. Ref. Elev. 12 ¼ ft. Tip Elev. -58' ft. Cutoff Elev. 13.5 ft.

Steel Pile Grade/Heat: UPPER 40' coated Wall Thickness: ½" in. Shoe: - as built tip elev. ~ -58 ft

Precast Pile Mfr. Cert./Pile No.: ____ Mfr.: ____ Date Cast: ____ Weight: ____ lbs.

Hammer M&M: D-30-52 APE Helmet: ____ lbs. Ram Wt.: 6615 lbs. Rated Energy: 74,419 ft.-lbs.

Pile Cushion thickness/material: 1-inch micarta PanGEO Repr.: S. Scott

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			Driven to ~ 64'	31			
2			w/ APE-200 (8' above CO)	32			
3			vibratory hammer	33			
4			prior to visit	34			
5			(morning 12/31)	35			
6				36			
7			~ 13.5' stick up from	37			
8			water level @ 11:45	38			
9			* troubleshooting Hammer	39			
60 ~~10~~			from 12pm - 2pm	40			
11	dry fire		unable to fix, will	41			
12	18	3.2	retap @ later date	42			
13	20	4.4	* continue on 01/04/21	43			
14	22	5.0		44			
15	25	5.3		45			
16	35	5.8		46			
17	32	5.7		47			
18	32	5.7	~ 198 ton	48			
19	32	5.7	Capacity	49			
70 ~~20~~	32	5.7		50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			
29				59			
80 ~~30~~				60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock -Abutment Project No: 04-076-201

Date: 12/23/20 Weather: 30s -overcast Start Time: 2:00 pm Stop Time: 2:14 pm

Pile No.: A3 Pile Type: 18" ø open end Tip Ø: - in. Butt Ø: - in. Batter: -

Pile Length: 72 ft. Length Driven: 70½ ft. Ref. Elev. 12 ft. Tip Elev. -58ft. Cutoff Elev. ___ ft.

Steel Pile Grade/Heat: ___ Wall Thickness: ½" in. Shoe: - as built tip -58½' ft

Precast Pile Mfr. Cert./Pile No.: ___ Mfr.: ___ Date Cast: ___ Weight: ___ lbs.

Hammer M&M: D-30-52 APE Helmet: ___ lbs. Ram Wt.: 6,615 lbs. Rated Energy: 74,419 ft.-lbs.

Pile Cushion thickness/material: 1-inch Micarta PanGEO Repr.: S. Scott

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			Driven ~ 62'	31			
2			w/ APE 200	32			
3			vibratory hammer	33			
4			prior to visit (12/22)	34			
5				35			
6			~6" of top of pile cut	36			
7			to accomodate new	37			
8			helmet	38			
9				39			
60 ~~10~~				40			
11	20	4.1		41			
12	15	5.0		42			
13	23	5.0		43			
14	25	5.0		44			
15	25	5.0		45			
16	24	4.7		46			
17	31	5.3		47			
18	38	6.1		48			
19	40	5.7	to bottom of exc. ~12ft	49			
70 ~~20~~	40	5.7	~212 ton capacity	50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			
29				59			
80 ~~30~~				60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock - Abutment **Project No:** 04-076-20

Date: 12/23/20 **Weather:** 30s - overcast **Start Time:** 8:15 **Stop Time:** 12:42 pm

Pile No.: A4 **Pile Type:** 18" ϕ open end **Tip Ø:** - in. **Butt Ø:** - in. **Batter:** -

Pile Length: 72½ ft. **Length Driven:** 70½ ft. **Ref. Elev.** 12' ft. **Tip Elev.** -58 ft. **Cutoff Elev.** ____ ft.

Steel Pile Grade/Heat: ____ **Wall Thickness:** ½" in. **Shoe:** - as built tip elev. -58½ ft

Precast Pile Mfr. Cert./Pile No.: ____ **Mfr.:** ____ **Date Cast:** ____ **Weight:** ____ lbs.

Hammer M&M: D-30-52 APE **Helmet:** ____ lbs. **Ram Wt.:** 6,615 lbs. **Rated Energy:** 74,499 ft.-lbs.

Pile Cushion thickness/material: 1-inch Micarta **PanGEO Repr.:** S. Scott

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			Driven ~ 61.5'	31			
2			w/ APE 200	32			
3			vibratory hammer	33			
4			prior to visit (12/22)	34			
5				35			
6				36			
7				37			
8				38			
9				39			
60 ~~10~~				40			
11	7	-	helmet broke	41			
12	15	5.3	first foot ~62'	42			
13	14	5.7	@ ~8:15 am	43			
14	15	5.3	downtime → ~ 1:36 pm	44			
15	18	6.4	torching top of pile, new	45			
16	16	6.0	helmet won't fit due to	46			
17	22	5.3	crease in top of pile	47			
18	24	5.0	~6" cut off	48			
19	20	5.3		49			
70 ~~20~~	20	5.7	to bottom of excl. 2'	50			
21			~170 tons	51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			
29				59			
80 ~~30~~				60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Float W/C **Project No:** 04-076.201

Date: 11/12/21 **Weather:** 50's -light rain **Start Time:** 2:00 pm **Stop Time:** 2:20 pm

Pile No.: M1 **Pile Type:** 18"Ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80 ft. **Length Driven:** ~71 ft. **Ref. Elev.:** ~10' tide ft. **Tip Elev.:** -61½ ft. **Cutoff Elev.** 18½ ft.

Steel Pile Grade/Heat: Astm252 gr-3 **Wall Thickness:** ½" in. **Shoe:** as built tip el ~ -61½'

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** ~2,700 lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 41100 ft-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S Scott

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			~20 foot water depth	31	7		
2				32	7		
3			~25' under water	33	7		
4				34	7		stopped to remove
5				35	4		slack line
6	3			36	4		+ check level
7	3			37	4		
8	3			38	4		
9	3			39	5		
10	3		stopped to check level	40	6		
11	4			41	6		
12	4			42	5		
13	4			43	5		
14	4			44	5		stopped to check level
15	5			45	6		
16	5			46	6		
17	6			47	7		
18	6		Stopped to check level	48	7		
19	6			49	7		
20	7			50	10		
21	7			51	10		to ~El -61½'
22	5			52			
23	5			53			left ~6" high
24	5			54			to cut off
25	5			55			due to hammer
26	5			56			crimping top of pile
27	6			57			
28	7			58			
29	7			59			
30	7			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Float piles **Project No:** 04-076-201

Date: 1/12/21 **Weather:** 40s - light Rain **Start Time:** 8:57am **Stop Time:** 9:04 am

Pile No.: M2 **Pile Type:** 18"Ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** ~72' ft. **Ref. Elev.** ~10' tide ft. **Tip Elev.** -62 ft. **Cutoff Elev.** 18 ft.

Steel Pile Grade/Heat: ASTM 252 grade 3 **Wall Thickness:** ½ in. **Shoe:** as built tip EL -62

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE - 200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ft.-lbs.

Pile Cushion thickness/material: - **PanGEO Repr.:** S. Scott

Feet	Steel ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Steel ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks
1			~20' water	31	4		
2			depth	32	4		
3			~25' under weight	33	4		
4			↑	34	4		
5				35	4		
6	3			36	4		
7	3			37	4		
8	3			38	4		
9	3			39	4		
10	3		stop to check level 60	40	5		
11	3			41	5		check level
12	4			42	5		
13	4			43	5		
14	4			44	5		
15	4			45	5		
16	4			46	6		
17	4			47	6		
18	4			48	8		
19	3			49	8		
20	3		70	50	10		
21	3			51	15		
22	3			52	15		tip elev ~ -62'
23	3		stop to check level	53			
24	3			54			
25	3			55			
26	4			56			
27	4			57			
28	4			58			
29	4			59			
30	4		Stop to remove slack-line	60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Float Piles **Project No:** 04-076-201

Date: 11/12/21 **Weather:** 40s - light rain **Start Time:** 8:15am **Stop Time:** 8:30 am

Pile No.: M3 **Pile Type:** 18"Ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** ~72' ft. **Ref. Elev.** ~10' tide ft. **Tip Elev.** -62 ft. **Cutoff Elev.** 18 ft.

Steel Pile Grade/Heat: ASTM 252 grade 3 **Wall Thickness:** ½" in. **Shoe:** as built tip EL -62'

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ft.-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:**

Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Blows	Stroke/ Pressure/ Blows/min.	Remarks
1			~20' water	31	4		removed slackline
2			depth	32	4		
3			~25 foot under	33	4		
4			weight	34	4		
5				35	4		
6	3			36	4		
7	3			37	4		
8	3			38	4		
9	3			39	5		
10	4		Stop to check level 60'	40	5		
11	4			41	5		
12	4			42	5		
13	4			43	4		
14	4			44	4		
15	4			45	4		
16	4			46	4		
17	4			47	4		
18	3			48	6		
19	3			49	6		
20	3		70'	50	9		
21	3		Stop to check level	51	12		
22	3			52	16		tip elevation
23	3			53			~62'
24	3			54			
25	3			55			
26	3			56			
27	3			57			
28	3			58			
29	3			59			
30	3			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Float Piles **Project No:** 04-076-201

Date: 1/11/21 **Weather:** 40s Cloudy + Windy **Start Time:** 10:53 am **Stop Time:** 11:25 am

Pile No.: M4 **Pile Type:** 18" ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** 71 ft. **Ref. Elev.** 29' tide ft. **Tip Elev.** -62' ft. **Cutoff Elev.** 18 ft.

Steel Pile Grade/Heat: ASTM 252 grade 3 **Wall Thickness:** ½ in. **Shoe:** as built tip elevation ~-62

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ft.-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	~~Blows~~ Sec/ft	Stroke/ Pressure/ Blows/min.	Remarks	Feet	~~Blows~~ Sec/ft	Stroke/ Pressure/ Blows/min.	Remarks
1			~20' water depth	31	3		
2				32	3		
3			~25 under weight	33	3		
4			↑ of hammer	34	3		
5				35	4		
6	3			36	4		
7	3			37	4		
8	3			38	4		
9	3			39	4		
10	3		• Stopped to check level 60'	40	4		
11	3		• pulled up to reposition float	41	5		• stopped to check level
12	3			42	5		
13	3			43	5		
14	3			44	5		
15	3			45	5		
16	3			46	5		
17	4			47	5		
18	3			48	8		
19	4			49	10		
20	4		• Stopped to check level 70'	50	10		
21	5			51	12		
22	6			52	++		~-62' TIP EL
23	6			53			
24	6			54			
25	4			55			
26	6			56			
27	5			57			
28	5			58			
29	5		• check level	59			
30	5		Stopped to remove slackline	60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Finger Install **Project No:** 04-076.200

Date: 3/4/21 **Weather:** 58° - windy overcast/light rain **Start Time:** 2:52 pm **Stop Time:** 3:04 pm

Pile No.: F1 **Pile Type:** 18"Ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80 ft. **Length Driven:** 63' ft. **Ref. Elev.** ~1' tide ft. **Tip Elev.** -62' ft. **Cutoff Elev.** 18' ft.

Steel Pile Grade/Heat: 252 gr 3 **Wall Thickness:** ½" in. **Shoe:** —

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ~~ft-lbs.~~ kJ

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	sec/ft Blows	Stroke/ Pressure/ Blows/min.	Remarks	Feet	sec/ft Blows	Stroke/ Pressure/ Blows/min.	Remarks
1	3		~15' Depth of	31	6		
2	3		water	32	6		
3	3			33	5		
4	3		~20 under weight	34	6		
5	3		of pile	35	6		
6	3			36	6		
7	3			37	6		
8	3			38	8		
9	3			39	7		Stopped to remove slack line
30 ~~40~~	3		60	~~40~~	10		
11	3		Stopped to check level	41	11		harder driving action
12	3			42	10		
13	3			43	12		
14	3			44			
15	3			45			
16	3			46			~EL -62'
17	3			47			
18	3			48			
19	3			49			
40 ~~20~~	3		70	~~50~~			
21	3			51			
22	3		Stopped to check level	52			
23	3		- lifting to ~32'	53			
24	3			54			
25	3			55			
26	4			56			
27	4		stopped to check level	57			
28	3		- lifted to ~38'	58			
29	3			59			
50 ~~30~~	3			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Finger Install **Project No:** 04-076.200

Date: 3/4/21 **Weather:** 50° - Windy & Overcast **Start Time:** 4:40 pm **Stop Time:** 4:46pm

Pile No.: F2 **Pile Type:** 18"Ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80 ft. **Length Driven:** 63 ft. **Ref. Elev.** ~1' Tide ft. **Tip Elev.** -62' ft. **Cutoff Elev.** 18' ft.

Steel Pile Grade/Heat: 252 gr. 3 **Wall Thickness:** ½" in. **Shoe:** —

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ft.-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	Sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks	Feet	Sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks
1	6		~15 Depth of	31	5		
2	6		water	32	5		
3	6			33	5		
4	6		~20 under weight	34	5		
5	6		of pile	35	5		
6	6			36	5		
7	6		possible rocky	37	5		stop to remove slack
8	6		surface	38	8		line
9	6			39	11		harder driving
30 ~~10~~	4		stopped to check 60	~~40~~	10		conditions
11	4		level	41	10		
12	4			42	10		
13	4			43	12		
14	4			44			
15	4			45			
16	4			46			
17	4			47			~EL -62 ft
18	4			48			
19	4			49			
40 ~~20~~	4		70	~~50~~			
21	4			51			
22	4			52			
23	4			53			
24	4			54			
25	4			55			
26	4			56			
27	4			57			
28	4			58			
29	4			59			
50 ~~30~~	4		Stopped to check level	60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Finger Install **Project No:** 04-076.200

Date: 3/2/21 **Weather:** 40's overcast **Start Time:** 2:22 pm **Stop Time:** 2:27 pm

Pile No.: F3 **Pile Type:** 18" Ø - ½" **Tip Ø:** - in. **Butt Ø:** - in. **Batter:** -

Pile Length: 80' ft. **Length Driven:** 67' ft. **Ref. Elev.** 25' tide ft. **Tip Elev.** -62 ft. **Cutoff Elev.** 18 ft.

Steel Pile Grade/Heat: 252 gr.3 **Wall Thickness:** ½" in. **Shoe:** -

Precast Pile Mfr. Cert./Pile No.: - **Mfr.:** - **Date Cast:** - **Weight:** 12,760 lbs.

Hammer M&M: APE-200 **Helmet:** - lbs. **Ram Wt.:** - lbs. **Rated Energy:** 4,400 ft-lbs.

Pile Cushion thickness/material: - **PanGEO Repr.:** S. Scott

Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks	Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks
1			~20 depth of water	31	2		
2				32	2		
3			~25 ft under	33	3		
4			↑ weight of pile	34	3		
5				35	4		
6	3			36	4		
7	3			37	5		
8	3			38	6		
9	3			39	6		
10	3		60	40	6		
11	3			41	5		
12	3			42	5		harder Driving
13	3			43	7		conditions
14	3		Stopped to check	44	8		
15	3		level	45	8		
16	3			46	8		
17	3			47	8		
18	3			48			
19	3			49			
20	4		70	50			~EL -62'
21	4			51			
22	4			52			
23	4			53			
24	4			54			
25	4			55			
26	3			56			
27	3			57			
28	2			58			
29	2			59			
30	2			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock Finger Install **Project No:** 04-076.200

Date: 3/2/21 **Weather:** 40's - overcast **Start Time:** 1:55 pm **Stop Time:** 2:02 pm

Pile No.: F4 **Pile Type:** 18"Ø - ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** ~67' ft. **Ref. Elev.** ~5' tide ft. **Tip Elev.** -62' ft. **Cutoff Elev.** 18 ft.

Steel Pile Grade/Heat: 252 gr. 3 **Wall Thickness:** ½" in. **Shoe:** —

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE - 200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4400 in ft.-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks	Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks
1	2		~20' depth of water	31	3		
2	2			32	3		
3	2			33	3		
4	2		~20ft under weight	34	3		
5	2		of pile	35	3		
6	2			36	3		
7	2			37	3		
8	3			38	3		
9	3			39	4		
10	3		60	40	4		
11	3			41	4		harder driving
12	3		Stopped to check level	42	8		action
13	4			43	8		
14	4			44	5		
15	4			45	5		
16	3			46	10		
17	3			47	10		
18	3			48			
19	3			49			~EL -62 ft
20	3		70	50			
21	3			51			
22	3			52			
23	3			53			
24	3		stopped to check	54			
25	3		level	55			
26	3			56			
27	3			57			
28	4			58			
29	4			59			
30	4			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock - Finger Install **Project No:** 04-076.200

Date: 3/2/21 **Weather:** 40s - overcast **Start Time:** 10:55 am **Stop Time:** 11:13 am

Pile No.: F5 **Pile Type:** 18" ϕ x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** 267' ft. **Ref. Elev.** ~25' tide ft. **Tip Elev.** -62 ft. **Cutoff Elev.** 18' ft.

Steel Pile Grade/Heat: 252 gr. 3 **Wall Thickness:** ½" in. **Shoe:** —

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE-200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** ~~41,400~~ ft.-lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	~~Blows~~ sed ft	Stroke/ Pressure/ Blows/min.	Remarks	Feet	~~Blows~~ sed ft	Stroke/ Pressure/ Blows/min.	Remarks
1			~20ft depth of	31	5		
2			water	32	5		
3			~25ft under	33	4		
4			weight of pile	34	4		
5				35	4		
6	2			36	4		
7	2			37	3		
8	2			38	3		
9	2			39	3		
30 10	2		60	40	3		
11	2			41	4		
12	2			42	4		harder driving
13	2			43	8		action
14	2			44	7		
15	2			45	9		
16	2			46	12		
17	2			47	12		
18	2		Stopped to check	48			~EL -62'
19	2		level	49			
46 20	2		70	50			
21	2			51			
22	2			52			
23	4			53			
24	4			54			
25	4			55			
26	4			56			
27	4			57			
28	5			58			
29	5			59			
50 30	5			60			

PanGEO INCORPORATED

PILE INSTALLATION RECORD

Project Name/Location: Anacortes A-Dock - Finger Install **Project No:** 04-076-200

Date: 3/2/21 **Weather:** 40s - overcast **Start Time:** 10:00am **Stop Time:** 10:45 am

Pile No.: F6 **Pile Type:** 18"ø x ½" **Tip Ø:** — in. **Butt Ø:** — in. **Batter:** —

Pile Length: 80' ft. **Length Driven:** ~67' ft. **Ref. Elev.** ~5' tide ft. **Tip Elev.** -62' ft. **Cutoff Elev.** 18' ft.

Steel Pile Grade/Heat: 252 gr.3 **Wall Thickness:** ½" in. **Shoe:** —

Precast Pile Mfr. Cert./Pile No.: — **Mfr.:** — **Date Cast:** — **Weight:** 12,760 lbs.

Hammer M&M: APE - 200 **Helmet:** — lbs. **Ram Wt.:** — lbs. **Rated Energy:** 4,400 ~~ft-~~ lbs.

Pile Cushion thickness/material: — **PanGEO Repr.:** S. Scott

Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks	Feet	sec/ft ~~Blows~~	Stroke/ Pressure/ Blows/min.	Remarks
1			~20ft depth of	31	4		
2			water	32	4		
3			~25 ft under	33	4		
4			weight of pile	34	4		
5			↑	35	4		Stopped to check level
6	2			36	4		
7	2			37	3		
8	2			38	3		
9	2			39	3		
30 10	2		60	40	3		
11	3			41	3		
12	3			42	3		harder driving
13	3			43	5		action
14	3			44	8		
15	4			45	8		
16	4			46	9		
17	4			47	10		↓
18	4			48			
19	4			49			
40 20	3		Stopped to check 70	50			~EL -62'
21	3		level	51			
22	3			52			
23	3			53			
24	3			54			
25	3			55			
26	3			56			
27	4			57			
28	4			58			
29	4			59			
50 30	4			60			

APPENDIX F

SITE SPECIFIC
GROUND RESPONSE ANALYSIS

P. O. Box 2229
Redmond, WA, 98073-2229
Tel: 425-890-4321
Fax: 206-582-0838

Report on MAM Survey

Port of Anacortes

Global Geophysics Project No. 112-0524.000

Prepared for
Spenser Scott, LG
PanGEO Inc.
3213 Eastlake Avenue East, Suite B, Seattle, WA, 98102

Prepared by
Global Geophysics LLC
P.O. Box 2229, Redmond, WA 98073-2229

May 25, 2022

CONTENTS

1. Objective 2
2. Introduction 2
3. Methodology and Instrumentation 4
3.1 Microtremor Array Measurements (MAM) Method 4
3.2 Surface Wave Dispersion Curve Modeling 4
4. Instruments and Equipment 4
4.1 MAM 4
5. Procedures 6
5.1 Field Deployment 6
5.2 Quality Control and Data Processing 6
5.2.1 Quality Control 6
5.2.2 Data Processing 6
6. Results 6
7. Analysis 9
8. Limitations of the Geophysical Method 10
9. References 11

1. OBJECTIVE

Global Geophysics LLC conducted an MAM sounding at T-Dock, Port of Anacortes, WA on May 24, 2022. The goal of this investigation was to determine the depth of 150-200 ft. This report provides the methods, instrumentation, data collection and processing procedures, results, and analysis of this investigation.

2. INTRODUCTION

Surface waves are a special type of seismic wave whose propagation is confined to the near surface medium. The depth of subsurface penetration of a surface wave is directly proportional to its wavelength. In a non-homogeneous medium, surface waves are dispersive, i.e. each wavelength has a characteristic velocity stemming from subsurface variations in the soils and rocks. The velocity that the surface waves' wavelengths propagate through the subsurface is related to the shear wave (S-Wave) velocity of the subsurface. If the S-Wave velocity varies with depth, so will the surface wave's wavelength velocity. Analysis of how the wavelength varies, or dispersion, allows us to estimate the S-Wave velocity as it passes through the subsurface. The S-Wave velocity of the subsurface can then be used to infer useful characteristics such as the rock/soil type, stratigraphy, and soil conditions.

Average S-Wave velocities to a depth of 100ft (30m) are known as V_{S100} (V_{S30}) and are sorted into classes by the International Building Code (IBC) to provide valuable earthquake engineering design information. These classes are shown here:

Class Name	**Ground Description**	**V_{S100}**	**V_{S30}**
A	Hard Rock	>5000ft/s	>1500m/s
B	Rock	5000ft/s to 2500ft/s	1500m/s to 760m/s
C	Dense Soil or Soft Rock	2500ft/s to 1200ft/s	760m/s to 360m/s
D	Stiff Soil	1200ft/s to 600ft/s	360m/s to 180m/s
E	Soft Soil	<600ft/s	<360m/s
F	Needs site specific evaluation	NA	NA

Surface waves can be utilized in both active and passive deployments. Multichannel Analysis of Surface Waves (MASW) comprises most active deployments while Microtremor Array Measurements (MAM) are the primary method to collect passive data. MASW arrays are typically linear while MAM arrays can be linear (often known as refraction microtremor, or ReMi, when linear) but generally perform better when deployed in 2D orientations (triangular, circular, T-shaped, or L-shaped arrays). Another passive method employed is the Horizontal over Vertical Spectral Ratio (HVSR) which utilizes a single geophone sensitive to motion in three directions (vertical, east-west, and north-south).

For this project, the seismic survey was conducted at the location shown on Fig. 1.

Figure 1. Site Plan

3. METHODOLOGY AND INSTRUMENTATION

3.1 Microtremor Array Measurements (MAM) Method

A detailed description of the MAM method can be found in Okada, 2003. MAM arrays generally have a greater degree of flexibility with their design and in addition to linear arrays, can be deployed in 2D arrays such as the circular, triangular, T and L arrays. Since this is a passive survey, the ambient vibrations of the surroundings are utilized rather than deliberately generated. These passive sources can come from all directions and include traffic, ocean waves, cultural noise, and construction. MAM arrays should utilize an array size equal to or greater than the depth of investigation (Geometrics, 2009) and record the ambient vibrations for a minimum of 30 seconds and collect a minimum of 10 minutes of data.

3.2 Surface Wave Dispersion Curve Modeling

Dispersion curves are useful for determining S-Wave velocities of the subsurface and are generated with the help of specialized software. Data files are added to the software and their traces displayed by location versus time, showing the seismic waves that arrive at each geophone over the course of the record.

For MAM surveys, the data are transformed with a fast Fourier transform to the frequency domain. Then the coherence (or similarity between traces or waveforms) is calculated. If the coherences are averaged over a long period of time or over many data blocks, the data is considered to be Spatially Auto-Correlated (SPAC) ((Aki, 1957). From here, the phase velocity can be calculated from each frequency and fundamental and higher modes can be picked. From the fundamental mode, the dispersion curve can be created and edited (Roesset, 1991). The dispersion curve is used to create an inversion model that displays the S-Wave velocities at the desired range of depths (Xia, Miller, & Park, 1999). Theoretical dispersion curves are generated via a matrix method (Saito & Kabasawa, 1993) and compared against the observed dispersion curve. The model is updated until the observed and theoretical dispersion curves converge. The resulting model is the delivered S-Wave velocity model for the array.

4. INSTRUMENTS AND EQUIPMENT

4.1 MAM

For this investigation, Global Geophysics used 24 wireless Geometrics SmartSolo sensors at varied spacings. MAM data were collected using ambient seismic waves recorded from the surroundings. Data processing was done with Geometrics SeisImager software package.

Figure 2. SmartSolo IGU-16 wireless sensor

Figure 3. SmartSolo All-in-One (AIO) box

5. PROCEDURES

5.1 Field Deployment

The 1D MAM Sounding was linear array along the T-Dock. The maximum array size was 490 feet.

5.2 Quality Control and Data Processing

5.2.1 Quality Control

Data were recorded for approximately 60 minutes to catch enough vibrations at various frequencies.

5.2.2 Data Processing

Data were opened in the Surface Wave Analysis Wizard within SeisImager using the Passive Source (Microtremor) tool. A dispersion curve is generated from the data and the fundamental mode is picked with the assistance of the software. Uncertain data at high and low frequencies are clipped. The dispersion curve is inverted with the Wave EQ program within SeisImager and an initial model is generated. The model is improved by using a Least Square Method inversion with at least 5 iterations.

6. RESULTS

The dispersion curves, coherencies, and models for the sounding are presented below:

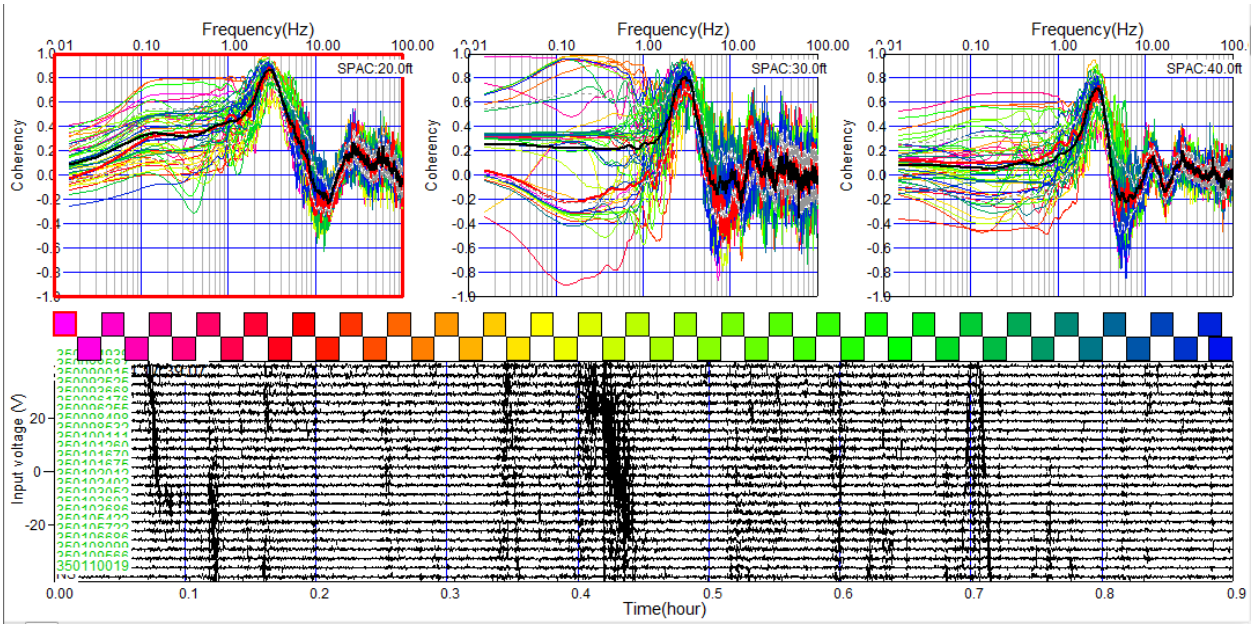


Figure 4. 1D MAM Sounding Coherency

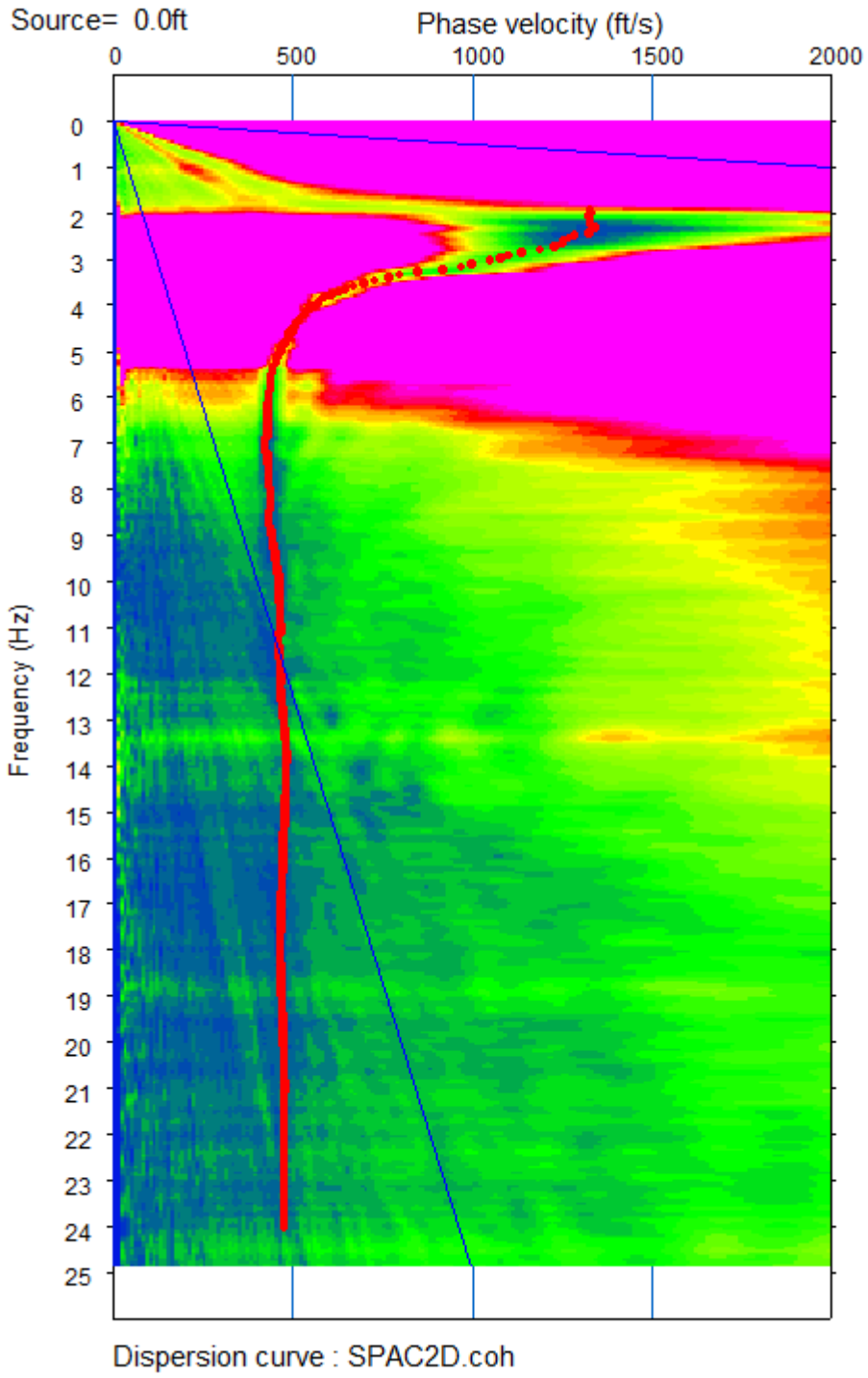


Figure 5. 1D MAM Sounding Dispersion Curve

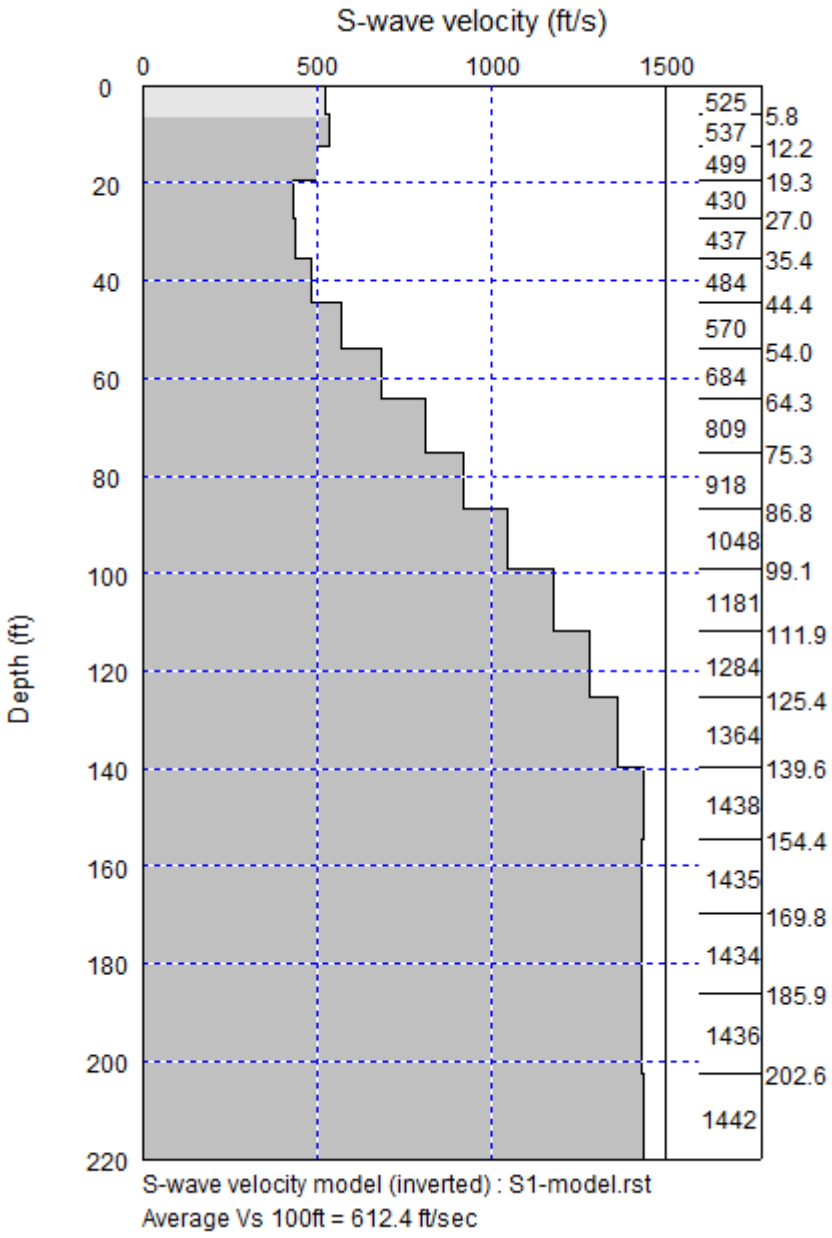


Figure 6. 1D MAM Sounding Model

Depth(ft)	S-wave velocity(ft/s)
0	525
6	537
12	499
19	431
27	437
35	485
44	570
54	685
64	809
75	919
87	1049
99	1182
112	1285
125	1364
140	1438
154	1435
170	1434
186	1436
203	1442
220	1442

Table 1. S-Wave Velocities by Depth for 1D MAM Sounding

7. ANALYSIS

Figure 4 shows the coherency of the soundings with maximum coherencies around 2.5 Hz. Figure 5 shows the dispersion curve with the fundamental mode picked in red. Figure 6 shows the shear wave velocity profile to 220 feet. Table 1 shows the modeled shear wave velocities of the subsurface at specific depths. Materials with S-Wave velocities of 1200 ft/s or higher can be found at depths below 100 feet.

8. LIMITATIONS OF THE GEOPHYSICAL METHOD

Global Geophysics' services are conducted in a manner consistent with the level of care and skill ordinarily exercised by other members of the geophysical community currently practicing under similar conditions and are subject to the time limits, financial and physical constraints applicable to the services. MAM is a remote sensing geophysical method that may not detect all subsurface conditions due to the limitations of the method, soil conditions, size of features, and their depths.

Sincerely,

Global Geophysics, LLC.

John Liu, Ph.D., R.G.
Principal Geophysicist

9. REFERENCES

Aki, K. (1957). Space and time spectra of stationary stochastic waves, with special reference to microtremors. *Earthquake Res. Inst. Univ. Tokyo*(25), 415-457.

Geometrics. (2009, October). *SeisImager/SW Manual.* Retrieved from Geometrics.com: https://geometrics.com/wp-content/uploads/2019/04/SeisImagerSW_Manual_v3.0.pdf

Nakamura, Y. (1989). A method for dynamic characteristics estimation of subsurface using microtremor on the ground surface. *Quarterly Report of Railway Technical Research Institute*, 30(1), 25-33.

Okada, H. (2003). The Microtremor Survey Method. *Society of Exploration Geophysics Geophysical Monograph Series, 12*, 135.

Park C, M. R. (1999). Multichannel Analysis of Surface Waves. *Geophysics, 64*(3), 800-808.

Park, C. B, Miller, R. D., Xia, J., Ivanov, J. (2007 Jan). Multichannel analysis of surface waves (MASW) – active and passive methods. *The Leading Edge*, 60-64.

Roesset, J. (1991). Comparison of 2-D and 3-D Models for Analysis of Surface Wave Tests. *5th International Conference on Soil Dynamics and Earthquake Engineering.* Karlsruhe, Germany.

Saito, M., & Kabasawa, H. (1993). Computation of reflectivity and surface wave dispersion curves; Rayleigh wave calculations. *Butsuri-tansa*, 283-298.

Taipodia, J., & Babu, K. (2013). Subsurface Characterization using MASW: Preliminary Experimentation and analysis. *International Journal of Innovative Research in Science, Engineering and Technology*, 129-138.

Xia, J., Miller, R., & Park, C. (1999). Estimation of near-surface shear-wave velocity by inversion of Rayleigh waves. *Geophysics*, 691-700.

Site-Specific Site Response Analysis

Port of Anacortes, T-Dock Replacement Project

Anacortes, Washington

October 3, 2022

Prepared for:

PanGEO, Inc.

Seattle, Washington

Prepared by:

Clarity Engineering LLC

Vashon, WA 98070

SITE-SPECIFIC SITE RESPONSE ANALYSIS
PORT OF ANACORTES, T-DOCK REPLACEMENT PROJECT
ANACORTES, WASHINGTON

OCTOBER 3, 2022

Prepared for:
PanGEO, Inc.
Seattle, Washington

Attention: Siew Tan, PE

Prepared by:
Clarity Engineering, LLC
Vashon, WA 98070

10/3/2022

Matthew D. Gibson, PhD, PE
Principal

CONTENTS

1 INTRODUCTION 5

1.1 Scope of Services 5
1.2 Basis of Report 5
1.3 Use of this Report 6
1.4 Limitations 7

2 PROJECT UNDERSTANDING 8

3 SITE-SPECIFIC RESPONSE ANALYSIS 8

3.1 Ground Motion Hazard Analysis 8
3.1.1 Firm Ground 9
3.1.2 Interpreted UHS Spectrum from USGS PSHA 9
3.1.3 Source Contributions 9
3.1.4 Firm Ground MCE 10
3.1.5 Firm Ground Time Histories 10
3.2 Site Response Analysis 11
3.2.1 Assumed One-Dimensional Subsurface Profile 12
3.2.2 Constitutive Models and Modulus Reduction and Damping Curves 12
3.2.3 Site Response Analysis 13
3.2.4 Firm Ground to Ground Surface Amplification 13
3.3 Site Specific Design Spectrum 15
3.3.1 Maximum Direction Factors 15
3.3.2 Risk Targeted Factors 15
3.3.3 Ground Surface MCE$_R$ and Design Spectrum 15

4 REFERENCES 17

APPENDIX A: FLAC SITE RESPONSE RESULTS A-1

APPENDIX B: DEEPSOIL SITE RESPONSE RESULTS B-1

TABLES

Table 1: Selected Seed Time History Characteristics and Scale Factors

Table 2: Soil Profile Input Parameters

Table 3: Recommended Site-Specific Ground Surface MCER and Design Acceleration Response Spectrum Values

FIGURES

Figure 1 – Site-Specific Shear Wave Velocity
Figure 2 - Firm Ground, VS100=1,360 fps, Uniform Hazard Spectra
Figure 3 - Seismic Source Contribution Summary, All Sources
Figure 4 - 2018 USGS PSHA, Disaggregation Detail
Figure 5 - Firm Ground, Scaled Time Histories, Response Spectra
Figure 6 - Assumed Shear Wave Velocity Profiles
Figure 7 - Ground Surface Amplification Results and Recommendations
Figure 8 - MCE to MCER Modification Factors
Figure 9 - Site Specific Ground Surface MCER Spectrum
Figure 10 - Site Specific Ground Surface Design Spectrum

SITE-SPECIFIC SITE RESPONSE ANALYSIS
PORT OF ANACORTES, T-DOCK REPLACEMENT PROJECT
ANACORTES, WASHINGTON

1 INTRODUCTION

This report presents the results of our geotechnical site-specific site response analyses and design ground surface response spectrum recommendations for the proposed T-Dock Replacement Project at the Port of Anacortes in Anacortes, Washington.

1.1 Scope of Services

Clarity Engineering LLC (Clarity Engineering) was contracted to perform this site-specific site response study per our subconsultant services agreement executed May 11, 2022. The authorized scope of services was based on discussions with PanGEO, Inc. (PanGEO), the design team, the information you provided to us, your project objectives, schedule, and budget. The scope completed to conduct this study includes:

- Evaluation of subsurface information provided to us.
- Development of firm ground MCE response spectrum.
- Selection of recorded ground motion time histories.
- Scaling of these time histories to the firm ground spectrum.
- Evaluation of soil profile variability for analysis.
- Site response analyses to develop site-specific soil amplification recommendations.
- Develop a recommended site-specific ground surface MCE_R and design response spectra for the proposed development.

1.2 Basis of Report

Our evaluations, analyses, conclusions, and recommendations are based on:

- The limitations of our approved scope, schedule, and budget described in our proposal.

- Our understanding of the project and information provided by PanGEO and PND Engineers. We assume that this information is representative and accurate. This information includes:

- PanGEO Explorations (PanGEO 2022)
  - Site and Exploration Plan, Figures 2A and 2B, showing exploration locations and ground surface contours.
  - Log of test boring PG-1
  - Atterberg limits laboratory tests
- Geophysical Testing (Global Geophysics 2022)
  - Shear wave velocity testing by MAM methods
- PanGEO Explorations (PanGEO 2005)
  - Proposed exploration locations, figure 1
  - Log of test boring B-05-01, B-05-02.
  - Cone penetration test (CPT) log CPT-05-01
- Floyd Snider McCarthy, Inc Explorations (FSM 2004)
  - Site and exploration plan, figure 2
  - Log of test boring B-22
  - Atterberg limits and grain-size laboratory tests
- Estimation of structural period by PND Engineers (PND 2022).
  - The requirements of ASCE 7-22 (ASCE 2022).
  - Our previous experience with similar projects and subsurface conditions.

1.3 Use of this Report

This design report was prepared for the exclusive use of PanGEO, Inc and their client for the purpose of design of Port of Anacortes, T-Dock Replacement Project. This report should not be used for any other purposes without Clarity Engineering's review.

This report should not be used without our approval if any of the following occurs:

- Conditions change due to natural forces or human activity under, at, or adjacent to the site.
- Assumptions stated in this or referenced reports have changed.
- Project details change or new information becomes available such that our recommendations may be affected.

- If the site ownership or land use has changed.

1.4 Limitations

This report for the Port of Anacortes, T-Dock Replacement Project was prepared in accordance with local generally accepted engineering principles, practices, and standards. No warranty is expressed or implied. The findings and recommendations contained in this report are based upon the services you requested and approved.

Geotechnical engineering requires the application of professional judgment, as no study can completely quantify subsurface conditions. Any interpretations of subsurface conditions in this report are based on our analyses, experience, and judgment. There is no warranty that these subsurface conditions occur anywhere on the site except at the exact location and exact time when and where the field tests were conducted. Clarity Engineering is not responsible for interpretations others may make using this report.

The conclusions and recommendations in this report assume that field explorations and tests, and our interpretations accurately portray and represent subsurface conditions at the site. If, during excavation and/ or construction significantly different subsurface conditions are encountered from that described in this report, our firm should be immediately notified and retained to review these conditions and, if necessary, revise our recommendations.

Clarity Engineering cannot be responsible for any deviation from the intent of this report including, but not limited to the nature of the project and the proposed structure.

2 PROJECT UNDERSTANDING

The project consists of the replacement of the existing T-dock at the Port of Anacortes. The replacement dock will be a pile-supported structure extending from the uplands to offshore. The uplands are at approximately elevation +12 feet, while the mudline beneath the proposed dock is as low as elevation -10 feet. All elevations in this document refer to those shown in the PanGEO site plans. Existing subsurface information nearby and information collected by the design team at the site indicate that upland slope consists of fill overlaying estuarine and glacial soils.

The replacement dock will be a pile-supported structure. Based on communications with the project structural engineer, PND Engineers, Inc., we understand that the fundamental period of vibration for the structure is estimated to be between 0.5 and 1.1 seconds (PND 2022).

3 SITE-SPECIFIC RESPONSE ANALYSIS

According to ASCE 7-22, Chapter 21, procedures for estimating site-specific response spectra includes a ground motion hazard analysis and a site response analysis. For the ground motion hazard analysis, we assumed that the 2018 USGS Probabilistic Seismic Hazard Analysis sufficiently characterizes the firm ground seismic hazard of the site. Therefore, only a site-specific site response analysis was performed.

Nonlinear site response analyses were completed using the FLAC software developed by Itasca Consulting Group (Itasca, 2022) and the DEEPSOIL software developed at the University of Illinois, Urbana-Champaign (Hashash et al 2020). The site response analyses calculate ground motion amplification at this site relative to firm ground and are used to develop design response spectra for structural design.

3.1 Ground Motion Hazard Analysis

In ASCE 7-22, Section 21.1, a ground motion hazard analysis (GMHA) is required to determine the Maximum Credible Earthquake (MCE) base ground motions that represent horizontal motion at either rock or firm ground beneath the site. For this site, we used results from the 2018 USGS Probabilistic Seismic Hazard Analysis to estimate the MCE base ground motions.

3.1.1 Firm Ground

The dynamic characteristics of the site soils are used to assess firm ground conditions. Firm ground was assessed with measured shear wave velocity (Vs) and the $V_{S,100}$, a parameter used in site class designations and ground motion prediction equations. This parameter represents the time-travel averaged shear wave velocity in a 100-foot interval. The results from geophysical testing at the site were used to estimate $V_{S,100}$ with depth. Figure 1 – Site-Specific Shear Wave Velocity shows the measured shear wave velocity from geophysical testing along with the calculation of $V_{S,100}$ with depth. The MCE base ground motions will be applied to one-dimensional site response models that extend from firm ground to the ground surface. For these purposes, firm ground is defined as soils beneath the site that behave relatively elastic in comparison to the near-surface soils. The firm ground for this site was chosen at a depth where $V_{S,100}$ was estimated to be 1,430 feet per second (fps) occurring at -125 feet.

3.1.2 Interpreted UHS Spectrum from USGS PSHA

In ASCE 7-22, the MCE corresponds to a hazard level of 2 percent probability of spectral acceleration exceedance in 50 years, or 2,475-year return period. PSHA hazard curves and deaggregation information at the project location for sites with a V_{S100} of 1,200, 1430, and 1,760 fps (i.e., 360, 435, and 537 meters per second or site class CD, the site's firm ground V_{S100}, and C boundary, respectively) and a 2,475-year return period were selected from the 2018 USGS PSHA. The hazard curves were interpreted to calculate the 2,475-year, uniform hazard spectrum (UHS) for a V_{S100} of 1,430 fps. These USGS spectra along with the deterministic lower limit per ASCE 7-22, Section 21.2.2 are shown in Figure 2 - Firm Ground, VS100=1,360 fps, Uniform Hazard Spectra. Note that a site-specific deterministic spectrum was not evaluated since the deterministic lower limit was greater than the probabilistic spectrum for all periods. Per ASCE 7-22, Section 21.2.3, the lower of the deterministic and probabilistic spectra governs the target spectrum.

3.1.3 Source Contributions

The contribution of different seismic sources is required to weight site response amplification results. We used the deaggregation information from the 2018 USGS PSHA to evaluate the type and contribution of each seismic source to the overall seismic hazard. There are three dominant source types to the seismic hazard at the site which include the Cascadia Subduction Zone (CSZ) Interface, CSZ Intraslab, and crustal faults. In addition to known surface

crustal faults, the 2018 USGS PSHA includes background grid-based hazard that approximates hazard of unknown or unmapped surface faults. The distribution of source contribution to the 2,475-return period seismic hazard versus spectral period is shown in Figure 3 - Seismic Source Contribution Summary, All Sources. The figure also shows contributions when the fault and grid sources are added together which is used for ground motion selection and site amplification weighting. A detailed breakdown of individual sources considered in the 2018 USGS PSHA for each source type is presented in Figure 4 - 2018 USGS PSHA, Disaggregation Detail, Sheets 1 through 4.

3.1.4 Firm Ground MCE

The firm ground MCE spectrum is equal to the firm ground PSHA UHS calculated in the previous sections and shown in Figure 2 - Firm Ground, VS100=1,360 fps, Uniform Hazard Spectra.

3.1.5 Firm Ground Time Histories

For the purposes of performing our one-dimensional site response analyses, we selected and scaled a suite of recorded ground motion time histories that were used to generate upward propagating shear waves in our analyses. This time history suite was selected based on the following criteria:

- Baseline-corrected seed (original) time history pairs that were curated by the NGA-West 2 (Ancheta et al 2014) and NGA-Sub (Kishida et al 2018) projects,
- Similar source earthquake characteristics such as magnitude, distance, and source type when compared to deaggregation information for the project site from the 2018 USGS PSHA,
- Similarities in spectral shape of the recorded ground motion time history and the target firm ground MCE spectrum, and
- The $V_{S,100}$ of the subsurface soils beneath the original time history recording station.

We evaluated candidate time histories for these criteria relative to a spectral period range of interest. Per ASCE 7-22, this period range can be assumed to be 0.2 to 2.0 times the fundamental period of the structure estimated by the structural engineer. According to PND, the

fundamental period of vibration for the proposed structure has been approximated to be 0.5 to 1.1 seconds. Therefore, the period range of interest considered in the analysis is 0.1 to 2.2 seconds.

Based on these criteria, 15 candidate seed time history pairs (two orthogonal horizontal components) were selected, representing five time histories for each source. The rotation independent, median acceleration response spectra (ARS) of each pair (i.e. RotD50) were quantitatively compared to the target firm ground spectrum for a good overall fit with limited scaling applied over the period range of interest. For selected ground motion pairs, an acceleration time history component was then calculated by rotating the ground motion time history pairs until the calculated ARS of one component was close to the RotD50 as evaluated using a least-squares minimization. This rotated time history was then scaled to the target firm ground MCE spectrum using a scale factor and least-squares minimization within the period range of interest. Finally, to avoid developing numerical errors associated with the discretized FLAC grid, the ground motion time histories were filtered using a 4th order, low-pass, Butterworth filter with a corner frequency of 25 hertz.

The selected scaled and filtered time histories were checked for an overall fit to the MCE spectrum. To perform this check, the geometric mean of the ARS for each source were calculated. The weighted average of each source's geometric mean was calculated using the period dependent source contributions, described in Section 3.1.3 Source Contributions, as weights. For example, at a period of 1.0 seconds the source geometric means are averaged with weights of 0.45, 0.40, 0.15, for Fault + Grid, Interface, and Intraslab sources, respectively. This averaged ARS was approximately 90 percent or greater of the target firm ground MCE spectra as shown in Figure 5 - Firm Ground, Scaled Time Histories, Response Spectra. The earthquake and ground motion station characteristics of the selected time histories and resulting rotation and scaling factors for the scaling process are shown in Table 1: Selected Seed Time History Characteristics and Scale Factors.

3.2 Site Response Analysis

Site-specific response analyses were completed using Fast Lagrangian Analysis of Continua (FLAC) software developed by Itasca Consulting Group (Itasca 2016) and DEEPSOIL software developed at the University of Illinois, Urbana-Champaign (Hashash et al 2020). The

site response analyses calculate ground motion amplification expected at this site relative to the firm ground MCE and are used to develop design response spectra for structural design.

3.2.1 Assumed One-Dimensional Subsurface Profile

We developed one-dimensional subsurface profiles for our site response evaluations based on the geophysical measurements of shear wave velocity (MAM), soil borings, and cone penetration test (CPT) results performed at the site. Groundwater was assumed at elevation +7 feet.

To evaluate variability in subsurface conditions and surface topography, two base profiles were evaluated. The primary difference between each profile is variation in shear wave velocity expected given the in-situ stress changes imposed by the slope. Vs measurements taken at the top of the slope were stress normalized based on the estimated vertical effective stresses beneath the slope. At the toe of the slope, the Vs profile was adjusted based on the estimated vertical effective stress, which resulted in lower Vs at similar elevations of the profile and a deeper elevation to firm ground. For the fill, silt, glacial soils, and the infinite half-space (base) of the model, Vs was assigned to match geophysics measurements and the estimated Vs profile at the toe of the slope. Variability in the potential depth to firm ground was evaluated for the top of slope profile. The Vs profile was varied by +/- 10 percent which resulted in the depth of firm ground ranging from 125 to 175 feet below the ground surface.

The four Vs profiles evaluated are shown in Figure 6 - Assumed Shear Wave Velocity Profiles: Top of slope, Top of slope (lower bound), Top of slope (upper bound), and Toe of slope. Additional FLAC parameters assigned to the profiles are summarized in Table 2: FLAC Soil Profile Input Parameters. DEEPSOIL input parameters are presented in Appendix B.

3.2.2 Constitutive Models and Modulus Reduction and Damping Curves

For the FLAC analyses, stress-strain behavior for non-liquefiable soil layers were modeled using the elastic constitutive model coupled with the hysteretic modulus reduction logic. Modulus reduction and damping behavior of the soils was modeled using the depth dependent empirical relationships developed by EPRI (1993) and Vucetic and Dobry (1991). The EPRI curves were used for the fill soils. The Vucetic and Dobry curves for a plasticity index of 15 and 30 were used for the cohesive silts and clay soils, respectively.

For the DEEPSOIL analyses, modulus reduction and damping behavior of the soils was modelled using the empirical relationships developed by Darendeli (2001). A plastic index (PI) of 20 was assumed for all silty soils. All modulus reduction curves were further calibrated to the assumed strength profile based on CPT correlations to prevent over-stiff response at large strain.

3.2.3 Site Response Analysis

Site response analyses were evaluated by performing the following steps for each selected ground motion and profile:

- The firm ground scaled time history was applied to the base of the one-dimensional soil model as an upward propagating shear stress time history.
- For FLAC, total stress analyses were performed. For DEEPSOIL analyses were run in both non-linear and equivalent linear modes.
- Ground motion time histories were recorded at the top of the soil profile.
- Acceleration response spectra were calculated from these ground surface time histories.
- Ground surface soil amplification for each simulation was calculated by dividing the ground surface response spectra by the applied upward propagating base response spectra.

The ground surface response spectra, ground surface amplification, and shear strain vs depth for each profile are shown in Appendix A: FLAC Site Response Results and Appendix B: DEEPSOIL Site Response Results.

3.2.4 Firm Ground to Ground Surface Amplification

For each profile, a geometric mean of soil amplification was calculated for the suite of ground motions in each source set. A period and source dependent weighted average amplification was then computed for each profile set using the respective source hazard contributions as weights. In our opinion, this is more appropriate than an average contribution for all periods. Furthermore weighting was performed to account for the variability evaluation.

The weighting procedure can be summarized as follows:

- Five ground motions were selected for each ground motion source (3 sources) for the purposes of assessing the geometric mean amplification for each source for each profile.
- A profile's weighted amplification was then calculated as the sum of each source geometric mean amplification multiplied by the source contribution for each period; therefore, the ground motion source weights are period dependent (see Figure 3).
- Engineering parameter variability was weighted with weights of 0.5, 0.25, and 0.25 for best estimate, lower bound, and upper bound, respectively for the top of slope analyses. Toe of slope weights are unity since only a best estimate analysis was performed.
- FLAC, DEEPSOIL Equivalent Linear, and DEEPSOIL Non-Linear analysis types were each weighted with weights of 0.125, 0.125, and 0.75.

The first equation describing this calculation of spectral acceleration weighted by source contribution is as follows for each profile and engineering parameter variability:

$$S_{a,T,LOC} = \sum_{S} A_{S,T,EP,AT,LOC}\, x\, C_{S,T} x\, W_{EP} x\, W_{AT}$$

Where, S_a=Spectral Acceleration, S=Source, A=Amplification, T=Period, C=Contribution, EP=Engineering Parameter, AT=Analysis Type, LOC=Location top or toe of slope.

Finally, the maximum spectral acceleration at each period was taken from the top and toe of slope responses as follows:

$$S_{a,T} = MAX(S_{a,T,TOE}, S_{a,T,TOP})$$

The weighted amplifications are shown in Figure 7 - Ground Surface Amplification Results and Recommendations. The most variability in the amplification response is due to varying topography of the site. The FLAC and DEEPSOIL equivalent linear stress response is greater than the DEEPSOIL non-linear response. The greatest differences between the analyses occur for the top of slope profile where the fill soil appears to reflect some upward propagating shear waves thus reducing ground motions reaching the ground surface.

In our opinion the DEEPSOIL non-linear analyses more accurately capture the expected subsurface behavior given its time dependent stiffness degradation and strength limiting behavior at large strains. This is reflected in the weighting scheme of the results. Given that the

structure spans the full slope, we enveloped the responses calculated for the top and toe of slope in determining our recommended amplification factors for the project. Refinement of the amplification over the length of the structure would require more rigorous 2D site response analyses.

3.3 Site Specific Design Spectrum

We developed a ground surface MCE_R and design spectrum based on the firm ground 2,475-year MCE and modifications required by ASCE 7-22. These modifications include multiplying the firm ground MCE by period dependent factors for site-specific soil amplification, maximum direction amplitude, and risk targeted conversion.

3.3.1 Maximum Direction Factors

The UHS calculated from the USGS PSHA represents median expected ground motion (i.e., RotD50), however ASCE7-22 requires the maximum direction expected ground motion (i.e., RotD100) be used. We used maximum direction factors based on Shahi and Baker (2014) as recommended in ASCE 7-22.

3.3.2 Risk Targeted Factors

The MCE spectrum must be modified to represent a one percent in 50-year structural collapse MCE_R spectrum as required by ASCE 7-22. These factors were calculated using the USGS risk targeting web-based calculator which implements the ASCE-7-22 procedures.

3.3.3 Ground Surface MCE_R and Design Spectrum

The recommended ground surface MCE_R spectrum was calculated by multiplying the firm ground, MCE spectrum by each of the factors described in Sections 3.2.4, 3.3.1, and 3.3.2, and shown in Figure 8 - MCE to MCER Modification Factors. The recommended MCER spectrum was calculated according to the procedures in ASCE 7-22, Section 21.3. The resulting recommended ground surface MCE_R spectrum is shown in Figure 9 - Site Specific Ground Surface MCER Spectrum. This figure compares the recommended MCE_R spectrum to the multipoint code-based default spectra per ASCE 7-22, site class DE. Note that at period of about 2.8 seconds and greater, the recommended MCER spectrum is controlled by the maximum reduction of 20 percent per ASCE 7-22, Section 21.2.3.

The recommended design ground surface response spectrum was calculated as two-thirds of the MCE_R ground surface spectrum and is shown in Figure 10 - Site Specific Ground Surface Design Spectrum. Additionally, site-specific SDS=0.87, SD1=0.78, SMS=1.3, and SM1=1.18 were calculated from this spectrum and can be used as described in ASCE 7-22, Section 21.4, if desired. Tabulated values of the MCE_R and Design spectra for select periods are provided in Table 3 Recommended Site-Specific Ground Surface MCE_R and Design Acceleration Response Spectrum Values.

4 REFERENCES

ASCE/SEI 7-22, 2022, Minimum design loads and associated criteria for buildings and other structures, American Society of Engineers.

Ancheta, T. D., R. B. Darragh, J. P. Stewart, E. Seyhan, W. J. Silva, B. S.-J. Chiou, K. E. Wooddell, R. W. Graves, A. R. Kottke, D. M. Boore, T. Kishida, and J. L. Donahue. 2014. "NGA-West2 Database." Earthquake Spectra, 30 (3): 989–1005.

Darendeli, M. B. (2001). Development of a New Family of Normalized Modulus Reduction and Material Damping Curves, Department of Civil, Architectural and Environmental Engineering, The University of Texas, Austin, Texas.

Electric Power Research Institute, 1993, Guidelines for determining design basis ground motions: Palo Alto, Calif., Electric Power Research Institute, Report no. TR-102293, 5 v.

Floyd Snider McCarthy (FSM), 2004. Select geotechnical subsurface exploration data provided via email correspondence by PanGEO.

Global Geophysics, 2022. Report on MAM Survey, Port of Anacortes, May 25, 2022.

Hashash, Y.M.A., Musgrove, M.I., Harmon, J.A., Ilhan, O., Xing, G., Numanoglu, O., Groholski, D.R., Phillips, C.A., and Park, D. (2020) "DEEPSOIL 7.0, User Manual". Urbana, IL, Board of Trustees of University of Illinois at Urbana-Champaign.

Itasca, 2016, Fast Lagrangian Analysis of Continua (FLAC 8.0) Software, Minneapolis, Minnesota.

Kishida, T., V. Contreras, Y. Bozorgnia, N. A. Abrahamson, S. K. Ahdi, D. M. Boore, K. W. Campbell, B. Chiou, R. Darragh, N. Gregor, D. Y. Kwak, A. O. Kwok, P. Lin, H. Magistrale, S. Mazzoni, S. Midorikawa, H. Si, W. J. Silva, J. P. Stewart, K. E. Wooddell, and R. R. Youngs. 2018. "Nga-Sub Ground Motion Database." Proceedings of the 11th U.S. National Conference on Earthquake Engineering, 11. Los Angeles, California: Earthquake Engineering Research Institute.

PanGEO, Inc., 2022. Select geotechnical subsurface exploration data provided via email correspondence.

PanGEO, Inc., 2005. Select geotechnical subsurface exploration data provided via email correspondence.

Petersen, M. D., Shumway, A. M., Powers, P. M., Mueller, C. S., Moschetti, M. P., Frankel, A. D., … Zeng, Y. (2019). The 2018 update of the US National Seismic Hazard Model: Overview of model and implications. Earthquake Spectra.

PND Engineers, Inc. (PND), 2022, Email communications regarding structural period.

Seed, H. B. and Idriss, I. M. (1970) "Soil moduli and damping factors for dynamic response analyses." Report No. EERC 70-10, Earthquake Engineering Research Center, University of California, Berkeley, California, 40p.

Shahi, S.K. and Baker, J.K. 2014. "NGA-West2 Models for Ground-Motion Directionality," Earthquake Spectra: August 2014, Vol. 20, No. 3, pp. 1285-1300.

Vucetic, M., and Dobry, R. (1991). "Effect of Soil Plasticity on Cyclic Response." Journal of Geotechnical Engineering, 117(1), 89–107.

Table 1: Selected Seed Time History Characteristics and Scale Factors

Year	*Earthquake*	*Recording Station*	*Magnitude (Mw)*	*Distance (km)*	*Vs100 (m/s)*	*Source Type*	*Rotation Relative to X-Component (degrees)*	*Scaling Factor*
2003	Tokachi-oki, Japan	51562	8.29	111	451	Interface	-85	1.6
2010	Maule, Chile	Talca Colegio Integrado San Pio X	8.81	148	465	Interface	-90	1.28
2011	Tohoku, Japan	GS3	9.12	176	389	Interface	-84	2.31
2014	Iquique, Chile	PB12	8.15	127	586	Interface	-84	6.44
2015	Chile	C010	8.31	193	447	Interface	-2	3.87
1949	Olympia, WA	OLY0	6.70	60	399	Intraslab	-82	2.74
1997	Michoacan, Chile	Vile	7.15	74	429	Intraslab	-90	5.8
2001	Nisqually, WA	2130	6.80	54	399	Intraslab	-1	4.65
2006	Pingtung, Taiwan	KAU080	6.94	46	399	Intraslab	-10	2.44
2010	Ferndale, WA	1746	6.55	41	362	Intraslab	-86	4.91
1978	Tabas, Iran	Dayhook	7.35	21	471	Crustal	-8	1.75
1992	Cape Mendocino	Petrolia	7.01	11	422	Crustal	84	0.87
1994	Northridge	Sylmar - Converter Sta East	6.69	22	370	Crustal	-73	1.14
2003	Bam, Iran	Bam	6.60	14	487	Crustal	-77	0.94
2008	Iwate	Kurihara City	6.90	26	512	Crustal	-81	1.17

Note: X-Component is horizontal component closest to the East, 0 degree orientation.

Table 2: FLAC Soil Profile Input Parameters

Profile Top of Slope

Group	Top Elev (ft)	Bottom Elev (ft)	Dry Density (slugs per cf)	Porosity	V_{s1} (ft/s) Lower Bound	V_{s1} (ft/s) Best Estimate	V_{s1} (ft/s) Upper Bound	α^1	Constitutive Model	Modulus Reduction Curve
Fill	12	2	3.3412	0.2	472.5	525	577.5	0	Elastic + Hysteretic	EPRI_Soil_000-020
Fill2	2	-8	3.3412	0.2	450	500	550	0	Elastic + Hysteretic	EPRI_Soil_000-020
Fill3	-8	-21	3.3412	0.2	391.5	435	478.5	0	Elastic + Hysteretic	EPRI_Soil_021-050
Estaurine	-21	-98	3.3412	0.2	364.5	405	445.5	0.95	Elastic + Hysteretic	Vucetic-Dobry_PI30
Drift	-98	-133	3.2443	0.25	513	570	627	0.65	Elastic + Hysteretic	Vucetic-Dobry_PI15
	-160 (Lower Bound)	-163 (Lower Bound)								
	-133 (Best Estimate)	-138 (Best Estimate)								
Base	-112 (Upper Bound)	-115 (Upper Bound)	4.0597	0.15	1430	1430	1430	0	Elastic + Hysteretic	EPRI_Soil_121-250

Note 1. $Vs = Vs1 * (\sigma_v'/P_a)^{\alpha}$

Profile Toe of Slope

Group	Top Elev (ft)	Bottom Elev (ft)	Dry Density (slugs per cf)	Porosity	V_{s1} (ft/s) Lower Bound	V_{s1} (ft/s) Best Estimate	V_{s1} (ft/s) Upper Bound	α^1	Constitutive Model	Modulus Reduction Curve
Estaurine0	-10	-21	3.3412	0.2		300		0	Elastic + Hysteretic	Vucetic-Dobry_PI30
Estaurine	-21	-37	3.3412	0.2		525		0.5	Elastic + Hysteretic	Vucetic-Dobry_PI30
Estaurine2	-37	-98	3.3412	0.2		575		0.8	Elastic + Hysteretic	Vucetic-Dobry_PI30
Drift	-98	-137	3.2443	0.25		720		0.55	Elastic + Hysteretic	Vucetic-Dobry_PI15
Base	-137 (Best Estimate)	-142 (Best Estimate)	4.0597	0.15	1430	1430	1430	0	Elastic + Hysteretic	EPRI_Soil_121-250

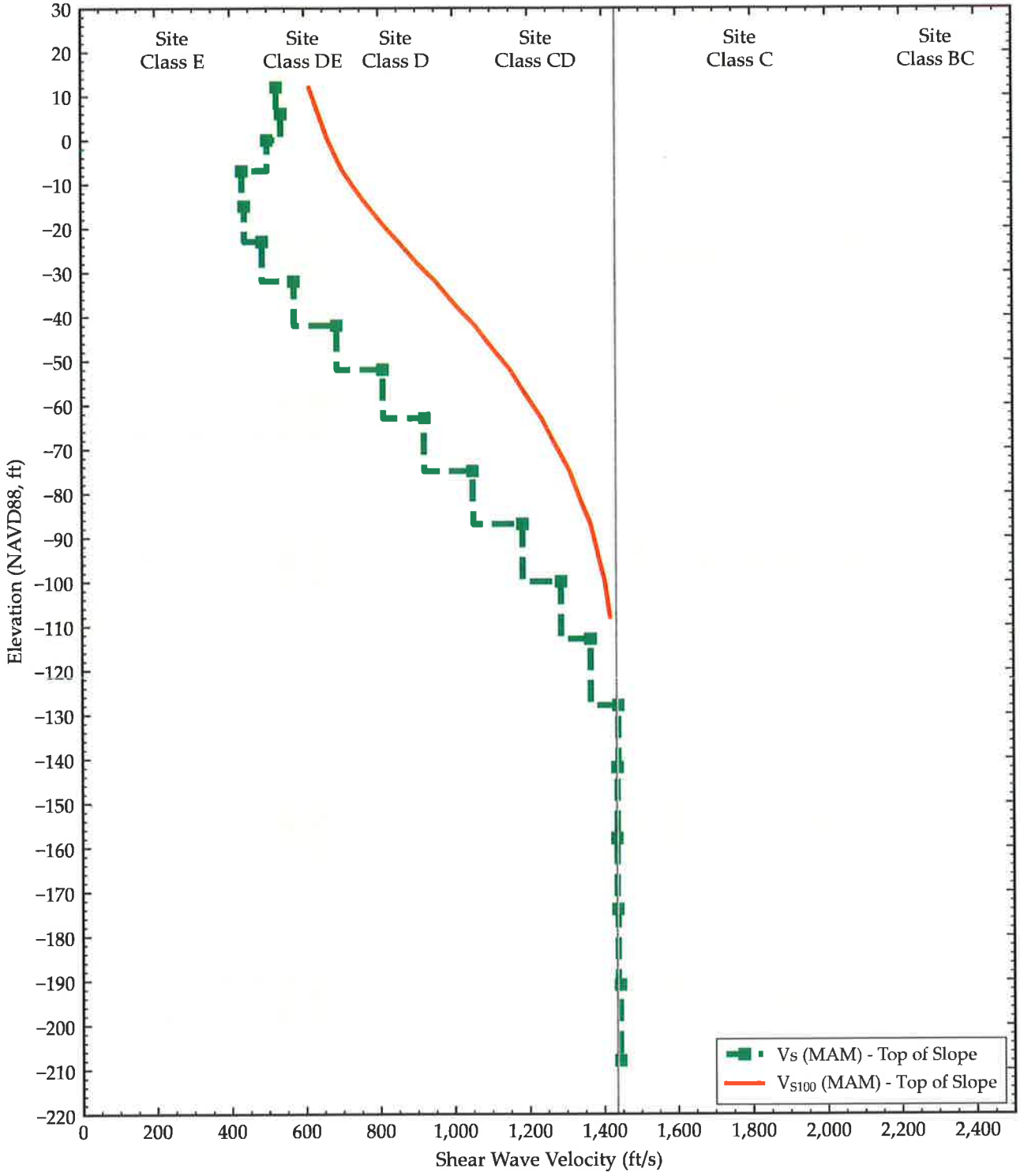
Note 1. $Vs = Vs1 * (\sigma_v'/P_a)^{\alpha}$

Table 3: Recommended Site-Specific Ground Surface MCE_R and Design Acceleration Response Spectrum Values

Period	*MCE_R Spectral Acceleration (g)*	*Design Spectral Acceleration (g)*	*Period*	*MCE_R Spectral*	*Design Spectral Acceleration (g)*
0.010	0.628	0.419	0.400	1.399	0.933
0.012	0.633	0.422	0.433	1.361	0.907
0.015	0.638	0.426	0.500	1.379	0.920
0.019	0.653	0.435	0.534	1.383	0.922
0.020	0.672	0.448	0.658	1.264	0.843
0.023	0.729	0.486	0.750	1.253	0.835
0.028	0.757	0.505	0.811	1.233	0.822
0.030	0.764	0.509	1.000	1.148	0.765
0.035	0.805	0.536	1.233	0.957	0.638
0.043	0.887	0.591	1.500	0.752	0.501
0.050	0.921	0.614	1.520	0.739	0.493
0.053	0.956	0.637	1.874	0.549	0.366
0.066	1.033	0.689	2.000	0.503	0.336
0.075	1.061	0.708	2.310	0.412	0.274
0.081	1.088	0.725	2.848	0.304	0.203
0.100	1.247	0.831	3.000	0.288	0.192
0.123	1.228	0.818	3.511	0.241	0.161
0.150	1.229	0.819	4.000	0.208	0.139
0.152	1.224	0.816	4.329	0.190	0.126
0.187	1.203	0.802	5.000	0.160	0.107
0.200	1.251	0.834	5.337	0.147	0.098
0.231	1.296	0.864	6.579	0.113	0.075
0.250	1.317	0.878	7.500	0.096	0.064
0.285	1.338	0.892	8.111	0.090	0.060
0.300	1.374	0.916	10.000	0.074	0.050
0.351	1.436	0.957			

Note:

1. Additional spectral values can be determined by log-log interpolation.
2. Spectral accelerations calculated with 5% damping.



Notes:
1. V_{S100} plot represents V_{S100} calculated below depth plotted.
2. MAM: Microtremor Analysis Method.
3. Site Classes based on Table 20.2-1 in ASCE7-22.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

SITE-SPECIFIC SHEAR WAVE VELOCITY

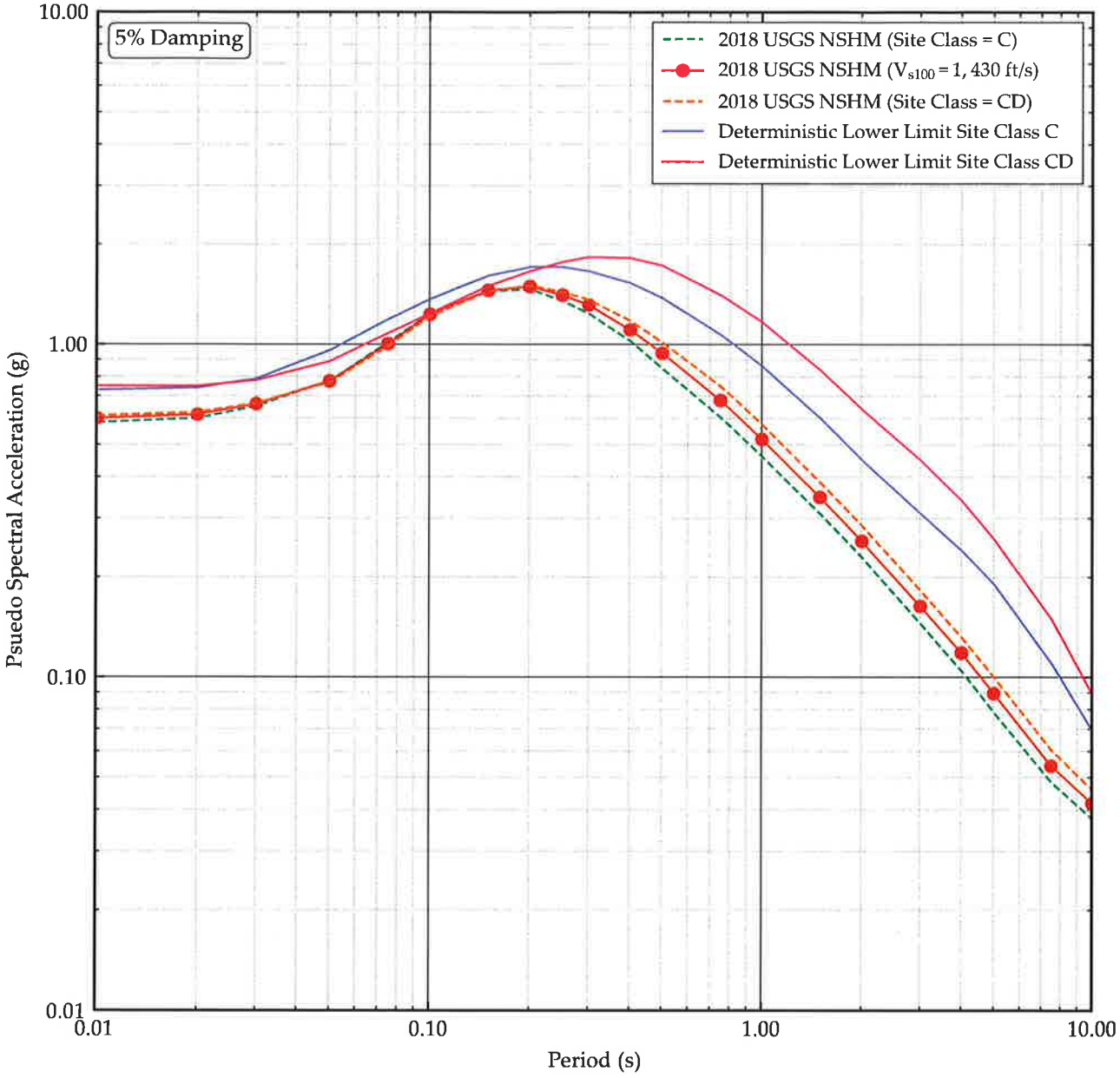
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 1

C:\Users\MattGibson\OD_CELLC\Clarity Engineering, LLC\CEL LC - Projects\186 T Dock Replacement\Subsurface\Shearwave Evaluation_FIELD.ipynb ver:0.12.post11+g95d2438, by:MattGibson

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb
ver:0.12.post11+g95d2438.by:MattGibson



Notes:
1. USGS: United States Geologic Survey, NSHM: National Seismic Hazard Map
2. UHS obtained from the 2018 USGS PSHA Web server.
3. Firm ground V_{S100} assumed to be 1,430 feet per second.

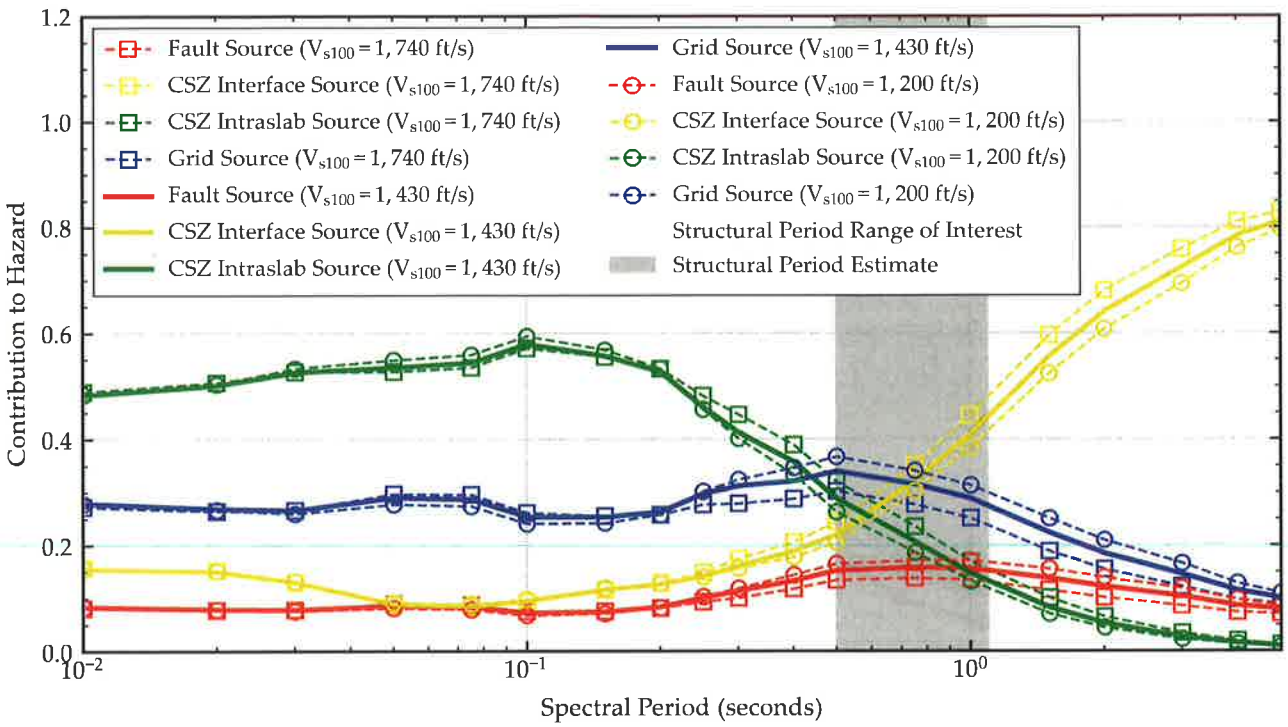
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

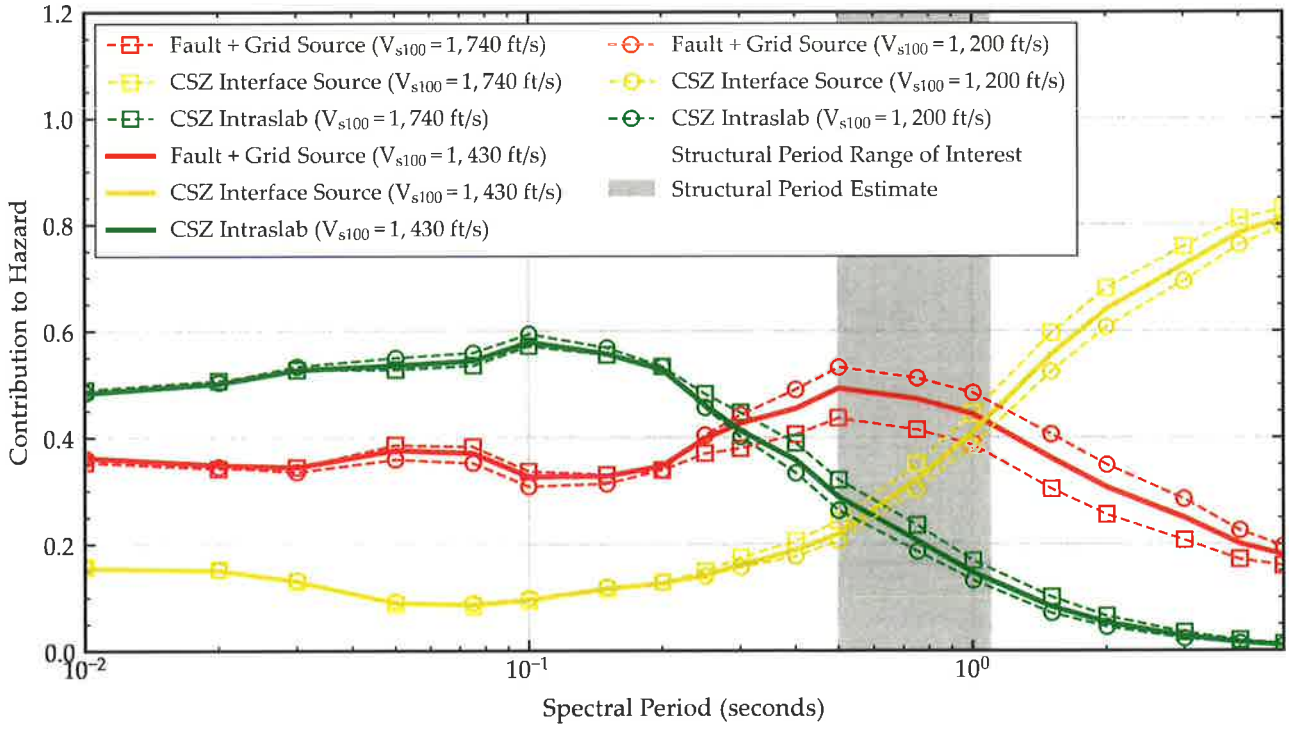
FIRM GROUND
V_{S100} = 1, 430 FPS
2,475 UHS SPECTRA

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 2





Notes:
1. Contributions based on 2018 USGS National Seismic Hazard Map (NSHM).
2. CSZ: Cascadia Subduction Zone.
3. Structural periods estimated by PND Engineers.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

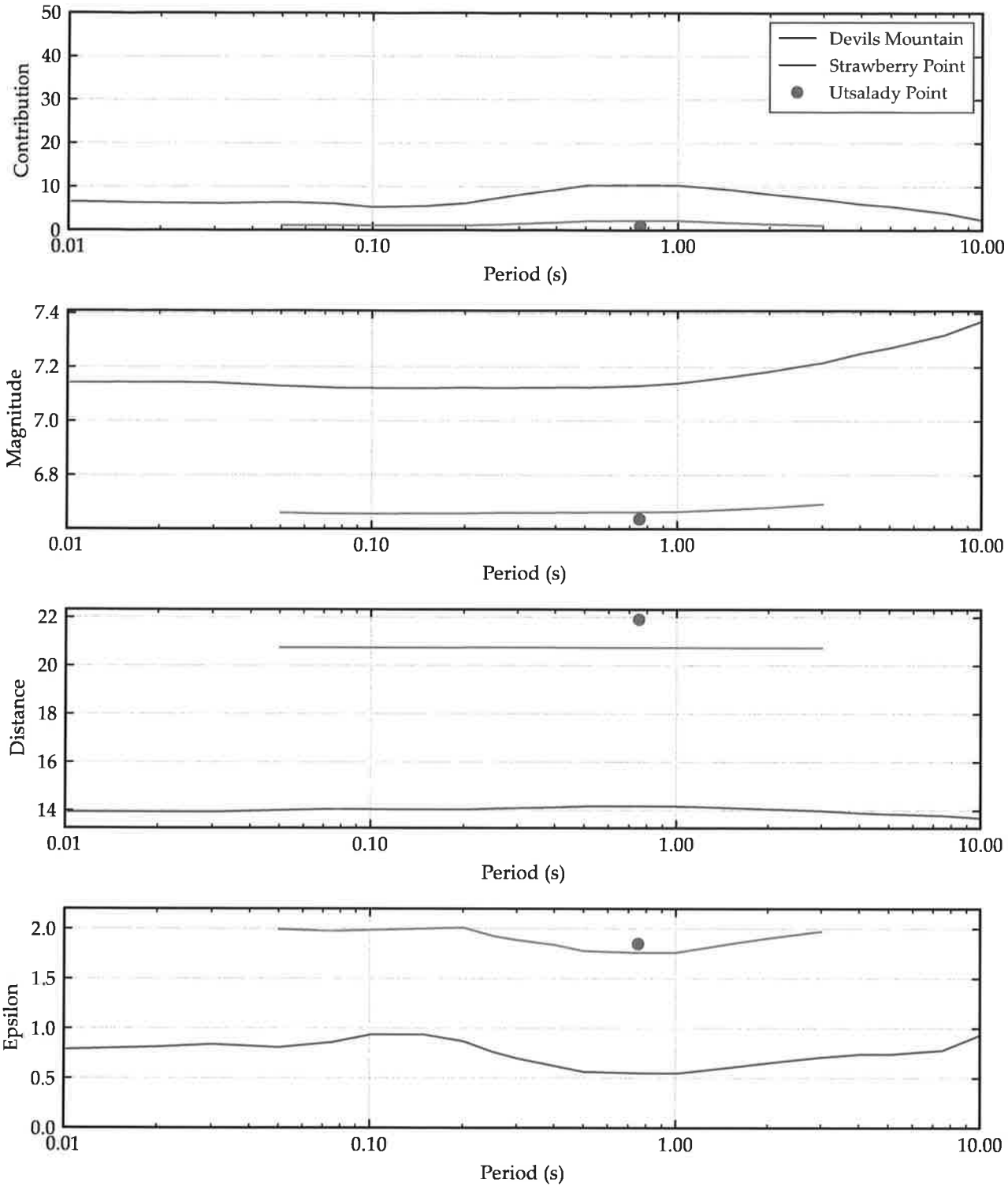
SEISMIC SOURCE CONTRIBUTION SUMMARY ALL SOURCES

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 3

C:\Users\MattGibson\OD_CEILLC\Clarity Engineering LLC\CEILLC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb ver:0.12.post11+g95d2438 by:MattGibson



Notes:
1. Data based on 2018 USGS National Seismic Hazard Map (NSHM) Dissaggregation for the site $V_{S,100}$.
2. An earthquake parameter set (Magnitude, Distance, Epsilon) represent an earthquake scenario's contributions to the firm ground UHS at a given period.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

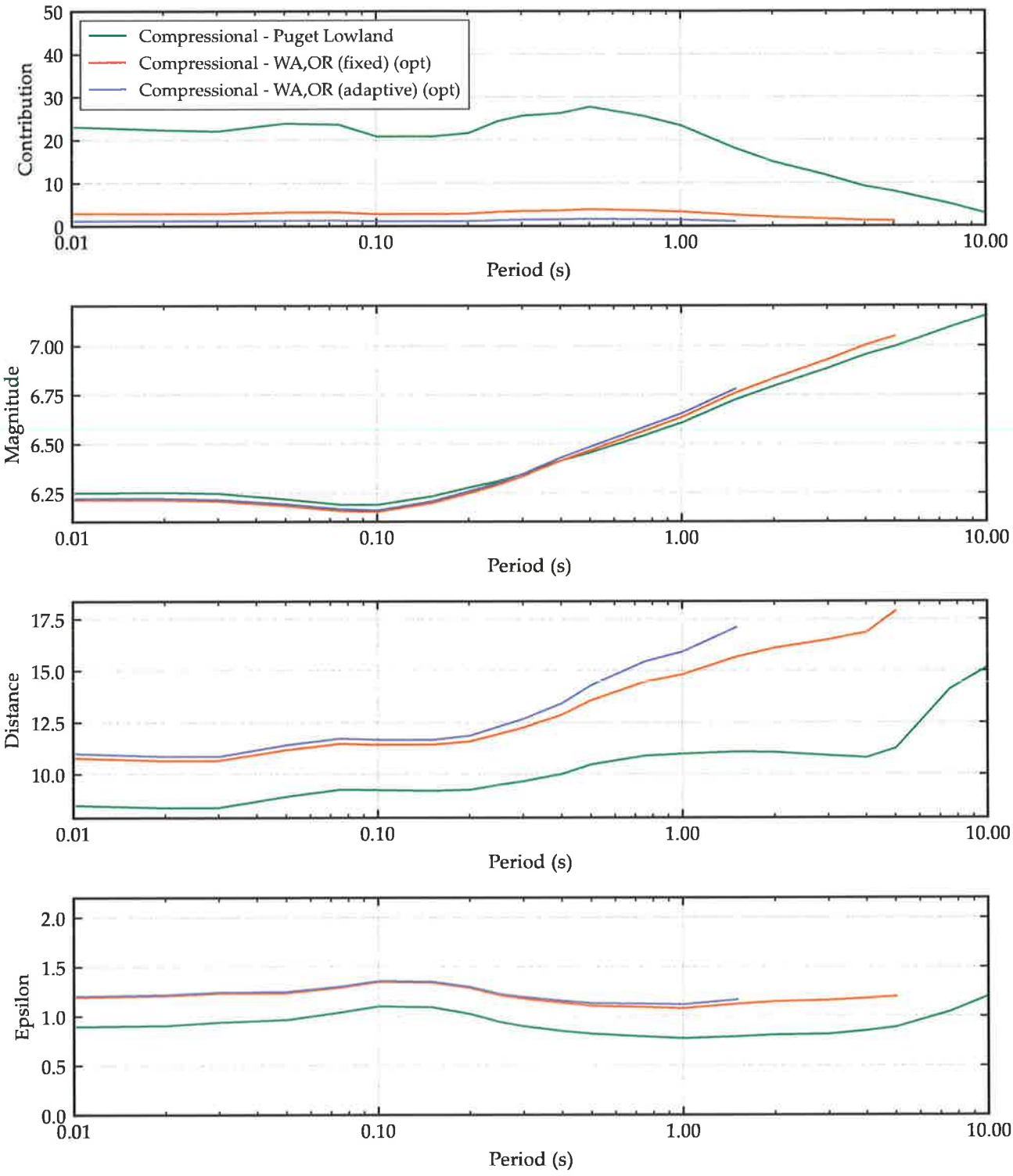
2018 USGS PSHA DISSAGGREGATION DETAIL SOURCE TYPE: FAULT

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 4
Sheet 1 of 4

ver:0.12.post111+g95d2438.by:MattGibson
C:\Users\MattGibson\OD_CELLC\Clarity Engineering, LLC\CELLC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb



Notes:
1. Data based on 2018 USGS National Seismic Hazard Map (NSHM) Dissaggregation for the site $V_{S,100}$.
2. An earthquake parameter set (Magnitude, Distance, Epsilon) represent an earthquake scenario's contributions to the firm ground UHS at a given period.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

2018 USGS PSHA DISSAGGREGATION DETAIL SOURCE TYPE: GRID

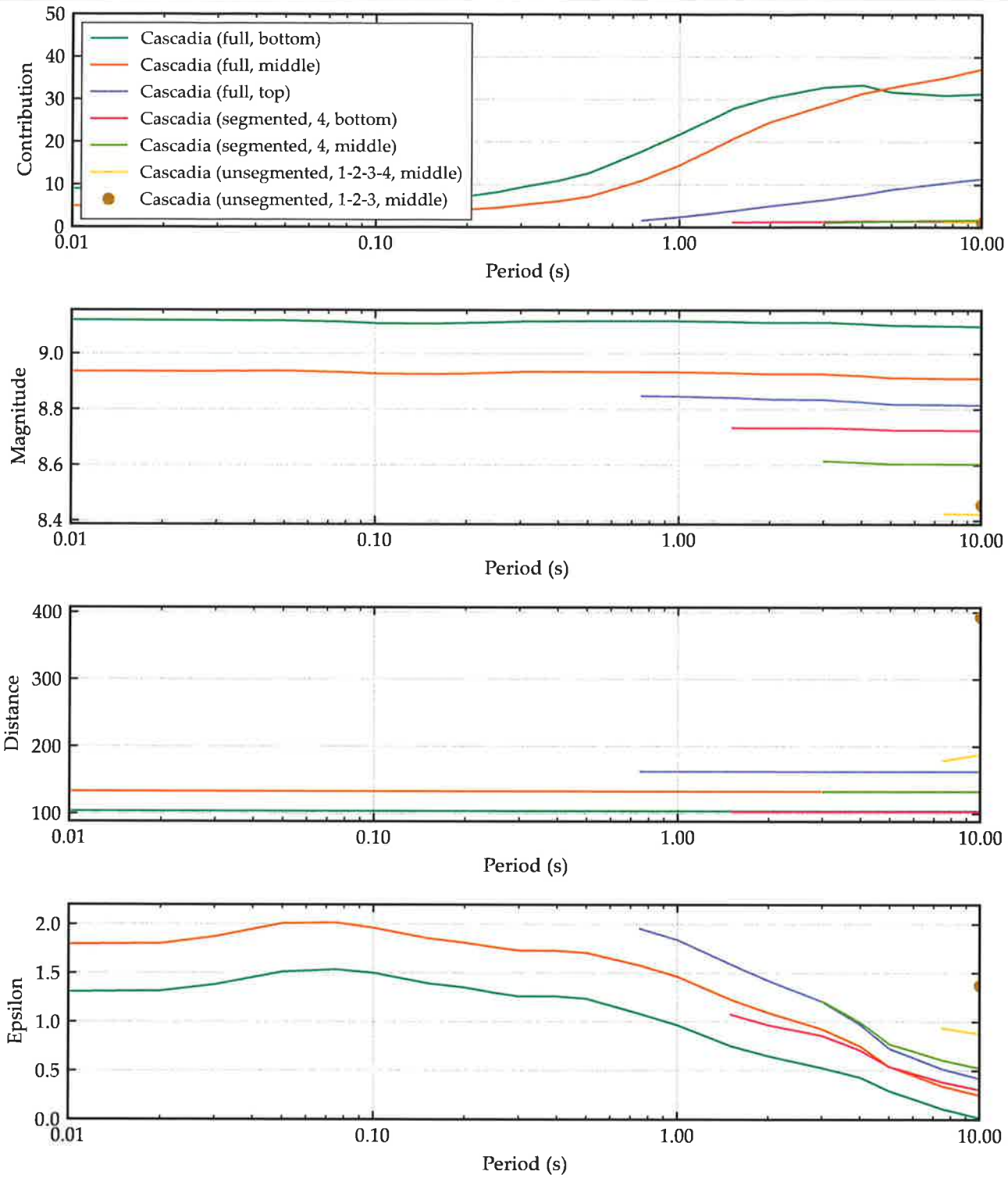
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 4
Sheet 2 of 4

C:\Users\MattGibson\OD_CEL.LC\Clarity Engineering, LLC\CEL.LC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb
ver:0.12.post11+g95d2438, by:MattGibson

ver:0.12.post11+g95d2438.by:MattGibson
C:\Users\MattGibson\OD_CELLC\Clarity Engineering, LLC\CEL LC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb



Notes:
1. Data based on 2018 USGS National Seismic Hazard Map (NSHM) Dissaggregation for the site $V_{S,100}$.
2. An earthquake parameter set (Magnitude, Distance, Epsilon) represent an earthquake scenario's contributions to the firm ground UHS at a given period.

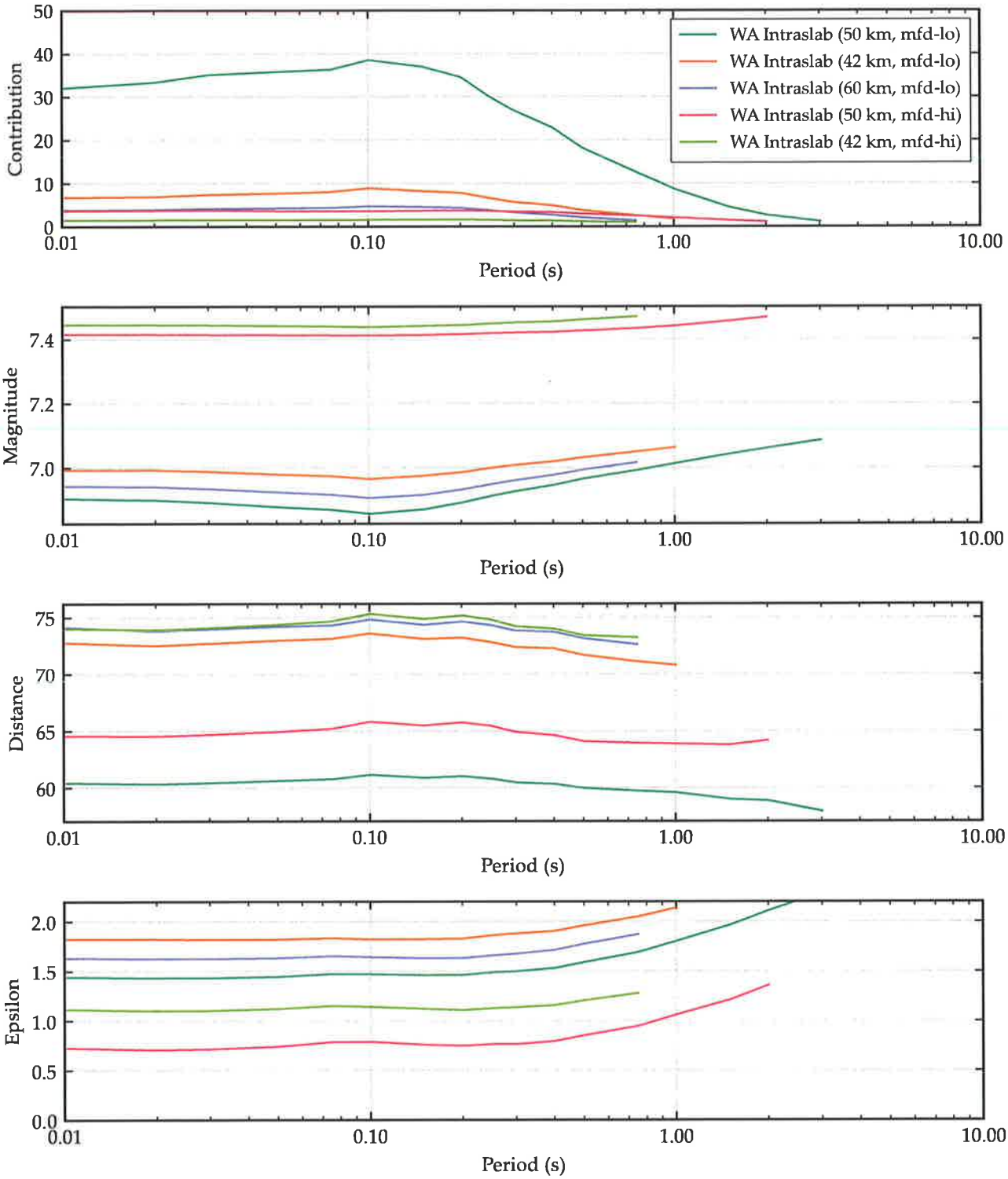
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

2018 USGS PSHA DISSAGGREGATION DETAIL SOURCE TYPE: INTERFACE

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 4
Sheet 3 of 4



Notes:

1. Data based on 2018 USGS National Seismic Hazard Map (NSHM) Dissaggregation for the site $V_{S,100}$.
2. An earthquake parameter set (Magnitude, Distance, Epsilon) represent an earthquake scenario's contributions to the firm ground UHS at a given period.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

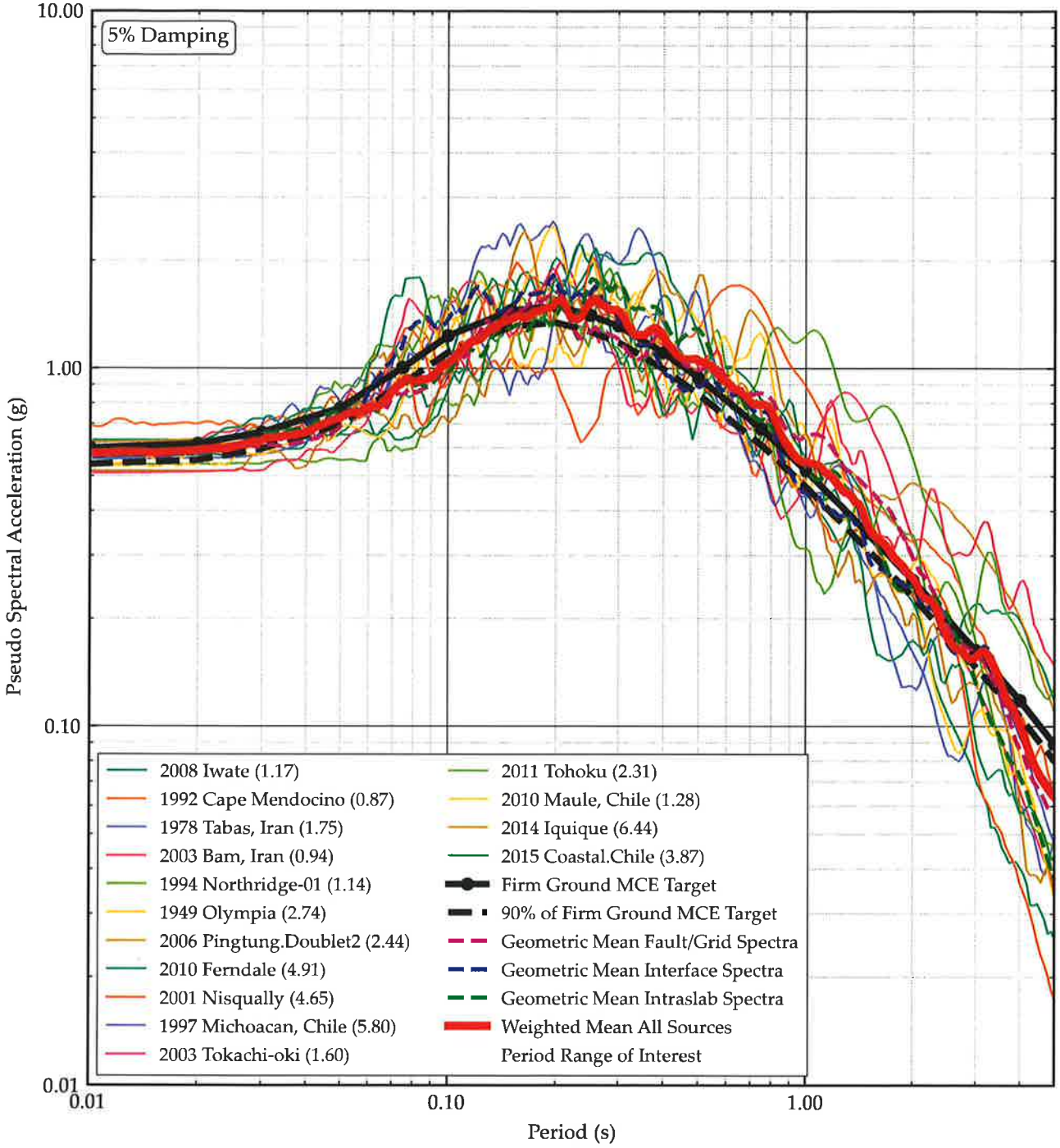
2018 USGS PSHA DISSAGGREGATION DETAIL SOURCE TYPE: SLAB

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 4
Sheet 4 of 4

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T Dock Replacement\Seismic\1_FirmGround\FirmGround2.ipynb
ver0.12.post11+g95d2438.by.MattGibson



Notes:
1. Structural periods estimated by PND Engineers.
2. See report text for rotation and scaling information for ground motion time history and calculation of weighted mean.
3. Ground motion time histories have been filtered for use in FLAC.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

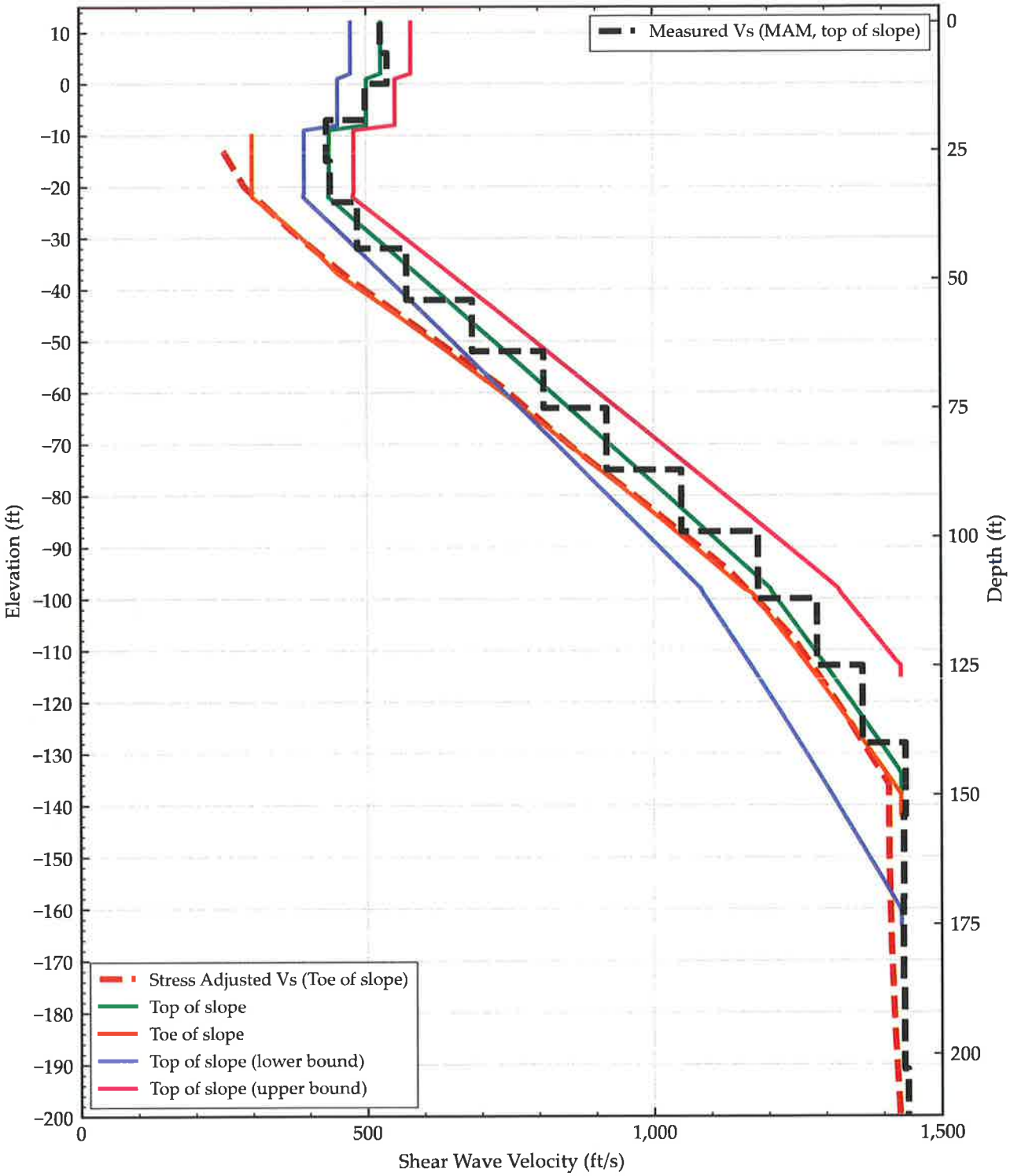
FIRM GROUND SCALED TIME HISTORIES RESPONSE SPECTRA

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 5

C:\Users\MattGibson\OD_CELLC\Clarity Engineering, LLC\CELLC - Projects\186 T Dock Replacement\Seismic\2_GroundMotions\TH_Selection_Multi_all.ipynb ver:0.12.post11+g95d2438 by:MattGibson



Notes:
1. MAM: Microtremor Analysis Method.
2. See text for description of different profile characteristics.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

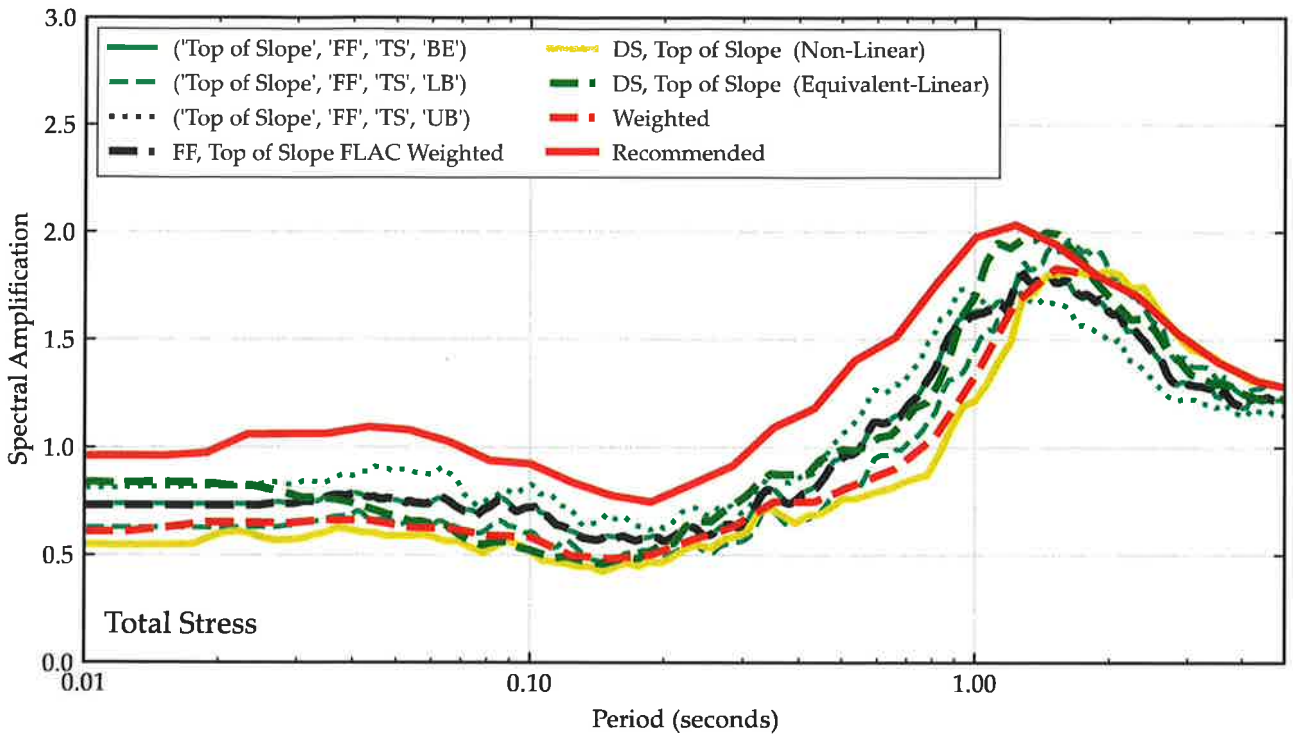
ASSUMED SHEAR WAVE VELOCITY PROFILES

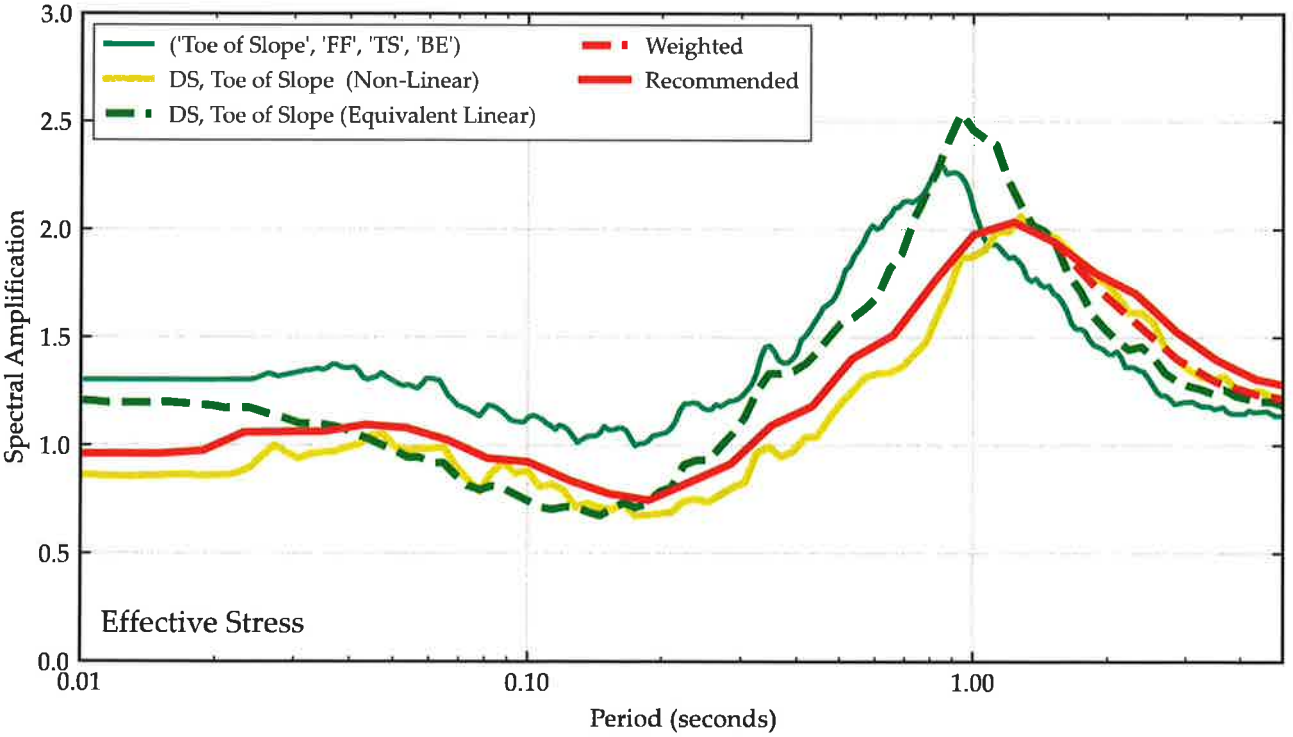
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 6

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T-Dock Replacement\Subsurface\Shearwave Evaluation_FIELD.ipynb ver:0.12.post11+g95d2438.byMattGibson





Notes:
1. FF: Free Field, ES: Effective Stress, TS: Total Stress, BE: Best Estimate, LB: Lower Bound, UB: Upper Bound, DS: DEEPSOIL.
2. See text for discussion on weighting of site response results.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

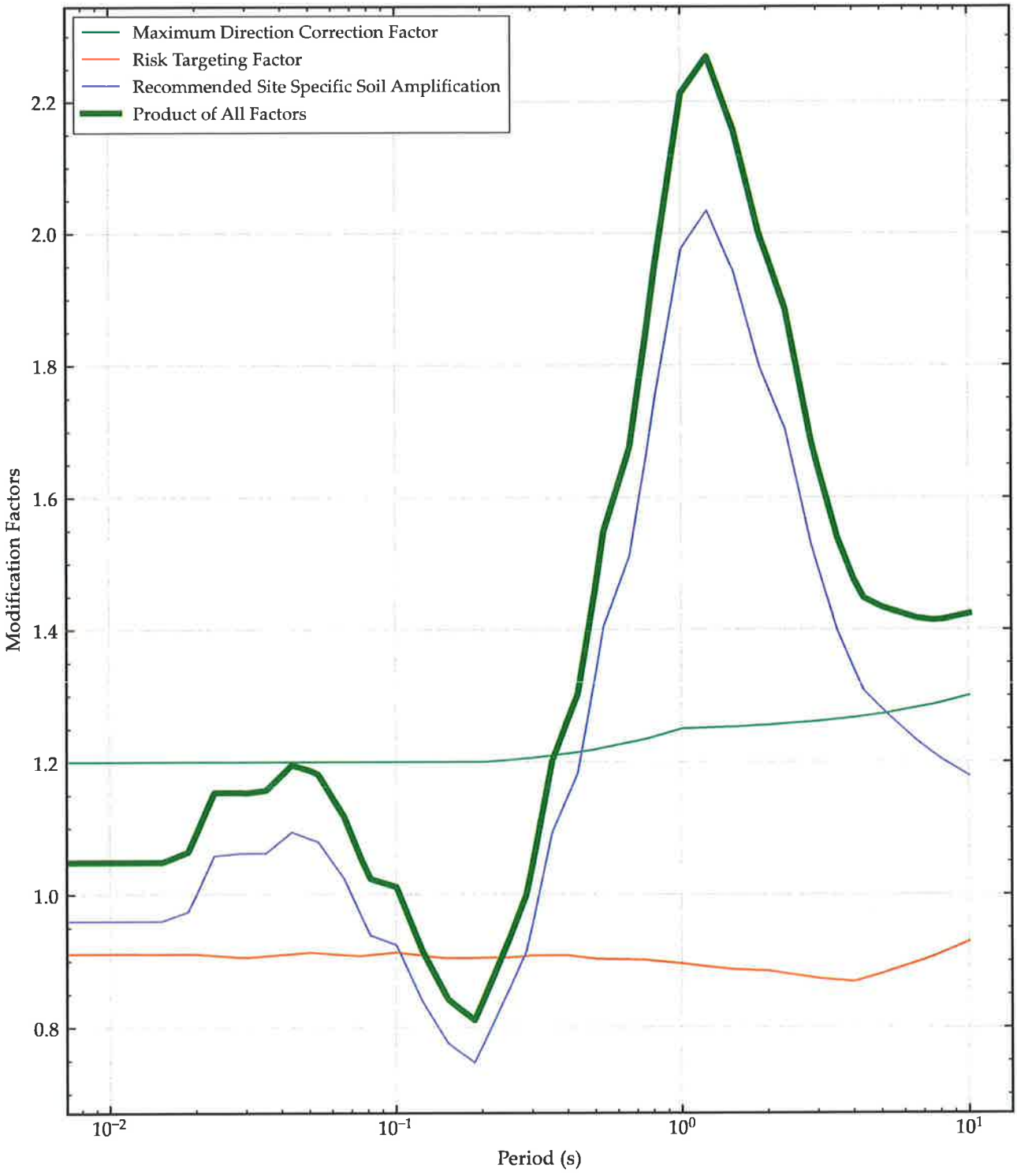
GROUND SURFACE AMPLIFICATION RESULTS & RECOMMENDATIONS

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 7

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T Dock Replacement\Seismic\3_SiteResponse\Results.ipynb ver:0.12.post11+g93d2438_hv:MattGibson



Note:
1. See report text for description of these modification factors.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

MCE TO MCER MODIFICATION FACTORS

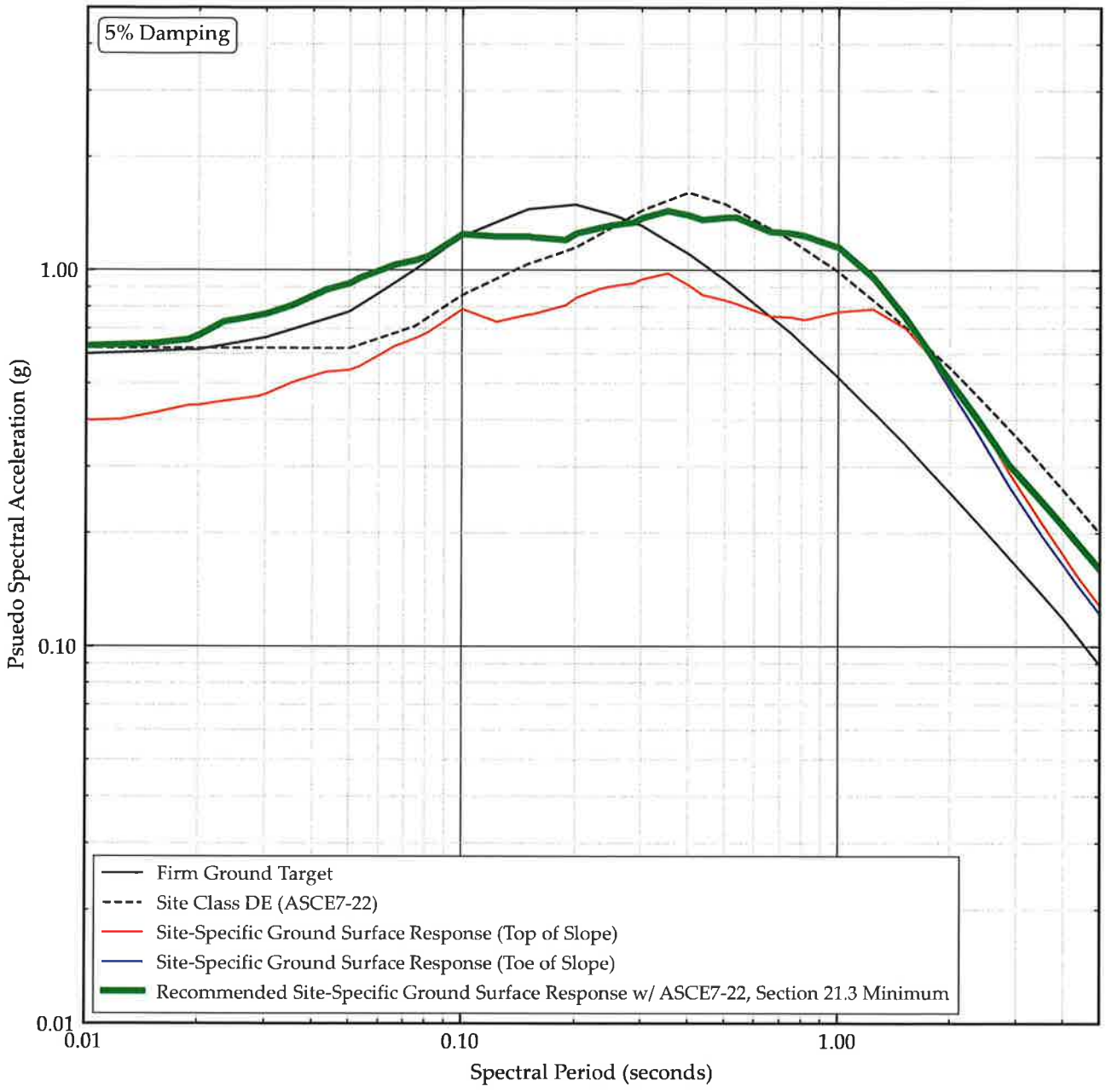
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 8

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T Dock Replacement\Seismic\3_SiteResponse\Results.ipynb ver:0.12.post11+g95d2438, by:MattGibson

ver:0.12.post11+g95d2438.by:MattGibson
C:\Users\MattGibson\OD_CEI,LC\Clarity Engineering, LLC\CEI,LC - Projects\186 T Dock Replacement\Seismic\3_SiteResponse\Results.ipynb



Note:
1. Recommended ordinates are provided in Table 3 of the main text.

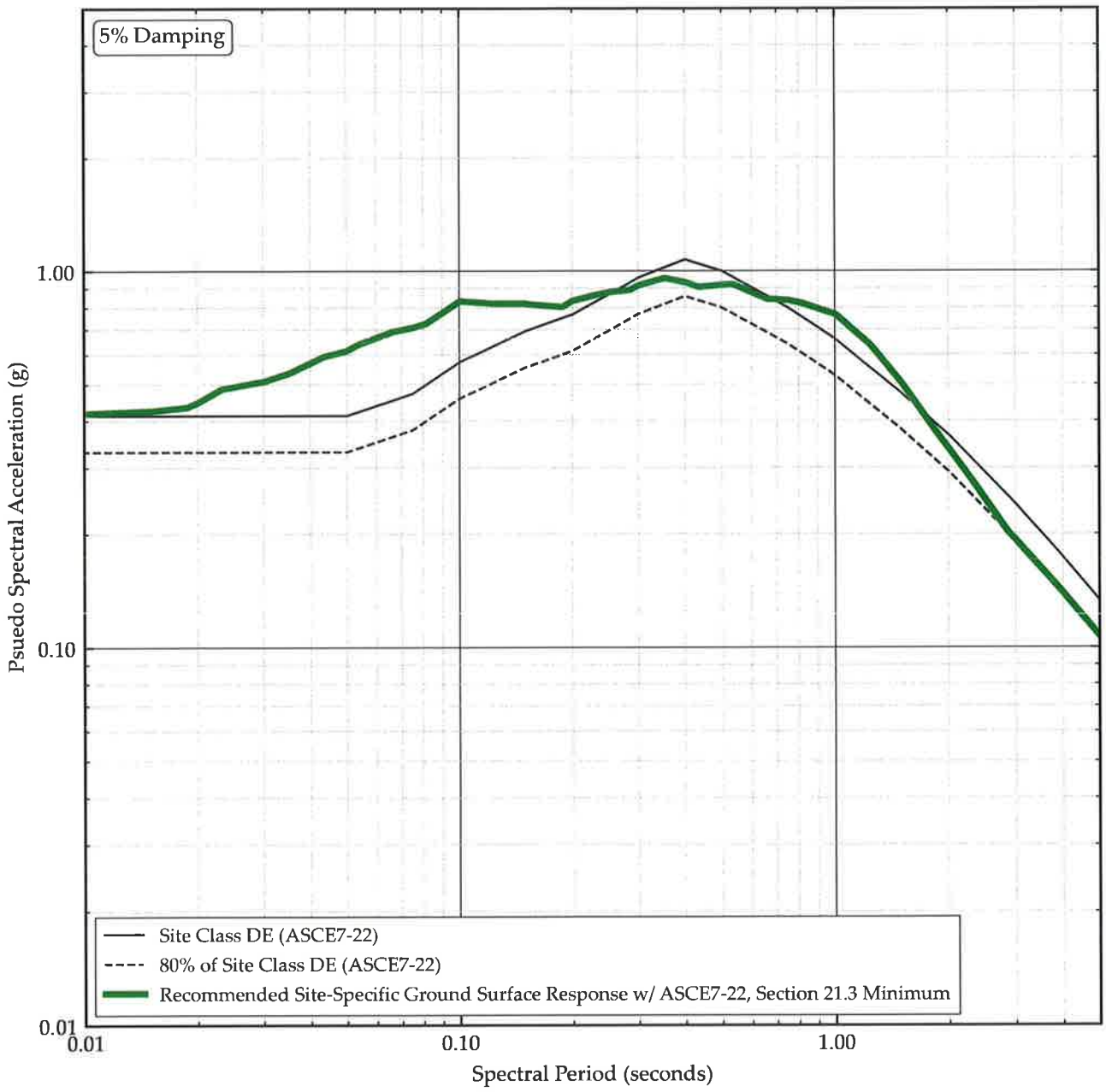
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

SITE SPECIFIC GROUND SURFACE MCER SPECTRUM

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. 9



Notes:
1. ASCE 7-22, DE spectra shown for reference only.
2. Spectral values can be interpreted using log-log linear interpolation.
3. Ordinates of this curve are provided in Table 3 of the main text.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

SITE SPECIFIC GROUND SURFACE DESIGN SPECTRUM

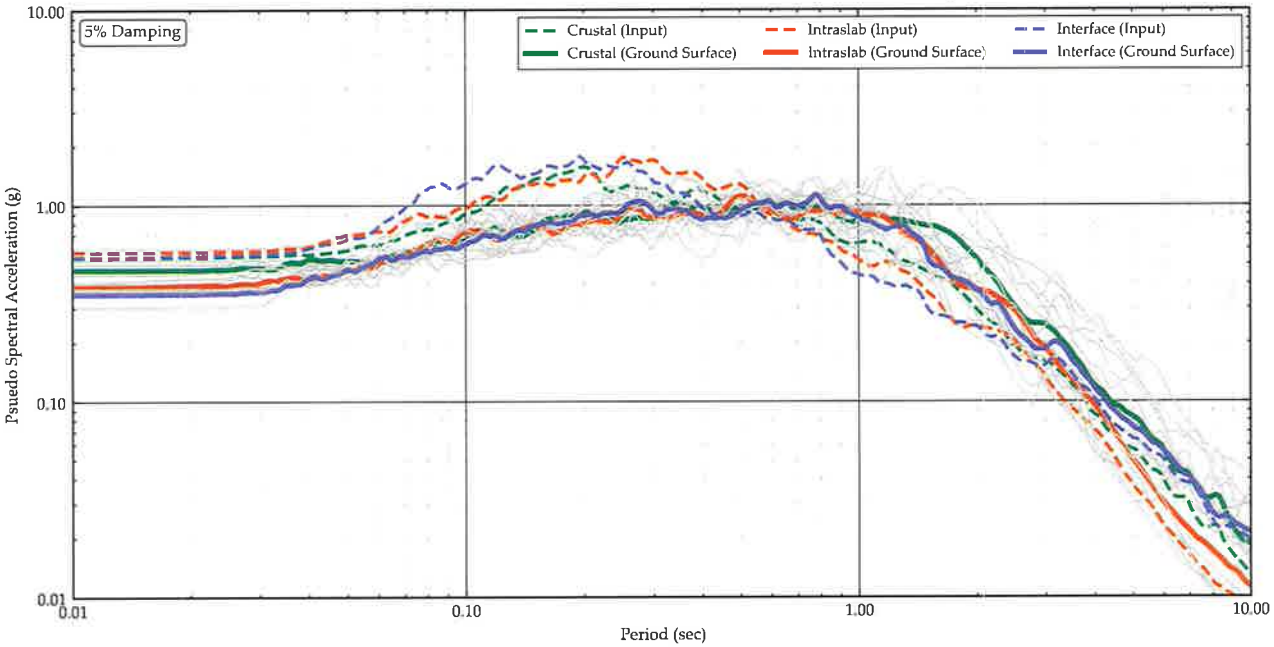
October 2022 186-01

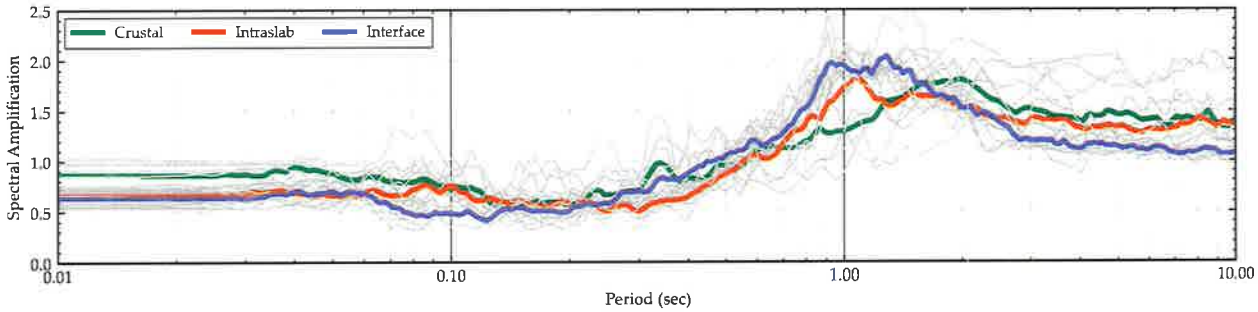
Clarity Engineering LLC
Geotechnical Consultants

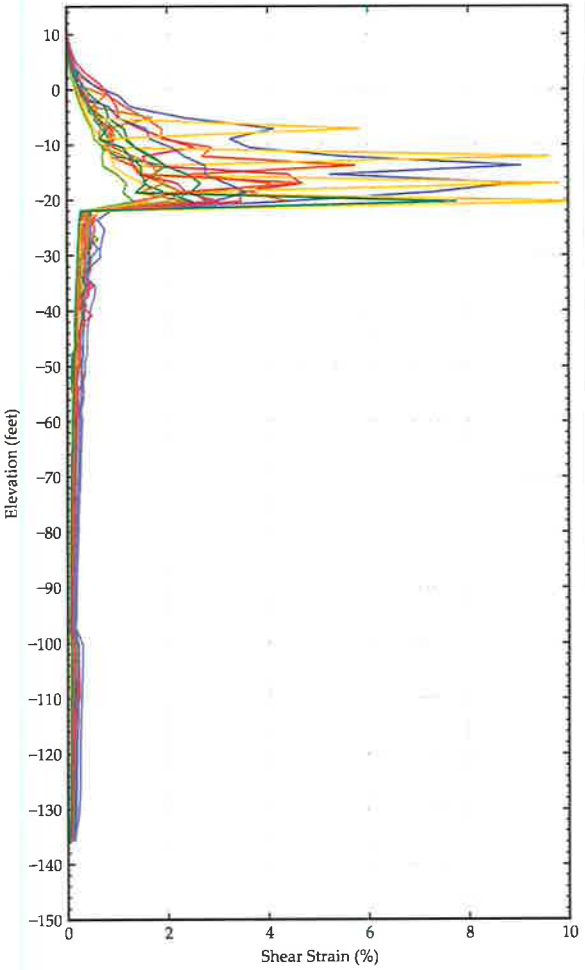
FIG. 10

C:\Users\MattGibson\OD_CELLC\Clarity Engineering LLC\CELLC - Projects\186 T Dock Replacement\Seismic\3_SiteResponse\Results.ipynb ver:0.12.post11+g95d2438 by:MattGibson

APPENDIX A: FLAC SITE RESPONSE RESULTS







Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

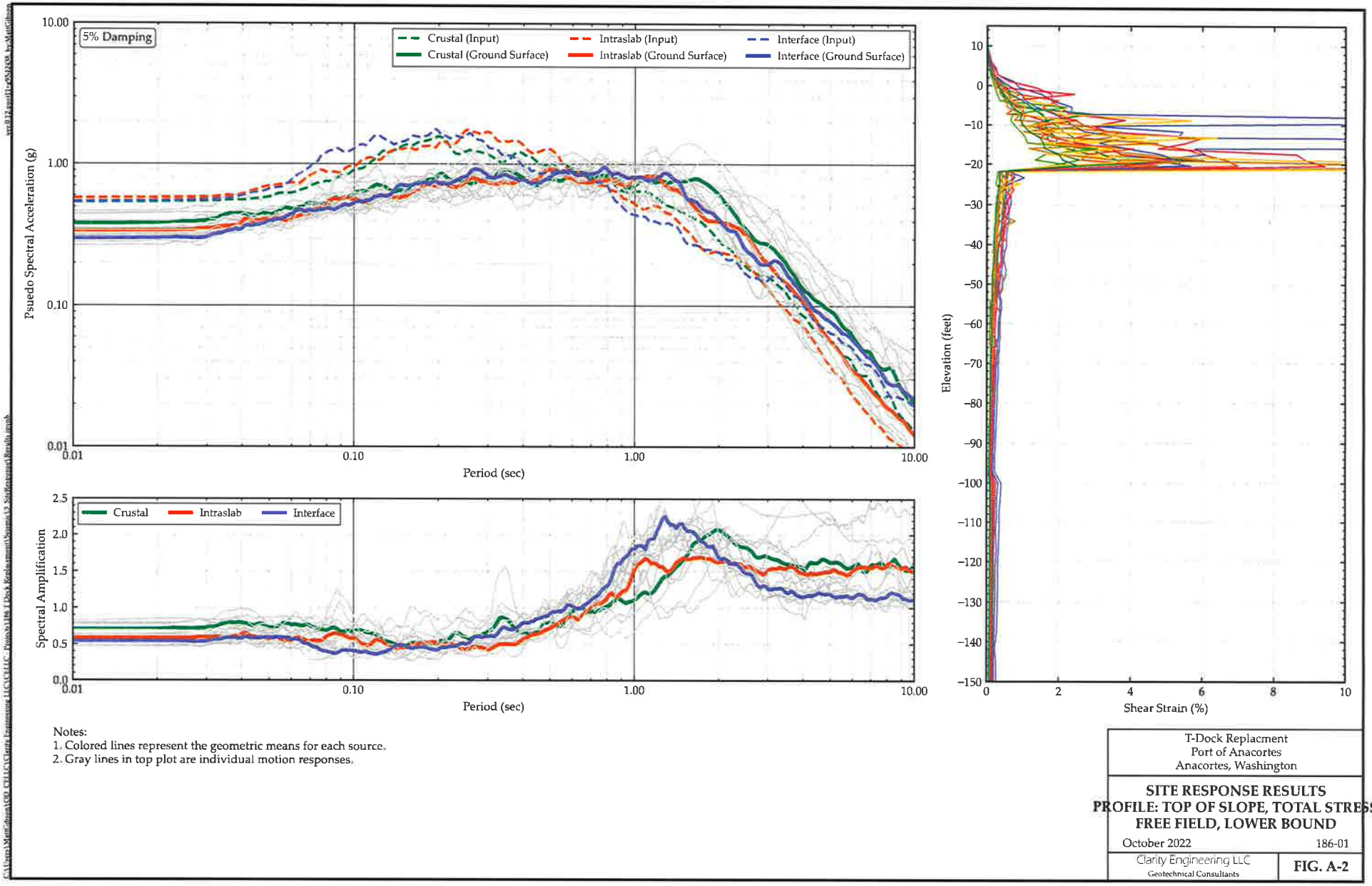
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

SITE RESPONSE RESULTS
PROFILE: TOP OF SLOPE, TOTAL STRESS
FREE FIELD

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. A-1



Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

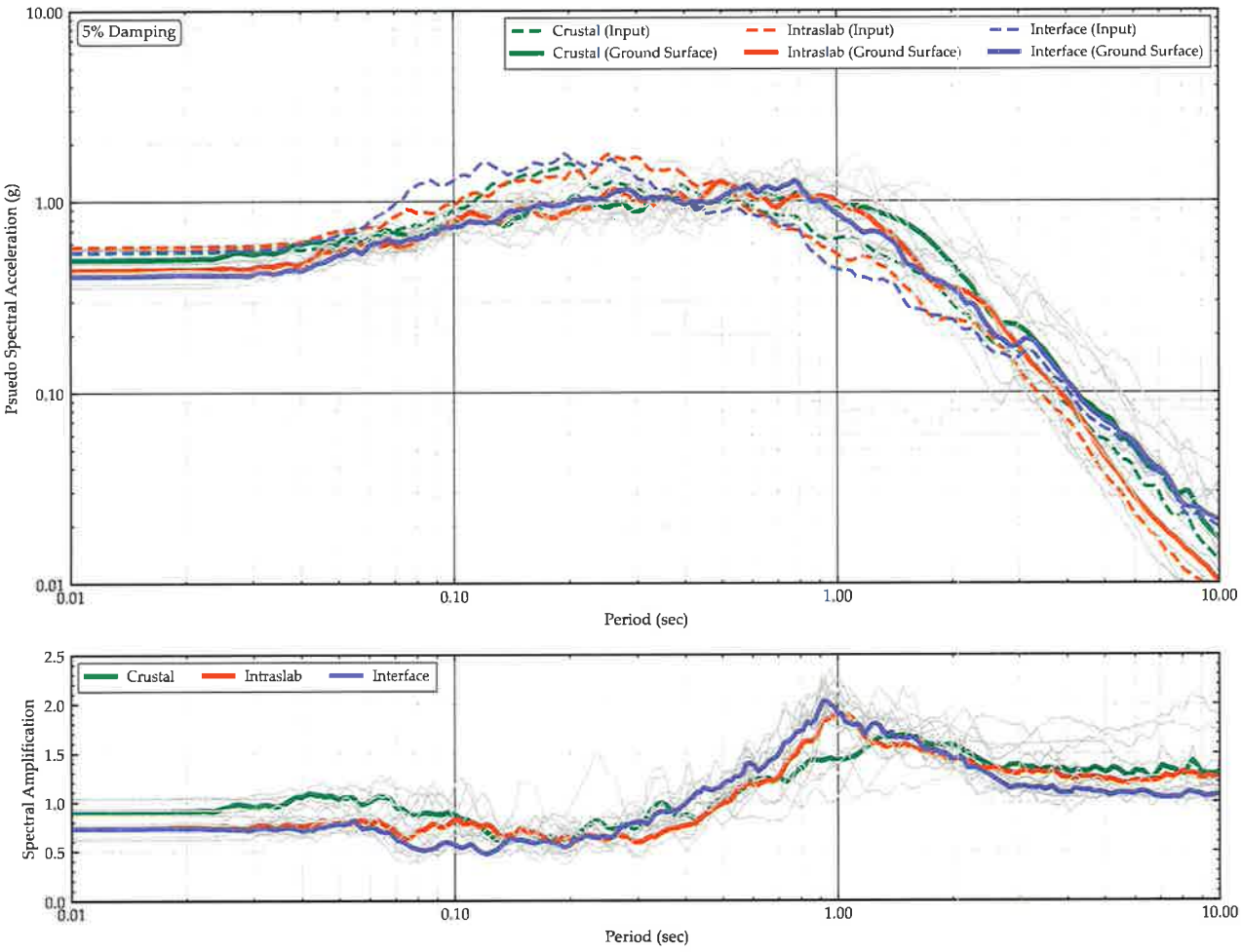
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

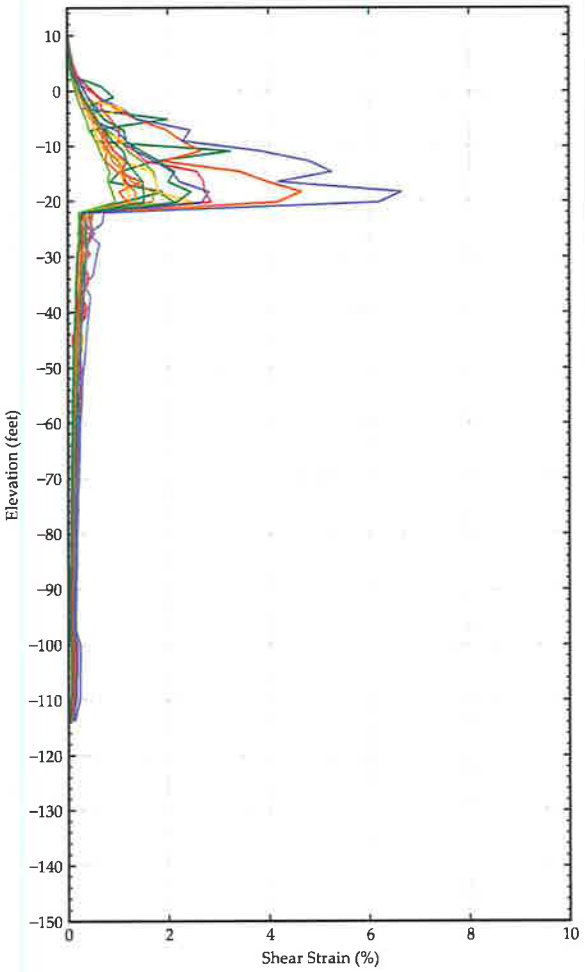
SITE RESPONSE RESULTS
PROFILE: TOP OF SLOPE, TOTAL STRESS
FREE FIELD, LOWER BOUND

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. A-2





Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

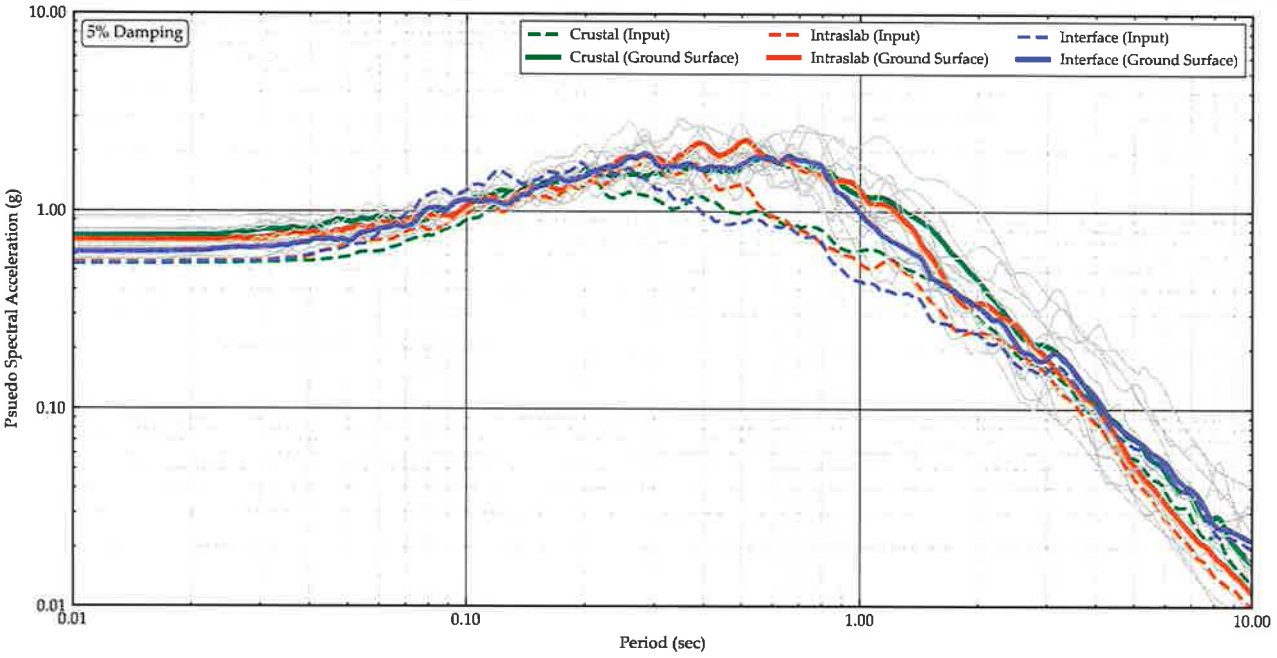
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

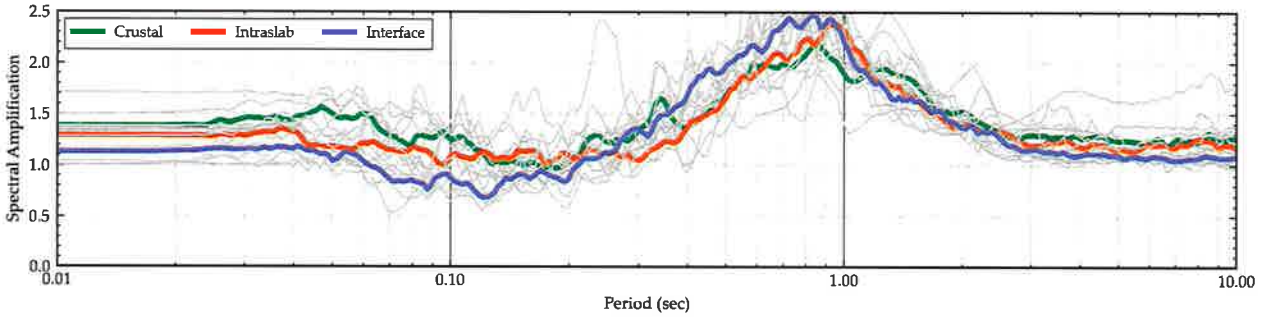
SITE RESPONSE RESULTS
PROFILE: TOP OF SLOPE, TOTAL STRESS
FREE FIELD, UPPER BOUND

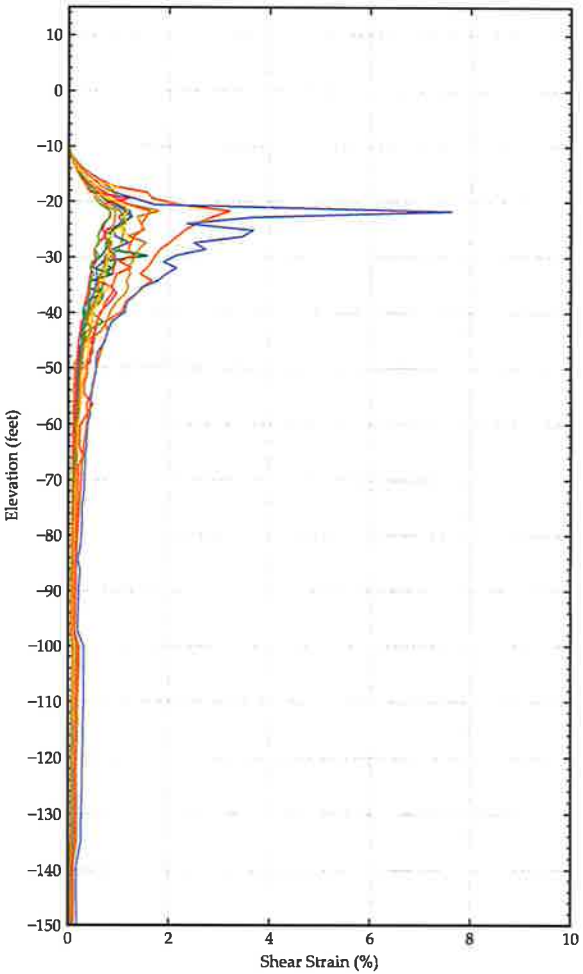
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. A-3







Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

SITE RESPONSE RESULTS
PROFILE: TOE OF SLOPE, TOTAL STRESS
FREE FIELD

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. A-4

APPENDIX B: DEEPSOIL SITE RESPONSE RESULTS

```
[FILE_VERSION]:[1]
[ANALYSIS_DOMAIN]:[TIME+FREQUENCY]
        [MAX_ITERATIONS]:[20] [COMPLEX_MOD]:[SHAKE_FI] [EFFECTIVE_SSR]:[0.65]
[ANALYSIS_TYPE]:[NONLINEAR]
[SHEAR_TYPE]:[VELOCITY]
[MAX_ITERATIONS]:[5]
[ERROR_TOL]:[1E-05]
[STEP_CONTROL]:[FLEXIBLE] [MAX_STRAIN_INC]:[5E-05] [INTERPOLATION]:[LINEAR]
[VISCOUS_DAMPING]:[FREQ_IND]
[DAMPING_UPDATE]:[FALSE]
[NUM_LAYERS]:[33]
[WATER_TABLE]:[1]
[LAYER]:[1]
        [THICKNESS]:[2.2] [WEIGHT]:[120] [SHEAR]:[300]
[SS_DAMP]:[0.00983306019539385]
        [MODEL]:[GQ] [STRENGTH]:[840] [THETA1]:[-2.04] [THETA2]:[0.910000000000157]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.4] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[2]
        [THICKNESS]:[2.2] [WEIGHT]:[120] [SHEAR]:[300]
[SS_DAMP]:[0.00983004931119778]
        [MODEL]:[GQ] [STRENGTH]:[920] [THETA1]:[-2.39] [THETA2]:[1.47000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.35] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[3]
        [THICKNESS]:[2.2] [WEIGHT]:[120] [SHEAR]:[300]
[SS_DAMP]:[0.00982751637782303]
        [MODEL]:[GQ] [STRENGTH]:[1000] [THETA1]:[-2.74] [THETA2]:[2.00000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.3] [P3]:[2]
        [OUTPUT]:[TRUE]
[LAYER]:[4]
        [THICKNESS]:[2.2] [WEIGHT]:[120] [SHEAR]:[300]
[SS_DAMP]:[0.00982621152073593]
        [MODEL]:[GQ] [STRENGTH]:[1080] [THETA1]:[-3.07] [THETA2]:[2.50000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.3] [P3]:[2.5]
        [OUTPUT]:[TRUE]
[LAYER]:[5]
        [THICKNESS]:[2.2] [WEIGHT]:[120] [SHEAR]:[300]
[SS_DAMP]:[0.00982587880203262]
        [MODEL]:[GQ] [STRENGTH]:[1160] [THETA1]:[-3.38] [THETA2]:[2.94000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.3] [P3]:[3.5]
        [OUTPUT]:[TRUE]
[LAYER]:[6]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[314.285714285714]
[SS_DAMP]:[0.0098375091386268]
```

```
        [MODEL]:[GQ] [STRENGTH]:[828.571428571429] [THETA1]:[-1.66]
[THETA2]:[0.260000000000157] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.4] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[7]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[342.857142857143]
[SS_DAMP]:[0.00986664256272132]
        [MODEL]:[GQ] [STRENGTH]:[885.714285714286] [THETA1]:[-0.309999999999999]
[THETA2]:[-2.30999999999985] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.1] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.82] [P2]:[0.35] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[8]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[371.428571428571]
[SS_DAMP]:[0.0098874288318814]
        [MODEL]:[GQ] [STRENGTH]:[942.857142857143] [THETA1]:[0.11]
[THETA2]:[-3.04999999999985] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.19] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.4] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[9]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[400]
[SS_DAMP]:[0.0099263330687856]
        [MODEL]:[GQ] [STRENGTH]:[1000] [THETA1]:[0.58] [THETA2]:[-3.88999999999985]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.23] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.73] [P2]:[0.3] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[10]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[428.571428571429]
[SS_DAMP]:[0.00991284278064961]
        [MODEL]:[GQ] [STRENGTH]:[1057.14285714286] [THETA1]:[0.750000000000001]
[THETA2]:[-3.69999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.45] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[11]
        [THICKNESS]:[2.28571428571429] [WEIGHT]:[120] [SHEAR]:[457.142857142857]
[SS_DAMP]:[0.00991012202222873]
        [MODEL]:[GQ] [STRENGTH]:[1114.28571428571] [THETA1]:[0.760000000000001]
[THETA2]:[-3.29999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.19] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.45] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[12]
        [THICKNESS]:[2.28571428571428] [WEIGHT]:[120] [SHEAR]:[485.714285714286]
[SS_DAMP]:[0.00992046895609196]
        [MODEL]:[GQ] [STRENGTH]:[1171.42857142857] [THETA1]:[0.64]
[THETA2]:[-2.69999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.73] [P2]:[0.35] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[13]
        [THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[471.323529411765]
[SS_DAMP]:[0.00991271356035163]
        [MODEL]:[GQ] [STRENGTH]:[1253.82352941176] [THETA1]:[0.750000000000001]
```

[THETA2]:[-3.59999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.45] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[14]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[513.970588235294]
[SS_DAMP]:[0.00990913362732362]
[MODEL]:[GQ] [STRENGTH]:[1361.47058823529] [THETA1]:[0.740000000000001]
[THETA2]:[-3.08999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.19] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.45] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[15]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[556.617647058823]
[SS_DAMP]:[0.00990655327601962]
[MODEL]:[GQ] [STRENGTH]:[1469.11764705882] [THETA1]:[0.64]
[THETA2]:[-2.49999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[16]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[599.264705882353]
[SS_DAMP]:[0.00990410231658415]
[MODEL]:[GQ] [STRENGTH]:[1576.76470588235] [THETA1]:[0.65]
[THETA2]:[-2.18999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.19] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[17]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[641.911764705882]
[SS_DAMP]:[0.00989987929335067]
[MODEL]:[GQ] [STRENGTH]:[1684.41176470588] [THETA1]:[0.55]
[THETA2]:[-1.69999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[18]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[684.558823529412]
[SS_DAMP]:[0.00991625060487647]
[MODEL]:[GQ] [STRENGTH]:[1769.11764705882] [THETA1]:[0.53]
[THETA2]:[-1.36999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.19] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[1]
[OUTPUT]:[TRUE]
[LAYER]:[19]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[727.205882352942]
[SS_DAMP]:[0.0099161882165264]
[MODEL]:[GQ] [STRENGTH]:[1978.33572453372] [THETA1]:[0.56]
[THETA2]:[-1.39999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.18] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[1]
[OUTPUT]:[TRUE]
[LAYER]:[20]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[769.852941176471]
[SS_DAMP]:[0.00991408010045014]
[MODEL]:[GQ] [STRENGTH]:[2170.87517934003] [THETA1]:[0.55]
[THETA2]:[-1.29999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.17] [A]:[1]

[MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[1]
[OUTPUT]:[TRUE]
[LAYER]:[21]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[812.5]
[SS_DAMP]:[0.00989100824588589]
[MODEL]:[GQ] [STRENGTH]:[2363.41463414634] [THETA1]:[0.43]
[THETA2]:[-0.989999999999842] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.21] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[22]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[855.14705882353]
[SS_DAMP]:[0.00989372124716821]
[MODEL]:[GQ] [STRENGTH]:[2555.95408895265] [THETA1]:[0.67]
[THETA2]:[-1.39999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.14] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[23]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[897.794117647059]
[SS_DAMP]:[0.00989035729213142]
[MODEL]:[GQ] [STRENGTH]:[2748.49354375897] [THETA1]:[0.54]
[THETA2]:[-1.05999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.16] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[24]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[940.441176470589]
[SS_DAMP]:[0.00989040056786074]
[MODEL]:[GQ] [STRENGTH]:[2941.03299856528] [THETA1]:[0.740000000000001]
[THETA2]:[-1.38999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.11] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[25]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[983.088235294118]
[SS_DAMP]:[0.00988770245998064]
[MODEL]:[GQ] [STRENGTH]:[3133.57245337159] [THETA1]:[0.62]
[THETA2]:[-1.06999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.12] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[26]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[1025.73529411765]
[SS_DAMP]:[0.00988541564528075]
[MODEL]:[GQ] [STRENGTH]:[3326.11190817791] [THETA1]:[0.57]
[THETA2]:[-0.899999999999842] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.12] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
[OUTPUT]:[TRUE]
[LAYER]:[27]
[THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[1068.38235294118]
[SS_DAMP]:[0.00988643446476888]
[MODEL]:[GQ] [STRENGTH]:[3518.65136298422] [THETA1]:[0.720000000000001]
[THETA2]:[-1.13999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.09] [A]:[1]
[MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]

```
        [OUTPUT]:[TRUE]
[LAYER]:[28]
        [THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[1111.02941176471]
[SS_DAMP]:[0.00988020986696573]
        [MODEL]:[GQ] [STRENGTH]:[3711.19081779053] [THETA1]:[0.44]
[THETA2]:[-0.499999999999843] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.13] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[29]
        [THICKNESS]:[3.58823529411765] [WEIGHT]:[120] [SHEAR]:[1153.67647058824]
[SS_DAMP]:[0.00988217649054548]
        [MODEL]:[GQ] [STRENGTH]:[3903.73027259684] [THETA1]:[0.760000000000001]
[THETA2]:[-1.08999999999984] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.06] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[30]
        [THICKNESS]:[9.75] [WEIGHT]:[120] [SHEAR]:[1206.875]
[SS_DAMP]:[0.00968769727554315]
        [MODEL]:[GQ] [STRENGTH]:[4250] [THETA1]:[-0.780000000000001]
[THETA2]:[0.700000000000157] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[31]
        [THICKNESS]:[9.75] [WEIGHT]:[120] [SHEAR]:[1270.625]
[SS_DAMP]:[0.00968679757102354]
        [MODEL]:[GQ] [STRENGTH]:[4750] [THETA1]:[-0.800000000000001]
[THETA2]:[0.710000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[32]
        [THICKNESS]:[9.75] [WEIGHT]:[120] [SHEAR]:[1334.375]
[SS_DAMP]:[0.00970371663120352]
        [MODEL]:[GQ] [STRENGTH]:[5250] [THETA1]:[-0.800000000000001]
[THETA2]:[0.690000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.82] [P2]:[0.45] [P3]:[2]
        [OUTPUT]:[TRUE]
[LAYER]:[33]
        [THICKNESS]:[9.75] [WEIGHT]:[120] [SHEAR]:[1398.125]
[SS_DAMP]:[0.00968673789398956]
        [MODEL]:[GQ] [STRENGTH]:[5750] [THETA1]:[-0.800000000000001]
[THETA2]:[0.710000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.5] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[TOP_OF_ROCK]
        [OUTPUT]:[FALSE]
[HALFSPACE]:[ELASTIC] [UNIT_WEIGHT]:[140] [SHEAR]:[1430] [DAMPING]:[0.02]
[RS_TYPE]:[FREQUENCY] [RS_DAMPING]:[0.05]
[ACCELERATION_HISTORY]:[INTERNAL]
```

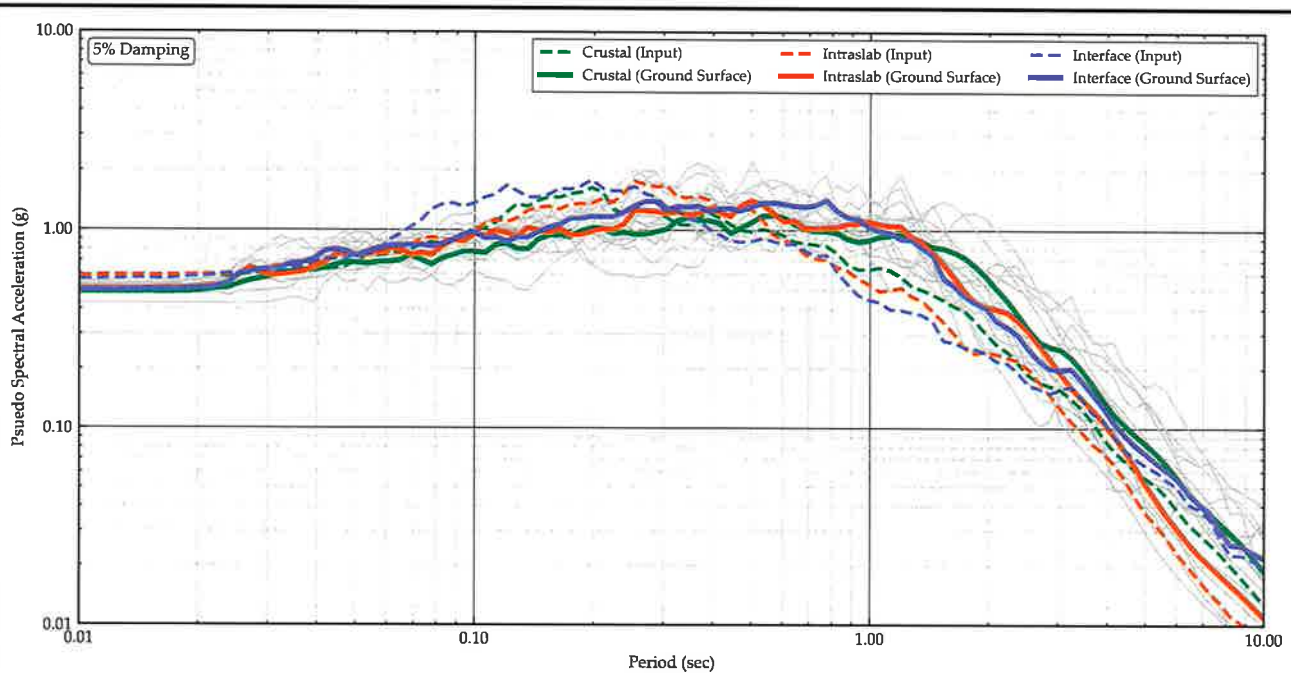
```
[FILE_VERSION]:[1]
[ANALYSIS_DOMAIN]:[TIME+FREQUENCY]
        [MAX_ITERATIONS]:[15] [COMPLEX_MOD]:[SHAKE_FI] [EFFECTIVE_SSR]:[0.65]
[ANALYSIS_TYPE]:[NONLINEAR]
[SHEAR_TYPE]:[VELOCITY]
[MAX_ITERATIONS]:[5]
[ERROR_TOL]:[1E-05]
[STEP_CONTROL]:[FLEXIBLE] [MAX_STRAIN_INC]:[0] [INTERPOLATION]:[LINEAR]
[VISCOUS_DAMPING]:[FREQ_IND]
[DAMPING_UPDATE]:[FALSE]
[NUM_LAYERS]:[31]
[WATER_TABLE]:[27]
[LAYER]:[1]
        [THICKNESS]:[2.5] [WEIGHT]:[125] [SHEAR]:[525]
[SS_DAMP]:[0.0190991787713642]
        [MODEL]:[GQ] [STRENGTH]:[500] [THETA1]:[-3.77] [THETA2]:[-7.10999999999984]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.86] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.4] [P3]:[36.5]
        [OUTPUT]:[TRUE]
[LAYER]:[2]
        [THICKNESS]:[2.5] [WEIGHT]:[125] [SHEAR]:[525]
[SS_DAMP]:[0.0139976644547267]
        [MODEL]:[GQ] [STRENGTH]:[500] [THETA1]:[-2.06] [THETA2]:[-4.22999999999985]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.35] [P3]:[31]
        [OUTPUT]:[TRUE]
[LAYER]:[3]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[478.333333333334]
[SS_DAMP]:[0.0114281659708654]
        [MODEL]:[GQ] [STRENGTH]:[833.333333333333] [THETA1]:[-6.2]
[THETA2]:[1.60000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.55] [P3]:[12.5]
        [OUTPUT]:[TRUE]
[LAYER]:[4]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[445.833333333333]
[SS_DAMP]:[0.0101840831560414]
        [MODEL]:[GQ] [STRENGTH]:[900] [THETA1]:[-6.96] [THETA2]:[3.50000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.6] [P3]:[15]
        [OUTPUT]:[TRUE]
[LAYER]:[5]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[435]
[SS_DAMP]:[0.00939143358383523]
        [MODEL]:[GQ] [STRENGTH]:[966.666666666667] [THETA1]:[-7.13]
[THETA2]:[4.20000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.6] [P3]:[14.5]
        [OUTPUT]:[TRUE]
[LAYER]:[6]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[435]
[SS_DAMP]:[0.00882465877257532]
```

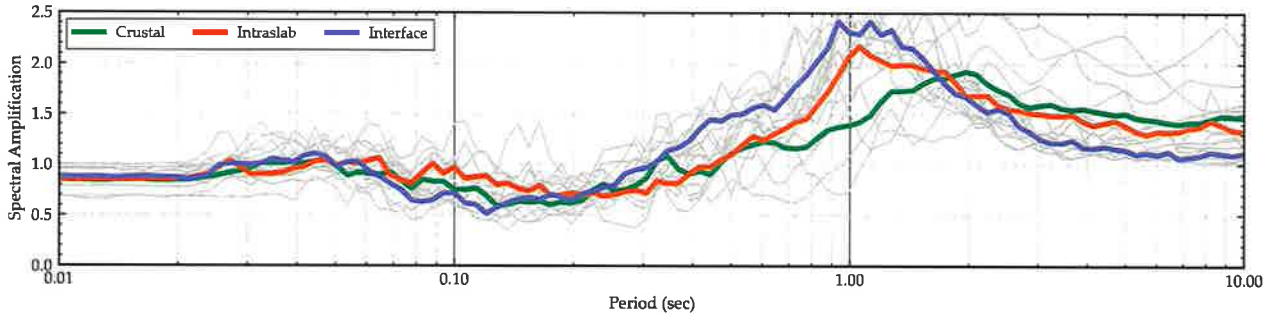
```
        [MODEL]:[GQ] [STRENGTH]:[1033.33333333333] [THETA1]:[-6.96]
[THETA2]:[4.30000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.6] [P3]:[14]
        [OUTPUT]:[TRUE]
[LAYER]:[7]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[435]
[SS_DAMP]:[0.00837666364800473]
        [MODEL]:[GQ] [STRENGTH]:[1100] [THETA1]:[-6.99] [THETA2]:[4.60000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.6] [P3]:[14]
        [OUTPUT]:[TRUE]
[LAYER]:[8]
        [THICKNESS]:[3.33333333333333] [WEIGHT]:[120] [SHEAR]:[435]
[SS_DAMP]:[0.0080210537785529]
        [MODEL]:[GQ] [STRENGTH]:[1166.66666666667] [THETA1]:[-6.99]
[THETA2]:[4.80000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.865] [P2]:[0.6] [P3]:[13.5]
        [OUTPUT]:[TRUE]
[LAYER]:[9]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[435]
[SS_DAMP]:[0.010975031719637]
        [MODEL]:[GQ] [STRENGTH]:[830.769230769231] [THETA1]:[-1.43]
[THETA2]:[0.490000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.12] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[9.5]
        [OUTPUT]:[TRUE]
[LAYER]:[10]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[435]
[SS_DAMP]:[0.0106274124312425]
        [MODEL]:[GQ] [STRENGTH]:[892.307692307692] [THETA1]:[-1.75]
[THETA2]:[0.960000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.06] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[8]
        [OUTPUT]:[TRUE]
[LAYER]:[11]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[435]
[SS_DAMP]:[0.0103336934641386]
        [MODEL]:[GQ] [STRENGTH]:[953.846153846154] [THETA1]:[-1.75]
[THETA2]:[0.790000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.07] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[8.5]
        [OUTPUT]:[TRUE]
[LAYER]:[12]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[466.586538461539]
[SS_DAMP]:[0.0100802780325219]
        [MODEL]:[GQ] [STRENGTH]:[1015.38461538462] [THETA1]:[-1.62]
[THETA2]:[1.15000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.11] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[8.5]
        [OUTPUT]:[TRUE]
[LAYER]:[13]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[501.682692307692]
[SS_DAMP]:[0.0098413636620462]
        [MODEL]:[GQ] [STRENGTH]:[1076.92307692308] [THETA1]:[-1.84]
```

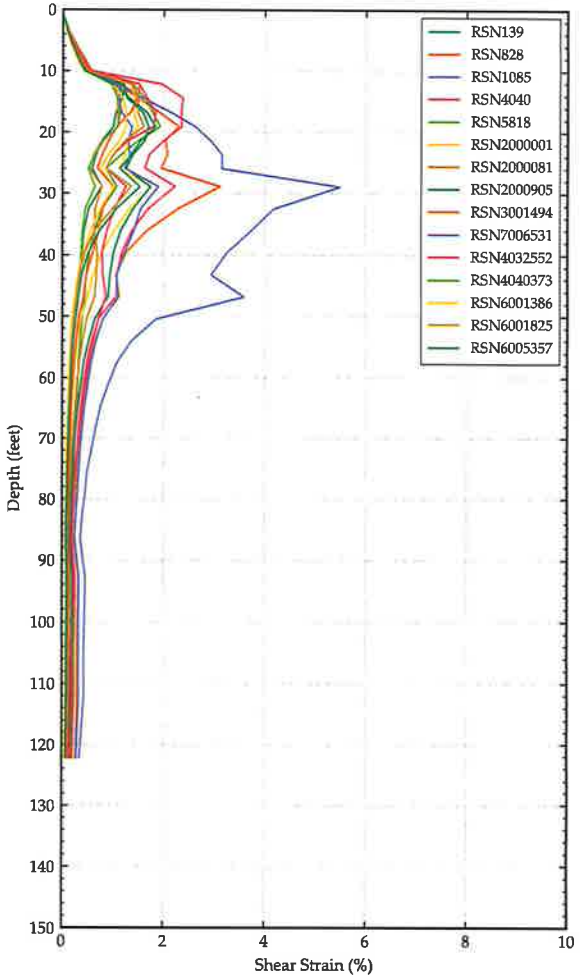
```
[THETA2]:[2.17000000000015] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.09] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[7]
        [OUTPUT]:[TRUE]
[LAYER]:[14]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[536.778846153846]
[SS_DAMP]:[0.00962924065630143]
        [MODEL]:[GQ] [STRENGTH]:[1138.46153846154] [THETA1]:[-1.07]
[THETA2]:[1.10000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.23] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[5.5]
        [OUTPUT]:[TRUE]
[LAYER]:[15]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[571.875000000001]
[SS_DAMP]:[0.00942813665639659]
        [MODEL]:[GQ] [STRENGTH]:[1200] [THETA1]:[-1.58] [THETA2]:[2.51000000000016]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.12] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[4.5]
        [OUTPUT]:[TRUE]
[LAYER]:[16]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[606.971153846154]
[SS_DAMP]:[0.0092492524981656]
        [MODEL]:[GQ] [STRENGTH]:[1261.53846153846] [THETA1]:[-1.16]
[THETA2]:[1.99000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.17] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[3.5]
        [OUTPUT]:[TRUE]
[LAYER]:[17]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[642.067307692307]
[SS_DAMP]:[0.00908528343303193]
        [MODEL]:[GQ] [STRENGTH]:[1323.07692307692] [THETA1]:[-0.93]
[THETA2]:[1.79000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.2] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[3]
        [OUTPUT]:[TRUE]
[LAYER]:[18]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[677.163461538461]
[SS_DAMP]:[0.00894663244481506]
        [MODEL]:[GQ] [STRENGTH]:[1384.61538461538] [THETA1]:[-0.349999999999999]
[THETA2]:[0.890000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.51] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[2.5]
        [OUTPUT]:[TRUE]
[LAYER]:[19]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[712.259615384616]
[SS_DAMP]:[0.00879513655564956]
        [MODEL]:[GQ] [STRENGTH]:[1446.15384615385] [THETA1]:[-0.44]
[THETA2]:[1.25000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.35] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.64] [P2]:[0.3] [P3]:[2]
        [OUTPUT]:[TRUE]
[LAYER]:[20]
        [THICKNESS]:[3.46153846153846] [WEIGHT]:[105] [SHEAR]:[747.35576923077]
[SS_DAMP]:[0.00865062136695374]
        [MODEL]:[GQ] [STRENGTH]:[1507.69230769231] [THETA1]:[-0.38]
[THETA2]:[1.30000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.35] [A]:[1]
```

```
        [MRDF]:[UIUC] [P1]:[0.685] [P2]:[0.35] [P3]:[1.5]
        [OUTPUT]:[TRUE]
[LAYER]:[21]
        [THICKNESS]:[3.46153846153845] [WEIGHT]:[105] [SHEAR]:[782.451923076923]
[SS_DAMP]:[0.00852648168332009]
        [MODEL]:[GQ] [STRENGTH]:[1569.23076923077] [THETA1]:[-0.15]
[THETA2]:[1.00000000000016] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.51] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.73] [P2]:[0.4] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[22]
        [THICKNESS]:[5] [WEIGHT]:[120] [SHEAR]:[825]
[SS_DAMP]:[0.00819312120004679]
        [MODEL]:[GQ] [STRENGTH]:[2000] [THETA1]:[0.0599999999999996]
[THETA2]:[0.870000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.7] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.775] [P2]:[0.45] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[23]
        [THICKNESS]:[5] [WEIGHT]:[120] [SHEAR]:[875] [SS_DAMP]:[0.0080258676551889]
        [MODEL]:[GQ] [STRENGTH]:[2000] [THETA1]:[0.190000000000001]
[THETA2]:[0.780000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.69] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.775] [P2]:[0.45] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[24]
        [THICKNESS]:[6.66666666666667] [WEIGHT]:[125] [SHEAR]:[933.333333333334]
[SS_DAMP]:[0.00784459139103119]
        [MODEL]:[GQ] [STRENGTH]:[2500] [THETA1]:[0.180000000000001]
[THETA2]:[0.790000000000158] [THETA3]:[1] [THETA4]:[1] [THETA5]:[0.76] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.775] [P2]:[0.45] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[25]
        [THICKNESS]:[6.66666666666667] [WEIGHT]:[125] [SHEAR]:[1000]
[SS_DAMP]:[0.007718960914262]
        [MODEL]:[GQ] [STRENGTH]:[2500] [THETA1]:[0.37] [THETA2]:[0.590000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.96] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[1]
        [OUTPUT]:[TRUE]
[LAYER]:[26]
        [THICKNESS]:[6.66666666666667] [WEIGHT]:[125] [SHEAR]:[1066.66666666667]
[SS_DAMP]:[0.00754814817529632]
        [MODEL]:[GQ] [STRENGTH]:[2500] [THETA1]:[0.48] [THETA2]:[0.490000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.96] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[27]
        [THICKNESS]:[9] [WEIGHT]:[135] [SHEAR]:[1137.5]
[SS_DAMP]:[0.00740585109759767]
        [MODEL]:[GQ] [STRENGTH]:[2750] [THETA1]:[0.58] [THETA2]:[0.390000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.99] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.46] [P2]:[0.15] [P3]:[0.5]
        [OUTPUT]:[TRUE]
```

```
[LAYER]:[28]
        [THICKNESS]:[9] [WEIGHT]:[135] [SHEAR]:[1187.5]
[SS_DAMP]:[0.00728951217129889]
        [MODEL]:[GQ] [STRENGTH]:[3250] [THETA1]:[0.48] [THETA2]:[0.490000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.59] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[29]
        [THICKNESS]:[9] [WEIGHT]:[135] [SHEAR]:[1273.18181818182]
[SS_DAMP]:[0.0071826182822972]
        [MODEL]:[GQ] [STRENGTH]:[3750] [THETA1]:[0.49] [THETA2]:[0.490000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.59] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[30]
        [THICKNESS]:[9] [WEIGHT]:[135] [SHEAR]:[1335.90909090909]
[SS_DAMP]:[0.0070820383781131]
        [MODEL]:[GQ] [STRENGTH]:[4250] [THETA1]:[0.49] [THETA2]:[0.490000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.69] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[31]
        [THICKNESS]:[9] [WEIGHT]:[135] [SHEAR]:[1398.63636363636]
[SS_DAMP]:[0.00698765086645835]
        [MODEL]:[GQ] [STRENGTH]:[4750] [THETA1]:[0.49] [THETA2]:[0.490000000000158]
[THETA3]:[1] [THETA4]:[1] [THETA5]:[0.69] [A]:[1]
        [MRDF]:[UIUC] [P1]:[0.415] [P2]:[0.1] [P3]:[0.5]
        [OUTPUT]:[TRUE]
[LAYER]:[TOP_OF_ROCK]
        [OUTPUT]:[FALSE]
[HALFSPACE]:[ELASTIC] [UNIT_WEIGHT]:[140] [SHEAR]:[1430] [DAMPING]:[0.02]
[RS_TYPE]:[FREQUENCY] [RS_DAMPING]:[0.05]
[ACCELERATION_HISTORY]:[INTERNAL]
```







Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

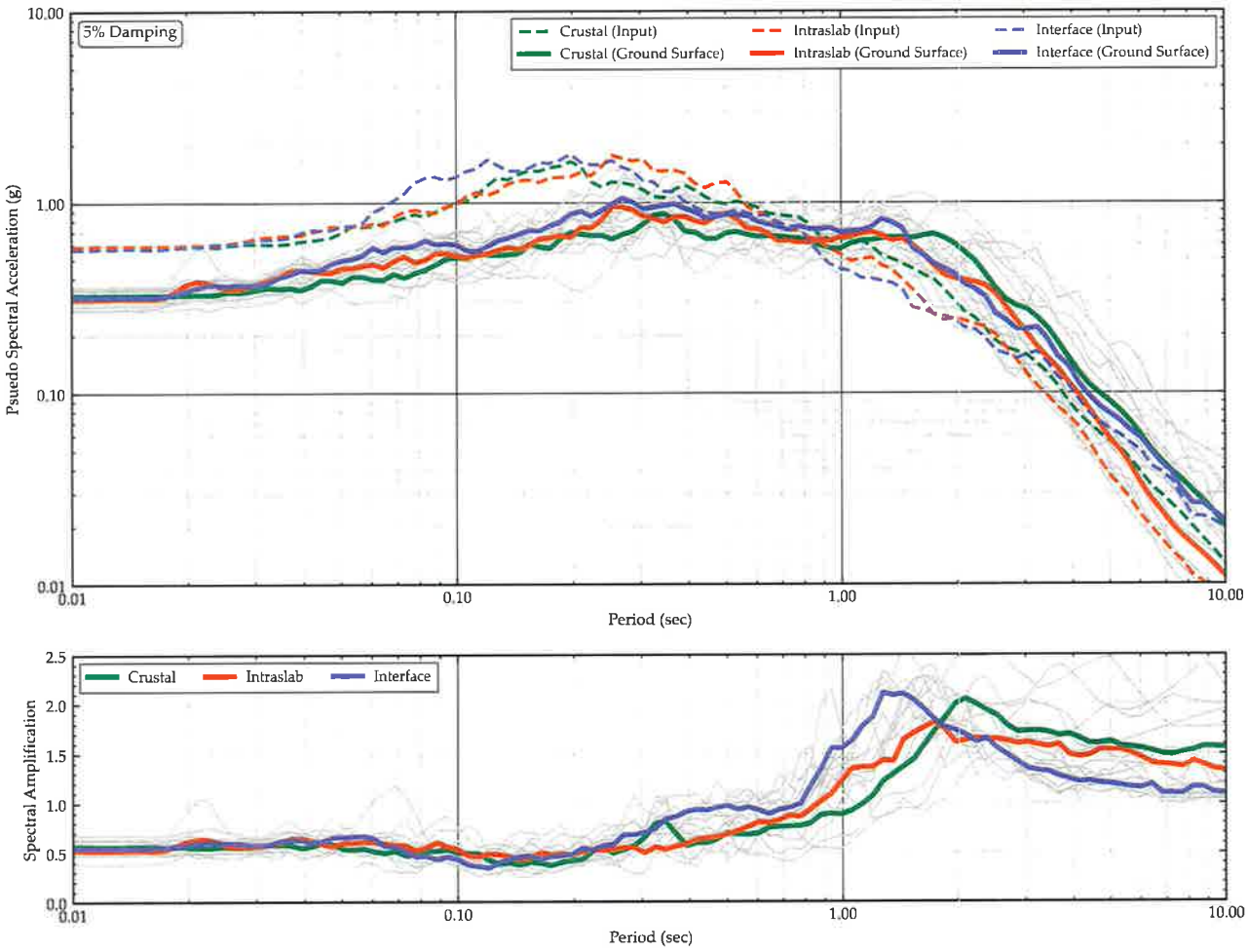
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

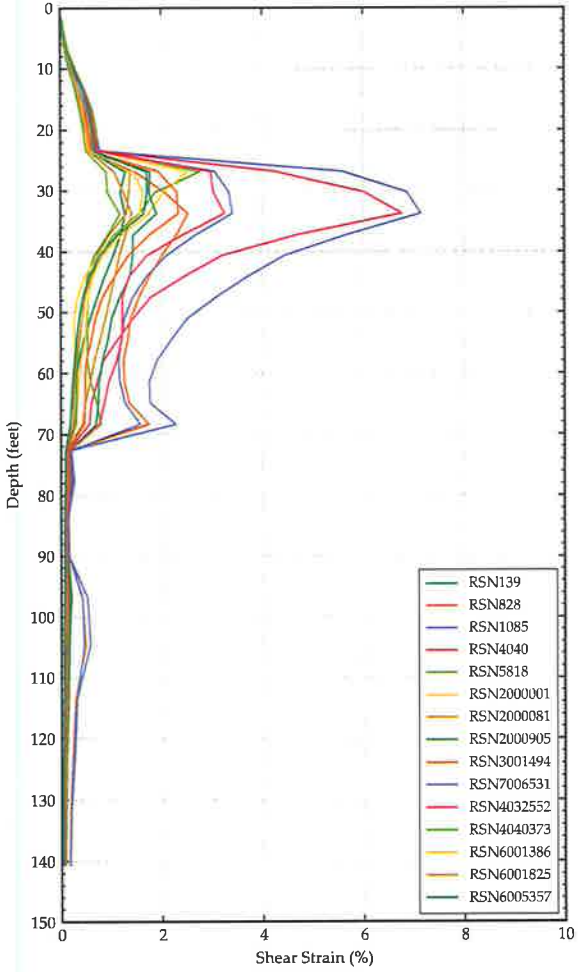
DEEPSOIL
SITE RESPONSE RESULTS
PROFILE: TOE OF SLOPE
NON. LINEAR

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. B-1





Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

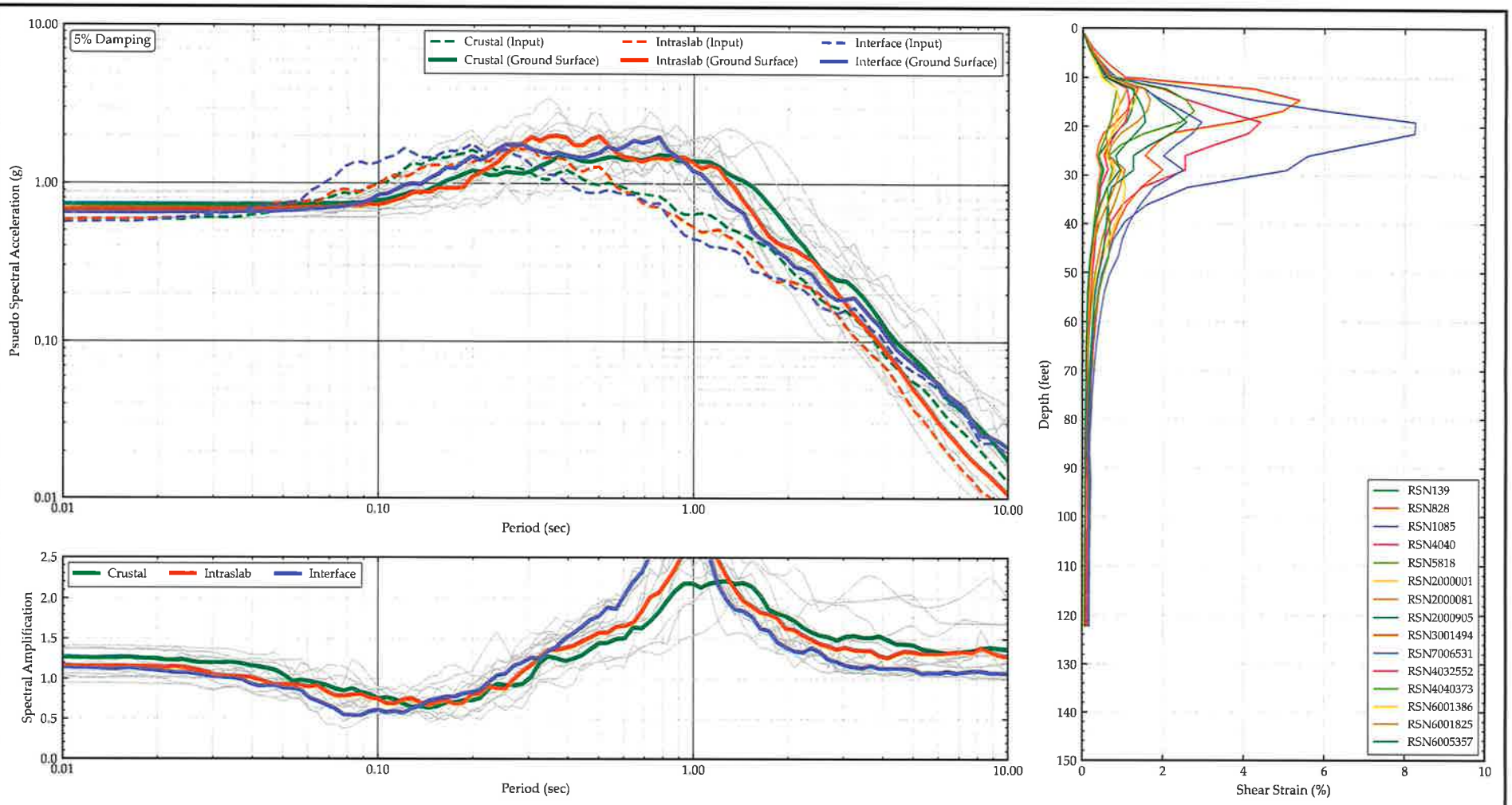
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

DEEPSOIL
SITE RESPONSE RESULTS
PROFILE: TOP OF SLOPE
NON. LINEAR

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. B-2



Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

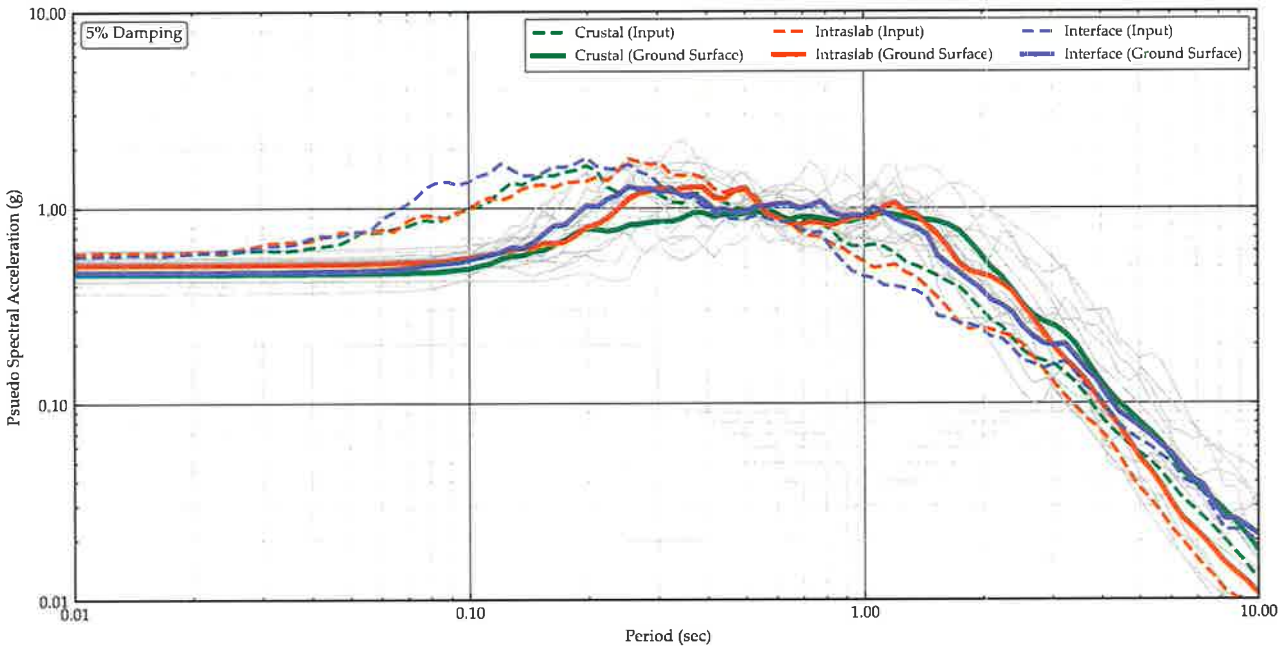
T-Dock Replacment
Port of Anacortes
Anacortes, Washington

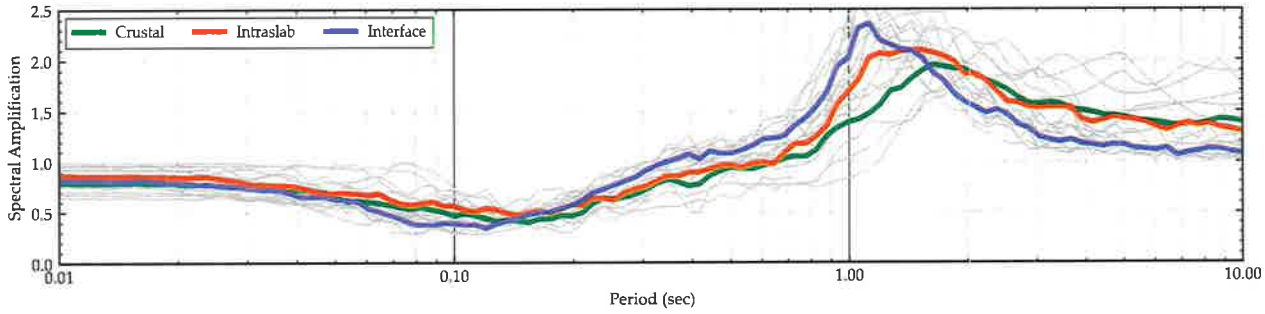
DEEPSOIL
SITE RESPONSE RESULTS
PROFILE: TOE OF SLOPE
EQ. LINEAR

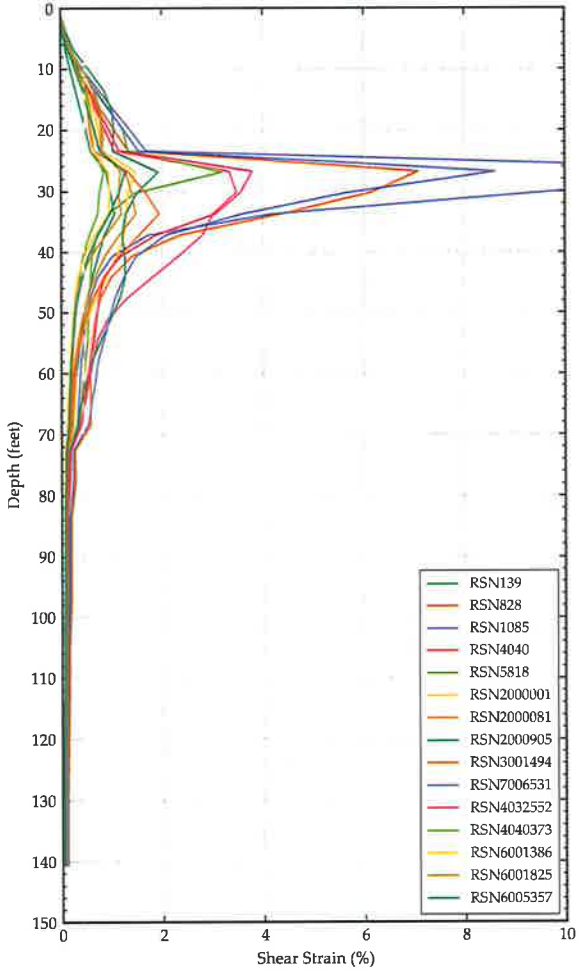
October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. B-3







Notes:
1. Colored lines represent the geometric means for each source.
2. Gray lines in top plot are individual motion responses.

T-Dock Replacment
Port of Anacortes
Anacortes, Washington

DEEPSOIL
SITE RESPONSE RESULTS
PROFILE: TOP OF SLOPE
EQ. LINEAR

October 2022 186-01

Clarity Engineering LLC
Geotechnical Consultants

FIG. B-4

WASHINGTON STATE
Joint Aquatic Resources Permit Application (JARPA) Form[1,2] [help]

US Army Corps of Engineers ®
Seattle District

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

AGENCY USE ONLY

Date received:

Agency reference #: _____

Tax Parcel #(s): _____

_____

Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help]
Port of Anacortes T Dock Reconfiguration Project

Part 2–Applicant

The person and/or organization responsible for the project. [help]

2a. Name (Last, First, Middle)			
Anderson, Kevin			
2b. Organization (If applicable)			
Port of Anacortes			
2c. Mailing Address (Street or PO Box)			
100 Commercial Avenue			
2d. City, State, Zip			
Anacortes, WA, 98221			
2e. Phone (1)	**2f.** Phone (2)	**2g.** Fax	**2h.** E-mail
360-299-1827			

[1]Additional forms may be required for the following permits:
- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

[2]To access an online JARPA form with [help] screens, go to http://www.epermitting.wa.gov/site/alias__resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.

Part 3–Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [help]

3a. Name (Last, First, Middle)			
Larry Lehman			
3b. Organization (If applicable)			
Grette Associates LLC			
3c. Mailing Address (Street or PO Box)			
151 S Worthen St Suite 101			
3d. City, State, Zip			
Wenatchee, WA. 98801			
3e. Phone (1)	**3f.** Phone (2)	**3g.** Fax	**3h.** E-mail
(509) 663-6300			larryl@gretteassociates.com

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [help]

☒ Same as applicant. (Skip to Part 5.)

☐ Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

☐ There are multiple upland property owners. Complete the section below and fill out JARPA Attachment A for each additional property owner.

☐ Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete JARPA Attachment E to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
4b. Organization (If applicable)			
4c. Mailing Address (Street or PO Box)			
4d. City, State, Zip			
4e. Phone (1)	**4f.** Phone (2)	**4g.** Fax	**4h.** E-mail

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [help]

☐ There are multiple project locations (e.g. linear projects). Complete the section below and use JARPA Attachment B for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]

☐ Private
☐ Federal
☒ Publicly owned (state, county, city, special districts like schools, ports, etc.)
☐ Tribal
☐ Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)

5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]

Cap Sante Marina: 1019 Q Avenue

5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]

Anacortes, WA 98221

5d. County [help]

Skagit

5e. Provide the section, township, and range for the project location. [help]

¼ Section	Section	Township	Range
	19	35N	02E

5f. Provide the latitude and longitude of the project location. [help]

- Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83)

48.512 N lat. / -122.610 W long.

5g. List the tax parcel number(s) for the project location. [help]

- The local county assessor's office can provide this information.

P32984, P114718 and in-water work

5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]

Name	Mailing Address	Tax Parcel # (if known)
Port of Anacortes	100 Commercial Avenue Anacortes, WA 98221	P114718, P130749, P133398, P32910, P32950, P32951, P32956, P32960, P32985
Puget Sound Energy Elec	ATTN Property Tax Dept PO Box 97034 Bellevue, WA 98009	P32926
Samish Indian Nation	715 Seafarers' Way Anacortes, WA 98221	P125274
City of Anacortes	PO Box 547 Anacortes, WA 98221	

5i. List all wetlands on or adjacent to the project location. [help]

N/A

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [help]

Fidalgo Bay

5k. Is any part of the project area within a 100-year floodplain? [help]

☒ Yes ☐ No ☐ Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [help]

The proposed project will occur within the Port's Cap Sante Marina. The southern, western, and northern portion of the marina uplands are heavily developed and consist of an armored shoreline extending from the top of the bank down to below the MHHW, consistent with the dredging activities within the marina. At the project location, the steeply sloped riprap extends from the top of the bank down to approximately 0 ft MLLW. Immediately landward of the riprap the shoreline slope is virtually flat and consists of asphalt or concrete. Under the existing T Dock there is a concrete retaining wall that supports the existing concrete slab of the dock. The concrete retaining wall is located at an elevation above +10 ft MLLW. There is another smaller old timber bulkhead located approximately halfway down the riprap slope. Vegetation along the riprap slope is limited and consists fucus in the upper elevations (~+5-+2 ft MLLW) and Ulva (~+2 to 0 ft MLLW). Coverage of macroalgae is ~30 percent. Barnacles dominate the majority of the riprap below approximately +6 ft MLLW. Below the riprap, the slope becomes gradual (6-8H:1V) down to a depth of approximately -4 ft MLLW, roughly the middle to the T Dock. At that point the slope increases to approximately 3-4H:1V down to a depth of approximately -13 ft MLLW, which is the approximately depth of the entire Cap Sante Marina. The subtidal portion of the project area is virtually flat and devoid of macroalgae, due to the maintenance dredging conducted by the Port. Substrates waterward of the riprap consists primarily of sand and silt with a significant amount of gravel and cobble that have been displaced from the riprap slope. The gravel and cobble extend approximately the landward edge of the T Dock where the substrates are dominated by sand and silt with shell fragments. There is also a high level of commercial and marina debris within the gradually sloped portion of the shoreline as a result of the use of the dock and the narrow entrance. A recent eelgrass and macroalgae survey, completed by Grette Associates in the summer of 2022, observed no macroalgae or eelgrass below the riprap slope or within the entire project footprint. The soft mud on the marina bottom and use of the area does not provide suitable substrates or conditions for eelgrass and does not provide attachment points for macroalgae. Overall, the proposed project location provides a low level of habitat functions and values for fish and wildlife species due to the riprap slope, heavy commercial use, and location within the Cap Sante Marina.

The proposed installation of the LWD structures as mitigation for the project will occur within a portion of the Cap Sante Marina that is significantly less developed. The structures would be installed in the northeastern portion of the marina. The shoreline is heavily vegetated above the MHHW and is steeply sloped from the top of bank (~12-13 ft MLLW) down to approximately +10 ft MLLW. Vegetation on the slope consists of a mixture of native and non-native tree, shrub, and ground cover species. Substrates on the slope consist of sand, silt, and gravel. Below the toe of the slope, the shoreline is gradually sloped (10-12H:1V) down to below –3 ft MLLW. There is a narrow strip of saltmarsh present at the toe of the slope that extends up to 20 ft waterward. Below the saltmarsh, substrates consist of gravel and cobble in the upper elevations that transition to sand and silt at approximately 0 ft MLLW. There are eelgrass beds below elevation -2 ft MLLW to the southern portion of this area, immediately east and south of the existing marina. Substrates along the shoreline consists of gravel and sand. Above the top of the bank there is a public access trail and lawngrass. This portion of the shoreline is providing the only quality habitat within the Cap Sante Marina.

5m. Describe how the property is currently used. [help]

The current marina configuration provides 1,007 boat moorage slips that support local tourism, fishing, and other commercial marine activities. Existing structures within the marina include moorage floats, a fuel dock, one small craft hoist at P/Q dock, two 1-ton hoists at T Dock for commercial usage, a boat hoist, a floating pumpout facility, along with upland amenities such as vehicle and boat trailer parking and web lockers, retail space, a public esplanade, and the Port's Harbormaster's office.

T Dock is located in the south western corner of the marina and is one of the Port's primary commercial docks for mooring large commercial vessels and providing access for vehicles to load/offload materials for vessels. Two 1-ton jib cranes are also present on T Dock for transporting heavy loads. The existing structure is currently safe to use but it is aging with signs of wear and tear and does not meet current seismic codes. T Dock has also exceeded its design life and no longer meets the commercial demands and tenants needs to handle its current use. The proposed project will not affect current land uses or that for nearby properties. The existing use of T Dock will remain and be improved to adequately meet the needs of the marina and tenants, in addition to providing more space for loading/offloading materials which will diminish congestion in the areas surrounding T Dock. Adequate parking already exists at the marina.

5n. Describe how the adjacent properties are currently used. [help]

T Dock and the immediate shoreline, where the work is proposed, is owned and managed by the Port. T Dock is located within a large recreational and commercial boat marina which includes approximately 107 acres of in-water and upland property along with a boat hoist and fueling dock. Adjacent properties to T Dock include commercial and retail to the north and the commercial A Dock to the south that is adjacent to Seafarers' Memorial Park and an office complex to the south east. Port properties to the west include parking and commercial storage space. The proposed project will not result in any adverse impacts to the existing uses of the adjacent properties. However, the proposed project would alleviate some of the existing traffic issues and congestion.

5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [help]

The existing T Dock is T-shaped and extends perpendicular from the existing asphalt parking area. The elevation of the pier is slightly higher than the adjacent asphalt parking area (existing top of deck +13.5 MLLW) and access to T Dock is provided over a concrete approach slab. The width of the approach dock is approximately 55 ft at the OHW delineation and extends approximately 40 ft waterward from the concrete slab. The concrete slab is approximately 10 ft wide and 55 ft long and is sloped downward from the pier to provide access from the slightly lower asphalt parking area. There is an existing concrete sidewalk to both the north and south of the concrete slab and a painted pedestrian walkway to the west of the slab. The dock then widens to approximately 190 ft at the "tee" and the entire dock extends approximately 59 ft and 71 ft waterward of the OHW. The primary loading and berthing section of the dock has dimensions of 190 ft by 26 ft and has timber fender piles driven along its 190 ft long face. In total, the existing T Dock consists of approximately 7,175 sq ft of overwater coverage (below OHW; +10.2 ft elevation MLLW). There are two (2) existing 1-ton cranes located on the east face of the dock. The existing T Dock serves light industrial and commercial vessels that call on the dock to load and unload cargo and refuel.

There is an existing concrete retaining wall and footing that is supporting the concrete slab. There is also an asphalt-concrete sidewalk along the entire shoreline and existing electrical infrastructures in the uplands. Off the northern end of the T Dock there is an existing metal catwalk that provides access from the T Dock to B Dock access pier.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [help]

From I-5, take SR-20 to Anacortes. Continue on SR-20, and exit in Anacortes at R Avenue. At the roundabout, take the second turn onto Q Avenue. Turn right at 13th Street.

Part 6–Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [help]

The Port of Anacortes proposes to replace an existing aging commercial dock (T Dock) within its Cap Sante Marina located in downtown Anacortes (Figures 1-10). Cap Sante Marina is a large public recreational and commercial marina on Fidalgo Bay that was established in 1927. The marina has undergone many modifications since that date and is still operated, updated, and maintained by the Port. Updating and maintenance of the marina has included the expansion of moorage facilities, construction of support facilities, dredging of the marina basin, and dock installation and maintenance. The current marina configuration provides 1,007 boat moorage slips which supports local tourism, fishing, and other commercial marine activities. Existing structures within the marina include moorage floats, a fuel dock, one small craft hoist at P/Q dock, two 1-ton hoists at T Dock for commercial usage, a boat travel lift, a floating pump out facility, along with upland amenities such as vehicle and boat trailer parking and web lockers, retail space, a public esplanade, and the Port's Harbormaster's office.

There are three Model Toxics Cleanup Sites either within or adjacent to Cap Sante Marina. The Scott Paper site has been cleaned up and is now Seafarers' Memorial Park just south of the marina. The Shell cleanup site, westward across Q avenue is now used as trailer parking for the marina. Within the marina, the Cap Sante Marine cleanup encompasses portions of the uplands directly adjacent to the proposed T Dock reconfiguration. There are areas of known subsurface contamination that will not be disturbed by this project.

The T Dock is located on the southwestern portion of the marina. T Dock was constructed in 1977 and is an aged creosote timber dock structure that supports commercial marine activities at Cap Sante Marina. The primary concerns regarding the existing T Dock are the continued wear and tear of existing dock structural components and loss of load bearing capacity; the narrow vehicle entrance to the dock that limits the number of trucks allowed to access the dock at a time; and the area of usable dock space for commercial marine operations. The purpose and need for the replacement of the T Dock would be to ensure the continued safe use of the dock while increasing structural capacity, work area, and dock access. Additionally, the proposed replacement of the T Dock is required to meet the needs of current and future user groups for the dock and reduce the unsafe bottleneck associated with the narrow entrance to the dock. T Dock is the only dock within the marina with the ability to load and unload vessels. Currently, trucks are backed onto the T Dock on the existing steel diamond plates for loading and unloading of gear or commercial goods.

Existing T Dock Removal

The existing T Dock is T-shaped and extends perpendicular from the existing asphalt parking area. The elevation of the pier is slightly higher than the adjacent asphalt parking area (existing top of deck +13.5 MLLW) and access to T Dock is provided over a concrete approach slab. The width of the approach dock is approximately 55 ft at the highest astronomical tide elevation (HAT; ~+13.25 ft) and extends approximately 40 ft waterward from the concrete slab. The concrete slab is approximately 10 ft wide and 55 ft long and is sloped downward from the pier to provide access from the slightly lower asphalt parking area. There is an existing concrete sidewalk to both the north and south of the concrete slab and a painted pedestrian walkway to the west of the slab. The dock then widens to approximately 190 ft at the "tee" and the entire dock extends approximately 59 ft and 71 ft waterward of the OHW. The primary loading and berthing section of the dock has dimensions of 190 ft by 26 ft and has timber fender piles driven along its 190 ft long face. In total, the existing T Dock consists of approximately 7,175 sq ft of overwater coverage (below OHW; +10.2 ft elevation MLLW). There are two (2) existing 1-ton cranes located on the east face of the dock.

The proposed project would completely demolish the entire T Dock and remove riprap from the top of bank and the existing sidewalk. The first stage of demolition would include removal and salvage of the existing cranes and catwalk for reuse, removal and salvage of existing steel diamond plates, demolition and disposal of ladders, fire suppression, electrical lines, water lines, and associated components from the dock. Prior to demolition of T Dock, a silt curtain will be installed around the dock in order to ensure that all demolition debris is contained and removed. The existing catwalk at the northern end of the dock that spans the gap from the T Dock to the B Dock entrance pier will be removed and stored for reinstallation. The demolition will begin by removing the existing creosote timber decking, stringers, and bullrails. The decking consists of 4 inch x 12 inch planks spaced with approximately 1/4 inch gaps supported by 4 inch by 12 inch stringers spaced at 24 to 30 inches on-center. Bullrails are 12 inch by 12 inch on 4 inch by 12 inch scupper blocks run the perimeter of the dock. Some of the

bullrails are capped with steel plates. Once the surface of the dock is removed, the existing timber pile caps (12 inch by 14 inch) will be removed. All of this demolition would be completed using hand tools and either a land or barge mounted and/or land-based equipment.

The proposed demolition would then remove the existing 112 creosote treated timber piles that support the dock, of which 18 are battered. In addition, the 29 pressure treated fender piles along the mooring face will also be removed. The proposed project would also remove three (3) submerged timber pile stubs located to the south of the dock that extend approximately 1-5 ft above the mudline on the south end of the dock. All piles will be completely removed using a vibratory hammer; however, if any break they will be cut off below the mudline.

All demolished material will be loaded into dump trucks, or disposal barge, and disposed of at an appropriate upland disposal site, after appropriate processing.

The existing concrete slab will be demolished with an excavator mounted jackhammer and removed using a land-based excavator. In addition to the removal of the concrete slab, the proposed project will also remove the asphalt and concrete sidewalk immediately landward of the OHW and to the north and south of the dock access. The waterward end of the concrete slab is supported by a concrete retaining wall and footing located at the top of the bank. The waterward face of the concrete retaining wall is located at approximately 10.0 ft MLLW elevation (~OHW; +10.2 ft) and extends vertical to an elevation of ~+12.5 ft MLLW. The concrete retaining wall is only present under the concrete slab and will be removed using a land-based excavator. As part of the removal of the concrete retaining wall, the existing riprap shoreline at the top of the bank will also be removed to facilitate the installation of the proposed sheet pile bulkhead and concrete backwall, both of which will be installed landward of the existing HAT. This will entail the removal of material (riprap) from below the HAT in order to prepare the shoreline for the proposed T Dock Reconfiguration. The proposed flat bench will be located at an elevation of approximately +8.2 ft to +8.5 ft MLLW and will range in width based on the contours of the shoreline. Overall, this would result in a slight increase in aquatic habitat located between the MHHW and the OHW (and HAT) as all elevations above ~+8.2 ft MLLW would be further landward following completion of the project. However, the benefit of this would be negligible due to the fact that the increase would be located below the new T Dock. All excavated material will be loaded into dump trucks and disposed of at an appropriate upland disposal site.

Proposed T Dock Reconfiguration

The proposed T Dock will be 190 ft wide and will extend between 59 ft and 71 ft waterward of the MHHW. The variation is due to the existing shoreline. The proposed T Dock will not extend any further into the marina than the existing T Dock. In order to meet the needs of the user groups and to address the existing bottleneck at the vehicle approach entrance to the T Dock, the proposed reconfigured T Dock will be expanded. Specifically, T Dock will be rectangular shaped instead of a Tee-shape and the entire dock will be 190 ft in length with approximately 145 ft of vehicle approach entrance. This will result in an increase of approximately 5,400 sq ft of overwater coverage as the proposed reconfigured T Dock would be approximately 12,575 sq ft (below OHW; +10.2 ft elevation MLLW).

The primary concern with the design of the proposed project is the elevations of the proposed T Dock to ensure functional vehicle access from the parking area. The elevation of the existing parking area is approximately +12.5 ft MLLW and the proposed dock would need to tie into that elevation. As a result, the elevation of the proposed T Dock would be approximately +12.88 ft MLLW at the landward end of the dock and approximately +14.2 ft MLLW at the waterward end of the dock. These elevations will allow for stormwater to flow towards the landward end of the dock, collected within a trench drain and delivered to the existing sanitary sewer system.

The proposed T Dock will include a concrete slab transition from the parking area to the reconfigured T Dock. The concrete slab will be installed in roughly the same location as the existing concrete slab, although the proposed concrete slab will extend to the full 190 ft width. In order to support the waterward end of the concrete slab and to provide a stable transition, the proposed project will install a new steel Z-Sheet pile bulkhead wall along the entire 190 ft of the dock, and extend 20 ft further to the north, to the existing B Dock pier. The sheet pile bulkhead wall will be 210 ft long and will be installed landward of the existing OHW (and HAT), although following the excavation of the riprap at the top of the bank (described above) the face of the concrete backwall will be exposed from an elevation between +8.2 ft and +8.5 ft MLLW. The sheet pile wall will be driven into place in the dry and will avoid the existing buried timber bulkhead and the existing upland contaminated soil located to the west of the wall. The sheet pile wall will be installed using land or barge-based pile driving equipment. The

sheet pile bulkhead wall will be installed below grade (approximately 4-5 ft below) and then a concrete backwall will be installed on top of the sheet pile bulkhead wall. The concrete backwall will be cast-in-place in the dry and will extend to an elevation of approximately +12 ft MLLW. Once the proposed T Dock is installed the concrete slab will be installed on top of the backwall and will provide the transition between the parking area and the surface of the proposed reconfigured T Dock.

The proposed reconfigured T Dock will be supported by a total of thirty-five (35) 24-inch diameter galvanized steel pipe pile and five (5) 30-inch diameter galvanized steel pipe pile. The larger piles will be installed at the locations where the cranes will be reinstalled, which will be determined at the time of construction. This includes four locations along the eastern edge of the dock as well as one location on the south edge. The piles will be installed in pile cap rows with a spacing of approximately 21 ft. Pile spacing within the pile cap rows will vary between 17 ft and 22 ft depending on location. Piles will be driven with land based or barge-mounted pile driving equipment. It is anticipated that a vibratory hammer will be used to drive the piles, however an impact hammer will be required for bearing to reach design pile tip elevation, as well as to confirm the design bearing capacity. For impact hammer use, sound attenuation measures (bubble curtain and wood block) will be used to minimize underwater noise. For pile installed within the riprap shoreline, riprap may be required to be relocated/removed to allow for pile install. If possible, the riprap will be replaced adjacent to the pile locations. Once the piles are installed, pile caps will be installed. The pile caps will be installed perpendicular to the OHW and will connect the pile within each row. The pile cap will be approximately 3 ft by 3 ft and will be cast-in-place. Special care will be taken to ensure that no uncured concrete enters the water. The size of the pile cap will increase slightly on four (4) of the caps in order to provide the required support for the reinstallation of the cranes. A concrete back beam will be installed immediately waterward of the concrete backwall and a concrete face beam will be installed at the waterward edge of the proposed dock. The beams will both be cast-in-place and will be approximately 2 ft wide and 2.5 to 3 ft deep. The beams will be at the same elevation as the pile caps. As stated above, a stormwater trench drain will be installed within the concrete back beam in order to collect stormwater from the proposed T Dock. Stormwater from the dock surface will be collected and discharged to the existing sanitary sewer system.

Once the cast-in-place concrete beams and pile caps have cured, precast concrete deck panels will be installed as decking for the proposed T Dock. The concrete deck panels will be installed at a slope of 2.0% from the waterward edge of the dock to the landward edge, and the trench drain system. The precast panels will be anchored to the structure with cast-in-place concrete closures between the panel ends located above the concrete pile caps. Additionally, the longitudinal gaps between adjacent panels will be grouted to complete the congruent structure and final deck surface.

A steel pipe bullrail, electrical lines, and water lines will be installed around the perimeter of the proposed T Dock. Improvements to the on-dock utilities will include modernizing and increasing the electrical services; replacing the existing dock lighting from high pressure sodium fixtures to more effective light-emitting diode (LED) lighting; and replacement of the dock water system. The proposed dock will also be equipped with dock safety ladders.

The final element of the proposed project will be the installation of 10-inch diameter galvanized steel pipe fender piles along the eastern and southern edges of the new dock. An HDPE pipe fender sleeve will be installed over each fender pile. A total of 24 fender piles will be installed. Piles will be driven with a barge-mounted vibratory hammer.

The proposed project will not require any dredging and will not result in a modification of substrates below the OHW (+8.2 ft MLLW). Above the MHHW, the proposed project will result in the removal of riprap at the top of the bank in order to remove the existing concrete retaining wall and footing and for the installation of the new sheet pile wall and concrete backwall. The proposed backwall will be installed landward of the existing MHHW and OHW and the project will not result in the loss of aquatic habitat. The removal of riprap will result in a narrow, nearly flat bench between +8.2 ft and +8.5 ft MLLW. The width of the bench will vary from between 2 ft and 12 ft depending on the location along the shoreline. However, there will be no loss of aquatic habitat and the proposed project will only result in disturbance to riprap substrates to facilitate sheet pile driving. The expansion of the proposed T Dock Reconfiguration will result in an increase in overwater coverage between the OHW down to an elevation of approximately -2 ft MLLW. Although none of the substrates within this area will be disturbed, the proposed project will result in an increase of approximately 5,400 sq ft of overwater coverage (below OHW). Overall, the proposed project will result in minimal impacts to the aquatic environment.

The proposed T Dock Reconfiguration will occur within a portion of the aquatic environment that is providing a low level of habitat function and value for fish species. This portion of the Cap Sante Marina is heavily developed and use of this portion of the shoreline by fish and wildlife species is expected to be minimal. As a result, fish and wildlife species are expected to avoid this portion of the marina. The removal of the existing creosote piles and dock structure will result in an improvement to water quality; however, the proposed increase in overwater coverage will still require compensatory mitigation. The proposed project has been designed to meet the conditions of the Salish Sea Nearshore Programmatic (SSNP) permitting process developed by the NMFS to take the place of formal Section 7 consultation. The results of the SSNP, after taking into account the potential beneficial and adverse impacts associates with the project, is a mitigation need of 1.93 dsays. Rather than purchasing dsay credits, the Port if proposing to install compensatory mitigation within the northeast portion of the marina in order to provide quality aquatic habitat for migrating fish species and wildlife species. The installation of Large Woody Debris (LWD) will provide habitat for fish and other aquatic species. The LWD structures will be anchored with cables and screw anchors. The LWD structures will be installed at a depth of between +8.2 ft and +5 ft MLLW. LWD structures will be installed over an approximately 6,000 sq ft area of the shoreline. This will result in the installation of mitigation within a portion of the Cap Sante Marina that currently provides the greatest level of habitat functions and values within the marina. It is expected that the proposed mitigation actions will provide a level of compensatory mitigation for the adverse impacts to the aquatic habitat and functions associated with the increase of overwater structure.

The Project would be timed to conform to all applicable authorized in-water work windows, including those imposed for salmonids, marine mammals, marbled murrelet, and forage fish. All timing restrictions that may be established by WDFW, the USACE, NMFS, or USFWS would be strictly observed (USACE permit and HPA). This is anticipated to be August 1 to February 15 of any year the permit is valid (Tidal Area 9; HPA for project requires work window of August 1 to February 15).

6b. Describe the purpose of the project and why you want or need to perform it. [help]

The proposed project would replace the existing T Dock, which is one of the Port's commercial docks within the Cap Sante Marina. The T Dock was constructed in the 1977 with a design service life of 50 years with appropriate scheduled maintenance. The existing T Dock is in good structural condition; however, the existing configuration of the T Dock together with the adjacent upland development has resulted in the need for the reconfiguration on the T Dock to meet the current and future use. Currently, trucks are backed onto the T Dock on the existing steel diamond plates for loading and unloading of gear or commercial goods. Specifically, the narrow vehicle entrance to the dock limits the number of trucks allowed to access the dock at a time resulting in delays to loading and offloading, vehicle congestion at the dock, and the lack usable dock space for commercial marine operations. T Dock is the only dock within the marina with the ability to load and unload vessels. The project does not propose any change in uses. T Dock has been, and will continue to be, an important and heavily used commercial dock at the marina.

The purpose and need for the reconfiguration of the T Dock would be to ensure the continued safe use of the dock while increasing structural capacity, work area, and dock access. Additionally, the proposed replacement of the T Dock is required to meet the needs of current and future user groups for the dock and reduce the unsafe bottleneck associated with the narrow entrance to the dock.

6c. Indicate the project category. (Check all that apply) [help]

☒ Commercial ☐ Residential ☐ Institutional ☐ Transportation ☐ Recreational

☐ Maintenance ☐ Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [help]

☐ Aquaculture	☐ Culvert	☐ Float	☐ Retaining Wall (upland)
☐ Bank Stabilization	☐ Dam / Weir	☐ Floating Home	☐ Road
☐ Boat House	☐ Dike / Levee / Jetty	☐ Geotechnical Survey	☐ Scientific Measurement Device
☐ Boat Launch	☐ Ditch	☐ Land Clearing	☐ Stairs
☐ Boat Lift	☒ Dock / Pier	☐ Marina / Moorage	☐ Stormwater facility
☐ Bridge	☐ Dredging	☐ Mining	☐ Swimming Pool
☐ Bulkhead	☐ Fence	☐ Outfall Structure	☐ Utility Line
☐ Buoy	☐ Ferry Terminal	☒ Piling/Dolphin	
☐ Channel Modification	☐ Fishway	☐ Raft	

☒ Other: Demolition

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [help]

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

The project is located within Cap Sante Marina in Fidalgo Bay, Anacortes. The project site lies within a 1% annual chance flood hazard area. Demolition and construction associated with the reconfiguration of the T Dock will include the following construction methods:

- All of this demolition of the existing pier structure would be completed using hand tools and either a land or barge mounted and/or land-based equipment.
- Removal of the existing wooden piles will occur with either a land or barge mounted crane and, if required, a vibratory hammer. If the piles break, the piles will be cut off below the mudline.
- The existing concrete slab will be demolished with an excavator mounted jackhammer and removed using a land-based excavator.
- Excavation of the shoreline at the top of the bank and the movement of riprap to allow for the installation of the sheet pile wall would occur using a land-based excavator.
- All removed materials will be transported (by barge and/or truck) to an appropriate upland disposal site.
- Installation of sheet pile bulkhead wall with either a land or barge mounted crane and a vibratory hammer.
- Concrete deck panels will be precast, delivered to the dock via truck, and placed using either a land-based excavator or a land or barge mounted crane.
- New concrete approach slab, concrete backwall, concrete back beams, and concrete pile caps will be framed and poured in place (in the dry). All concrete will be fully cured prior to contact with the aquatic habitat.
- In-water piles will be driven with a barge-mounted vibratory hammer unless driving conditions require an impact hammer. If an impact hammer is used for in-water pile driving, sound attenuation measures (bubble curtain and wood block) will be used to minimize underwater noise.
- Some upland construction, including utility work, paving, and public access improvements will also occur within 200 feet of the shoreline. Upland demolition, excavation, grading, fill, and construction will be completed using land based construction equipment.
- Best Management Practices (BMPs) will be adhered during construction (see response to Question 8a for a summary of these BMPs).
- All permit conditions will be adhered to during construction.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [help]

- If the project will be constructed in phases or stages, use JARPA Attachment D to list the start and end dates of each phase or stage.

Start Date: August 2024 End Date: May 2027 ☐ See JARPA Attachment D

The Project would be timed to conform to all applicable authorized in-water work windows, including those imposed for salmonids, marine mammals, marbled murrelet, and forage fish. All timing restrictions that may be established by WDFW, the USACE, NMFS, or USFWS would be strictly observed (USACE permit and HPA). This is anticipated to be August 1 to February 15 of any year the permit is valid (Tidal Area 9; HPA for project requires work window of August 1 to February 15).

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

$8 million for construction

6h. Will any portion of the project receive federal funding? [help]

- **If yes**, list each agency providing funds.

☐ Yes ☐ No ☒ Don't know (to be determined)

Part 7–Wetlands: Impacts and Mitigation

☐ Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]

☐ Not applicable

7b. Will the project impact wetlands? [help]

☐ Yes ☐ No ☐ Don't know

7c. Will the project impact wetland buffers? [help]

☐ Yes ☐ No ☐ Don't know

7d. Has a wetland delineation report been prepared? [help]

- **If Yes**, submit the report, including data sheets, with the JARPA package.

☐ Yes ☐ No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [help]

- **If Yes**, submit the wetland rating forms and figures with the JARPA package.

☐ Yes ☐ No ☐ Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [help]

- **If Yes**, submit the plan with the JARPA package and answer 7g.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

☐ Yes ☐ No ☐ Don't know

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [help]

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [help]

Activity (fill, drain, excavate, flood, etc.)	Wetland Name[1]	Wetland type and rating category[2]	Impact area (sq. ft. or Acres)	Duration of impact[3]	Proposed mitigation type[4]	Wetland mitigation area (sq. ft. or acres)

[1] If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.
[2] Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.
[3] Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.
[4] Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____

7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]

7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [help]

☒ Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]

☐ Not applicable

The proposed project will ensure the continued safe use of the T Dock and will allow for the dock to meet the current and future needs of the users. The primary potential impacts of the proposed project are associated with the removal of the existing creosote structure and pile and the increase of overwater coverage (~5,400 square feet of concrete decking). The removal of the creosote structures and pile will result in an overall net improvement over the existing conditions due to the removal of the continued leaching of chemicals. The potential impacts associated with the increase in overwater coverage have been avoided and minimized to the extent possible by nature of design and where the proposed project will occur. The Cap Sante Marina is a heavily used marina, and the portion of the marina where T Dock is located has been historically modified (upland, shoreline, and aquatic). The existing use of the T Dock is already at its maximum and results in delays and heavy congestion both in the uplands and aquatic areas. The loading and unloading of vessels needs to occur and the proposed project would allow these uses to occur within a portion of the shoreline and aquatic environment that is already heavily disturbed and providing limited functions and values. Without the proposed reconfiguration to the T Dock, these current and future uses would need to be relocated somewhere else and the best spot for these uses are within marinas (or areas already disturbed). The potential impacts to the aquatic environment associated with the proposed reconfiguration and increase in overwater coverage would be significantly lower at the proposed location versus a different location. There are few locations that offer the opportunity for this type of expansion with limited potential adverse impacts.

The existing shoreline consists of riprap, and the marina basin has been dredged to a depth of -12 to -14 feet. Therefore, the proposed project will occur within a portion of the aquatic environment that is already highly altered and is providing low levels of habitat function, value, or presence of fish species. Potential adverse

impacts associated with the dock replacement and increase in overwater coverage will be further mitigated for by the following conservation measures and BMPs:

- Removal of the existing ~7,175 sq ft creosote timber dock, consisting of solid decking, pile caps, stringers, and bullrails.
- Removal of 115 12-16 inch creosote treated timber piles (94 plumb pile, 3 pile stubs, and 18 battered pile).
- Removal of 29 10-12 inch pressure treated timber fender piles.
- Installation of ten (10) large woody debris (LWD) structures in the northeast portion of the Cap Sante Marina as compensatory mitigation for the increase in overwater coverage.
- Proposed work will not begin prior to obtaining all necessary local, state, and federal permits and/or approvals.
- Work will begin only after the in-water work window for the area opens, to avoid key migration periods for protected aquatic species.
- All cast in place concrete work associated with the reconfigured dock will occur in the dry and will be allowed to fully cure prior to inundation. All other concrete will be precast offsite and delivered to the site.
- A containment basin or other suitable positive means of capturing debris from demolition operations will be provided to keep debris from entering the waterway. Containment measures must be in place and approved prior to starting demolition.
- Pile extraction will be accomplished with a vibratory hammer to the maximum extent practicable.
- Pile will be gripped above the waterline, and work will be completed during low water and low current conditions to the maximum extent practicable.
- Pile will not be intentionally broken by twisting or bending.
- Pile will be lifted slowly from the sediment and through the water column placed on a barge deck, dock, or shoreline.
- If for any reason a pile needs to be cut, it will be cut at or near the mudline, or below the mudline if necessary to facilitate dredging. The location of the cut off pile will be recorded using a hand-held GPS unit.
- Creosote-treated wood piles will be disposed in an approved upland disposal facility.
- Installation of sheet pile wall above the existing OHW will occur in the dry.
- Any riprap relocated to allow for the installation of pile along the shoreline will be replaced in roughly the same location. Rock will be retained on the riprap slope.
- Construction barges will be staged in areas of sufficient water depth so as to not ground out during low water conditions.
- For pile driving activities, vibratory pile driving will be used to the extent possible. A bubble curtain will be used during all impact pile proofing.
- Pile sizes have been minimized to the smallest diameter necessary to achieve seismic and dock loading requirements.
- When possible, construction at the top of the bank will be performed in the dry, landward of MHHW line along the shoreline.
- The selected contractor will be required to comply with all state water quality standards and use standard marine BMPs throughout construction. These BMPs will include the maintenance of vessels and equipment to avoid leaks and spills into surface waters and the avoidance of allowing construction debris from entering U.S. waters when conducting shoreline or in-water work. A Spill Prevention, Control, and Countermeasures (SPCC) plan and erosion control BMPs will be required during the work for the

abutment and covered shelter dock entrance area improvements to minimize dust, soil, and construction debris from entering surface waters.

- Construction equipment will be inspected daily for fluid leaks. Any leaks detected will be repaired before resuming construction.
- No discharge of waste materials to surface water will occur as part of this project. Collected debris will be removed from the water and disposed of at an appropriate upland facility.
- Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc. shall be checked regularly for drips or leaks and shall be maintained and stored properly to prevent spills into state waters. Proper security shall also be maintained to prevent vandalism.
- Additional BMPs and conservation measures, required or specified during the permitting process as the Port works and coordinates with the applicable resource agencies, will also be adhered to.
- The proposed project will adhere to the conservation measures and requirements developed by NMFS to allow the project to utilize the SSNP.

8b. Will your project impact a waterbody or the area around a waterbody? [help]

☒ Yes ☐ No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [help]

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable,** explain below why a mitigation plan should not be required.

☒ Yes ☐ No ☐ Don't know

See the attached Habitat Improvement Plan (HIP) that was prepared as part of the SSNP process developed by the NMFS. Additionally, mitigation measures are provided below. The proposed mitigation measures will result in the placement of LWD structures in the eastern portion of the Cap Sante Marina where quality habitat existing and where the placement of LWD will increase the habitat functions and values for aquatic and wildlife species. This will enhance the existing habitat conditions in a portion of the Cap Sante Marina where species may be present and adjacent to existing riparian, saltmarsh, and eelgrass habitats.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [help]

Potential adverse impacts associated with the dock replacement will be mitigated for by the removal of the existing creosote structure and associated creosote pile and the installation of large woody debris (LWD) structures in the northeast portion of the Cap Sante Marina. The potential mitigation need for the proposed project was calculated utilizing the SSNP, which resulted in a mitigation need of 1.93 dsays. There is no opportunity to insert the number of LWD into the calculator to ensure sufficient mitigation is being provided. Rather the Port is proposing to install a total of ten (10) LWD structures that will be installed over approximately 6,000 square feet. This level of mitigation is consistent with the recent permitting of the A Dock reconfiguration. The A Dock reconfiguration is located immediately south of the T Dock and resulted in an overall increase in overwater coverage of approximately 7,000 square feet and the mitigation for that project consists of the placement of twelve (12) LWD structures in the northeast portion of the Cap Sante Marina. The total number of LWD structures was based on the successful permitting of the A Dock reconfiguration and the similar conditions at each of the project locations resulting in similar overall impacts.

The removal of creosote timber piles will improve water quality impacted within the marina. Creosote piles continually leach contaminants into the aquatic environment, and their removal will help increase the water quality within the marina. Although the existing project area is providing minimal habitat functions and values, the northeast/eastern portion of the marina is providing a greater level of habitat due to the gradual slopes, riparian and saltmarsh vegetation, and eelgrass. This action will result in an overall improvement in habitat conditions within the portion of the marina where aquatic use is greatest. A total of ten (10) LWD structures will

be installed over an approximately 6,000 square foot area. LWD would consist of 16-20 ft logs with rootwads (18-30-inch diameter) anchored with screw anchors and cables. The LWD structures will be installed at a depth of between +8.2 ft and +5 ft MLLW. Existing substrates where the LWD structures will be installed consist of a combination of sand and gravel at the upper elevations and gravel and cobble at the lower elevations. The LWD structures will be installed on the boundary between the gravel and cobble and the finer, sand and silt substrates at lower elevations. Care will be taken to avoid any existing saltmarsh vegetation. It is expected that the proposed mitigation actions will provide a level of compensatory mitigation for the adverse impacts to the aquatic habitat and functions associated with the increase of overwater structure. Mitigation at this location will be more impactful than if proposed adjacent to the steeper riprap slope adjacent to T Dock and will provide improved aquatic habitat for migrating fish species.

The proposed mitigation actions above, in combination with the BMPs already described in the response to Question 8a, will provide a level of compensatory mitigation for the adverse impacts to the aquatic habitat and functions associated with the project.

8e. Summarize impact(s) to each waterbody in the table below. [help]

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name[1]	Impact location[2]	Duration of impact[3]	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Removal of existing T Dock (including deck and pile)	Fidalgo Bay	Below the HTL	~3 weeks	Removal of approximately 239 cubic yards of creosote timber (dock structure) and ~95 cubic yards of creosote pile	~7,175 sq ft T Dock footprint along with 144 piles (115 creosote and 29 pressure treated)
Removal of concrete slab, retaining wall, and footing	Fidalgo Bay	At and above the HTL	~3 weeks	Removal of concrete slab, retaining wall, and concrete footing. Retaining wall is vertical and located between +8.2 and +8.5 ft MLLW; ~ 30 cubic yards.	~550 sq ft; entire concrete slab, retaining wall and footing located below the slab at the waterward edge.
Remove of catwalk	Fidalgo Bay	In	1 day	No material excavation or fill material proposed	~120 sq ft
Excavation of riprap at top of bank for installation of sheet pile wall	Fidalgo Bay	Below HTL (This action relocates HTL landward per ACOE)	~4 weeks	~130 cubic yards of riprap	~1,400 sq. ft.
Excavation of shoreline substrates below existing asphalt/concrete for concrete backwall	Fidalgo Bay	Below HTL (This action relocates HTL landward per ACOE)	~ 4 weeks	~885 cubic yards	~3,000 sq ft
Installation of sheet pile wall and concrete backwall	Fidalgo Bay	Below HTL (Following excavation of shoreline)	~ 4 weeks	~140 cubic yards	~400 sq ft
Placement of fill landward of concrete backwall	Fidalgo Bay	Below HTL (Following excavation of shoreline	~ 2 weeks	~745 cubic yards	~3,000 sq ft
Pile Driving (40 plumb/battered and 24 fender)	Fidalgo Bay	In	Up to 30 days; not sequential	No material excavation or fill material proposed	Up to 80 sq. ft.
Construction of concrete T Dock	Fidalgo Bay	In	10 weeks	Combination of precast and cast in place concrete (~1,400 cubic yards)	~12,575 sq ft
Reinstall catwalk	Fidalgo Bay	In	1 day	No material excavation or fill material proposed	~120 sq ft

[1] If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.
[2] Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.
[3] Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [help]

To the extent possible, fill has been primarily limited to the areas outside of the marine environment (above MHHW). The proposed concrete dock will be either precast or cast in place. Concrete (~1,400 cubic yards) will be from a local source. The new concrete backwall will result in the placement of 140 cy of cast in place concrete over approximately 400 sq ft located at the new MHHW (~+8.2 MLLW). The final placement of fill would be structural fill behind the new backwall. This will entail the placement of approximately 745 cy of structural fill (sand and gravel) over approximately 3,000 sq ft. Excavated materials will be re-used as fill at the site or, if determined to be unsuitable for backfill, disposed of at an appropriate upland site. Select clean structural fill may be imported as necessary for use as backfill.

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [help]

The proposed project will result in the removal of approximately 130 cubic yards of existing riprap located at the top of the bank (above ~+8.2 ft MLLW). Additionally, the proposed project will result in the removal of the existing concrete retaining wall (~10 cubic yards) located under the existing dock. This retaining wall is a vertical wall located at an elevation of approximately +10 ft MLLW (exposed toe). All material removed will be placed in a dump truck and disposed of at an appropriate upland disposal site.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]

Agency Name	Contact Name	Phone	Most Recent Date of Contact

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology's 303(d) List? [help]

- **If Yes,** list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wq/303d/.

☒ Yes ☐ No

The project takes place within the Port's Cap Sante Marina in Fidalgo Bay, Puget Sound. Fidalgo Bay is located immediately south and east of the project site. The combined areas of Padilla Bay, Fidalgo Bay, and Guemes Channel are listed on Ecology's 303(d) list for bacteria, copper, dissolved oxygen, temperature, and ammonia-N.

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]

- Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC.

HUC 17110002

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]

- Go to http://www.ecy.wa.gov/water/wria/index.html to find the WRIA #.

WRIA 3

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]

- Go to http://www.ecy.wa.gov/programs/wq/swqs/criteria.html for the standards.

☒ Yes ☐ No ☐ Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]

- If you don't know, contact the local planning department.
- For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html.

☐ Urban ☐ Natural ☒ Aquatic ☐ Conservancy ☒ Other: Urban Shoreline

9g. What is the Washington Department of Natural Resources Water Type? [help]

- Go to http://www.dnr.wa.gov/forest-practices-water-typing for the Forest Practices Water Typing System.

☒ Shoreline ☐ Fish ☐ Non-Fish Perennial ☐ Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [help]

- **If No**, provide the name of the manual your project is designed to meet.

☒ Yes ☐ No

Name of manual: _____

9i. Does the project site have known contaminated sediment? [help]

- **If Yes**, please describe below.

☒ Yes ☐ No

Petroleum products, used by the existing T Dock users or to run the construction equipment, do provide an ongoing risk for spills, leaks and fires. However, the Port's strict enforcement of BMPs required by the Clean Marina Washington Program and the Port's policies and procedures that focus on preventing pollution from work and activities on vessels or docks minimizes these types of risks.

Directly upland and to the west of the project is the Cap Sante Marine site, a Washington Department of Ecology cleanup site. There is an area of known subsurface contamination approximately 6 feet below ground surface remaining. The project is sited to avoid disturbing the known contamination hotspot. Washington Department of Ecology, acting under Gov. Chris Gregoire's Puget Sound Initiative, worked with the Port to clean up the Cap Sante Marine site, home to a former boat yard. The cleanup was completed under a Consent Decree in 2014 and the site is now part of Cap Sante Marina's upland facilities.

9j. If you know what the property was used for in the past, describe below. [help]

The project site was developed as a public marina in 1927. There are no places or objects within the project site that have been identified on or proposed for listing on national, state or local preservation registers.

9k. Has a cultural resource (archaeological) survey been performed on the project area? [help]

- **If Yes**, attach it to your JARPA package.

☐ Yes ☒ No

Given the history of the well-developed site and recent construction projects completed in the marina at the nearby Scott Site and at Seafarers' Memorial Park, archeological or cultural impacts are not anticipated. However, if evidence of these features is encountered during construction, the Port will notify local tribes and the state's Department of Archeology and Historic Preservation (DAHP) and take appropriate steps.

9l. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]

Three salmonid species that are listed under the Endangered Species Act (ESA) that may be present at the project site include the Puget Sound Chinook salmon *(Oncorhynchus tshawytscha)*, Coastal-Puget Sound bull trout *(Salvelinus confluentus)*, and Puget Sound steelhead trout *(O. mykiss)*. Additionally, two rockfish species present in Puget Sound are listed under the ESA, though their presence in the marina is unlikely: bocaccio *(Sebastes paucispinis)* and yelloweye rockfish *(S. ruberrimus)*. Marbled murrelet *(Brachyramphus marmoratus)*, an ESA-listed bird species, is potentially present in Fidalgo Bay but unlikely to use the marina. Additional listed species in the vicinity that are extremely unlikely to occur include the Southern Resident killer whale *(Orcinus orca)*, humpback whale *(Megaptera novaeangliae)*, and leatherback sea turtle *(Dermochelys coriacea)*.

9m. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [help]

WDFW includes bocaccio and yelloweye rockfish on its priority habitat species list but does not show them as present in Skagit County. Fish resources in Fidalgo Bay area include Pacific salmon, forage fish and a number of flatfish and pelagic species typical of Puget Sound. Surf smelt *(Hypomesus)*, sand lance *(Ammocytes hexapterus)* and Pacific herring *(Clupea harengus pallasi)* are important forage fish for salmonids. Surf smelt require high intertidal beaches with gravel for spawning. Sand lance also require upper intertidal spawning habitat, with sandy gravel beaches. Although the steep intertidal shorelines within the marina do not provide suitable spawning habitat for these species, surf smelt spawning has been mapped as occurring on and around both the north and south breakwaters at the mouth of the marina. The eastern shoreline of the marina basin has also been mapped for spawning. Surf smelt spawning activity occurs on this beach from May to September, unlike adjacent spawning beaches across Fidalgo Bay, which receive smelt spawn virtually year-round. The nearest known sand lance spawning beach is in the southern portion of Fidalgo Bay over 1.5 miles from the project site. No herring spawning occurs near the marina.

A recent eelgrass and macroalgae survey, completed by Grette Associates in the summer of 2022 observed no macroalgae or eelgrass along the steep shoreline bank or in the water below and adjacent to the existing T Dock. The riprap transitions into a flat unconsolidated mud substrate, which has been substantially modified by necessary marina maintenance dredging since the marina was first constructed. The soft mud does not provide suitable substrates for eelgrass and does not provide attachment points for macroalgae.

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at http://apps.oria.wa.gov/opas/.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.
- For a list of addresses to send your JARPA to, click on agency addresses for completed JARPA.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]

- For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html.

☒ A copy of the SEPA determination or letter of exemption is included with this application.

☐ A SEPA determination is pending with _____ (lead agency). The expected decision date is _____.

☐ I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]

☐ This project is exempt (choose type of exemption below).

☐ Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

_____

☐ Other: _____

☐ SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:

☒ Substantial Development ☐ Conditional Use ☐ Variance

☐ Shoreline Exemption Type (explain): _____

Other City/County permits:

☐ Floodplain Development Permit ☐ Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

☒ Hydraulic Project Approval (HPA) ☐ Fish Habitat Enhancement Exemption – Attach Exemption Form

Washington Department of Natural Resources:

☐ Aquatic Use Authorization

Complete JARPA Attachment E and submit a check for $25 payable to the Washington Department of Natural Resources. **Do not send cash.**

Washington Department of Ecology:

☒ Section 401 Water Quality Certification

FEDERAL GOVERNMENT

United States Department of the Army permits (U.S. Army Corps of Engineers):

☒ Section 404 (discharges into waters of the U.S.) ☒ Section 10 (work in navigable waters)

United States Coast Guard permits:

☐ General Bridge Act Permit ☐ Private Aids to Navigation (for non-bridge projects)

Part 11–Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [help]

11a. Applicant Signature (required) [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. KA (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. KA (initial)

Kevin Anderson		8/24/23
Applicant Printed Name	Applicant Signature	Date

11b. Authorized Agent Signature [help]

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Larry Lehman		
Authorized Agent Printed Name	Authorized Agent Signature	Date

11c. Property Owner Signature (if not applicant) [help]

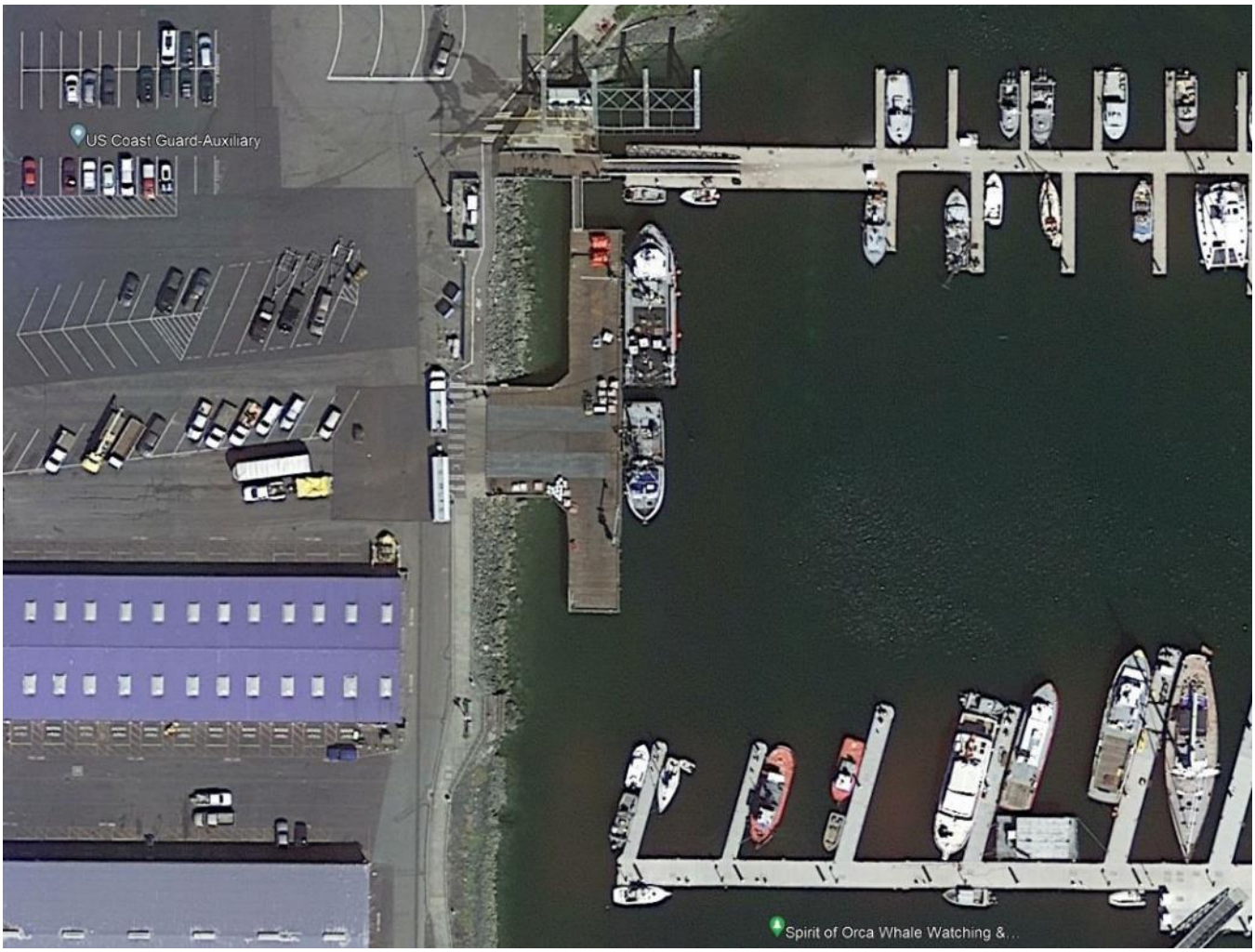
Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name	Property Owner Signature	Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than 5 years or both.

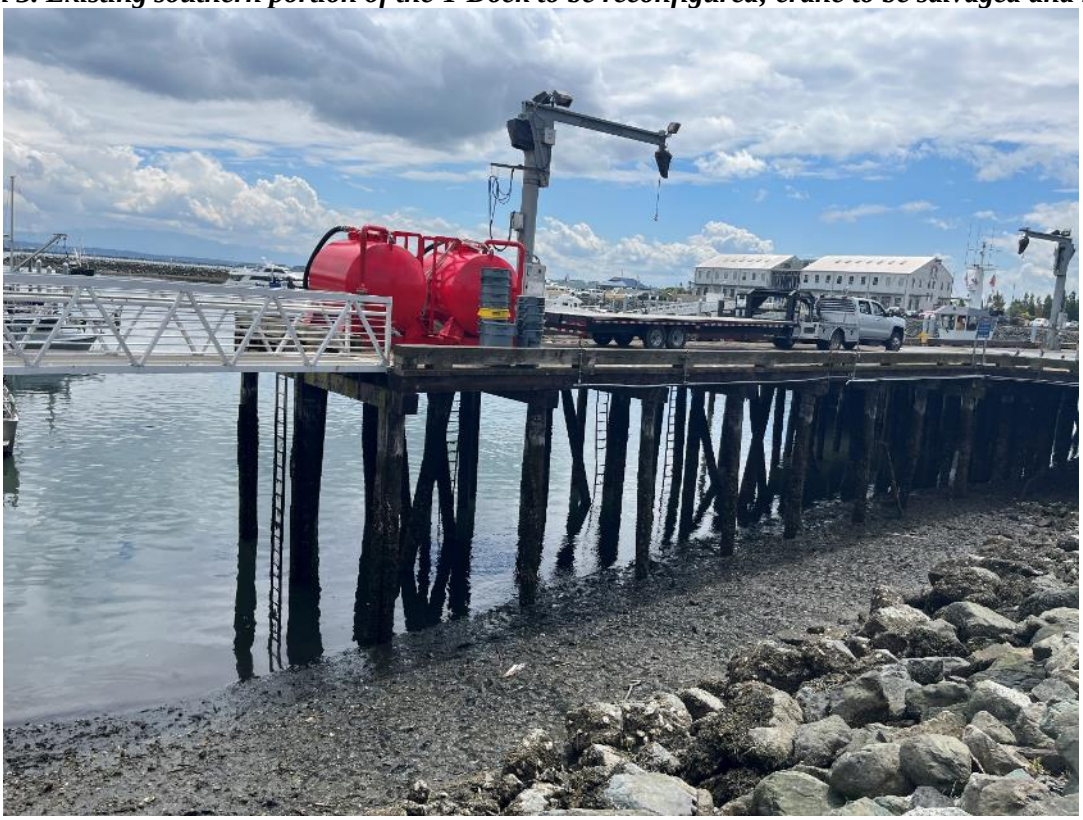
If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 07/2017



Photograph 1. Existing T Dock to be reconfigured.

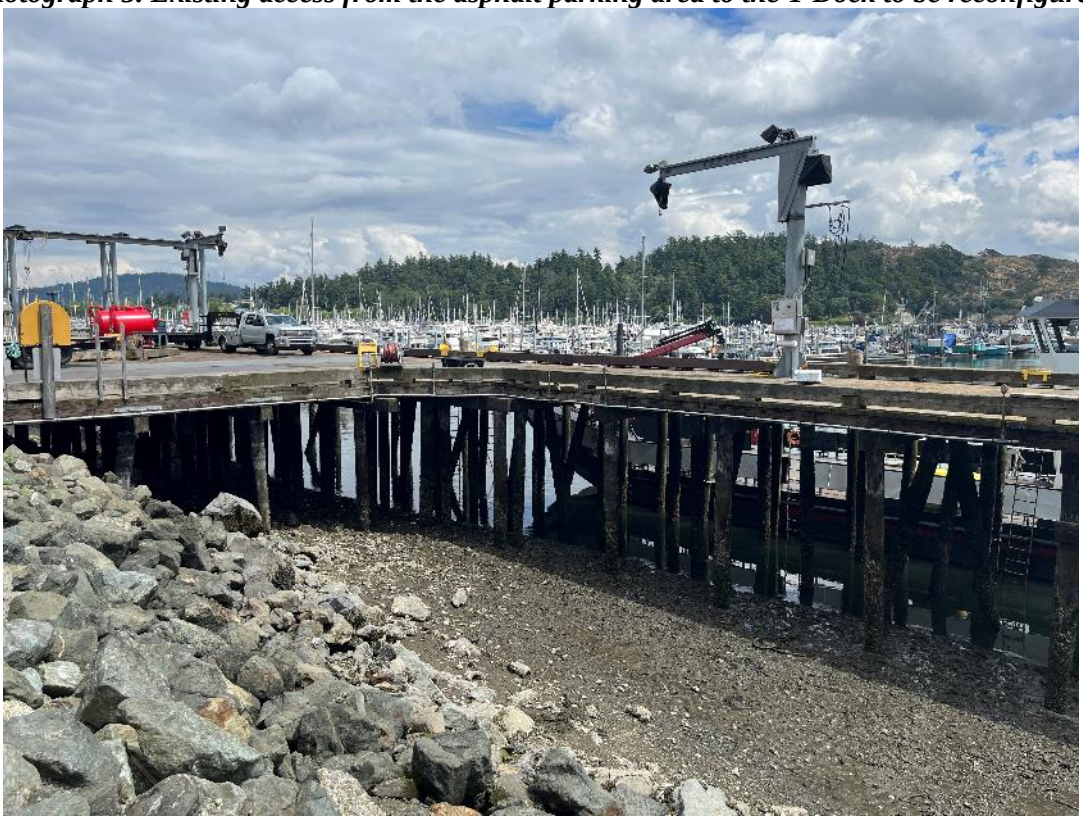
Photograph 2. Existing level of use on the existing T Dock.

Photograph 3. Existing southern portion of the T Dock to be reconfigured; crane to be salvaged and reinstalled.



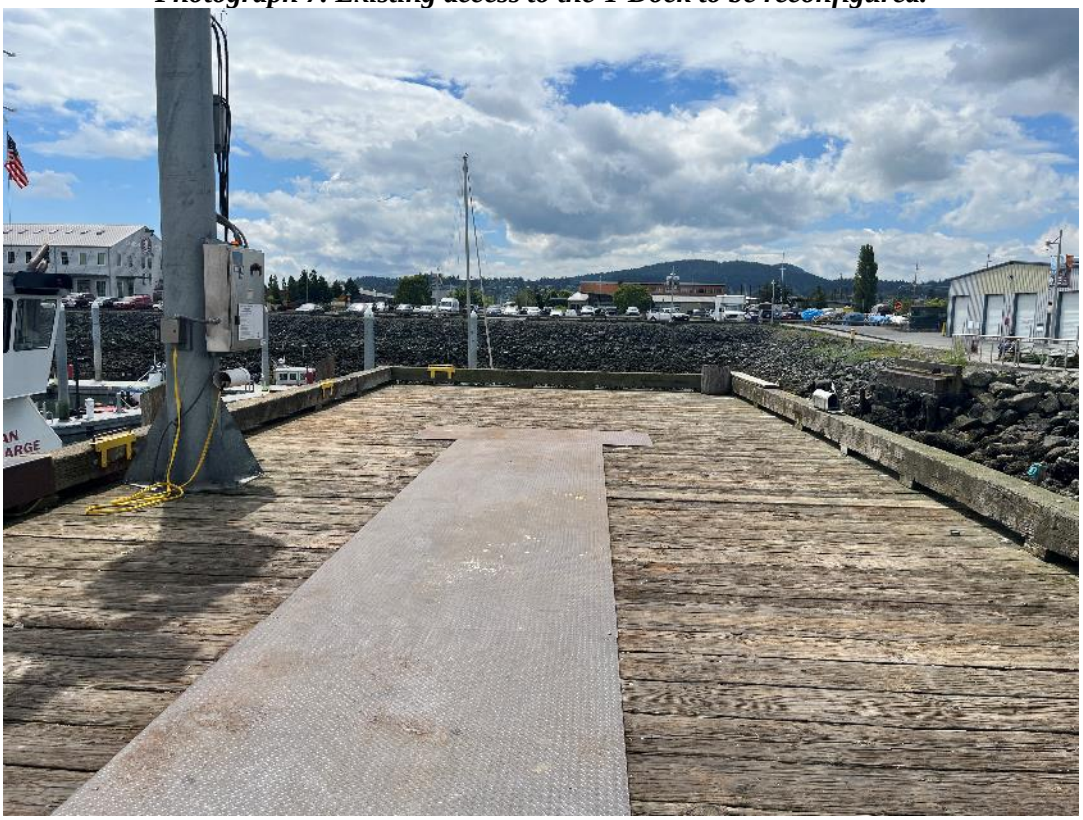
Photograph 4. Existing northern portion of the T Dock to be reconfigured; cranes and gangway to be salvaged and reinstalled.

Photograph 5. Existing access from the asphalt parking area to the T Dock to be reconfigured.



Photograph 6. Existing southern portion of the T Dock to be reconfigured; cranes to be salvaged and reinstalled.

Photograph 7. Existing access to the T Dock to be reconfigured.

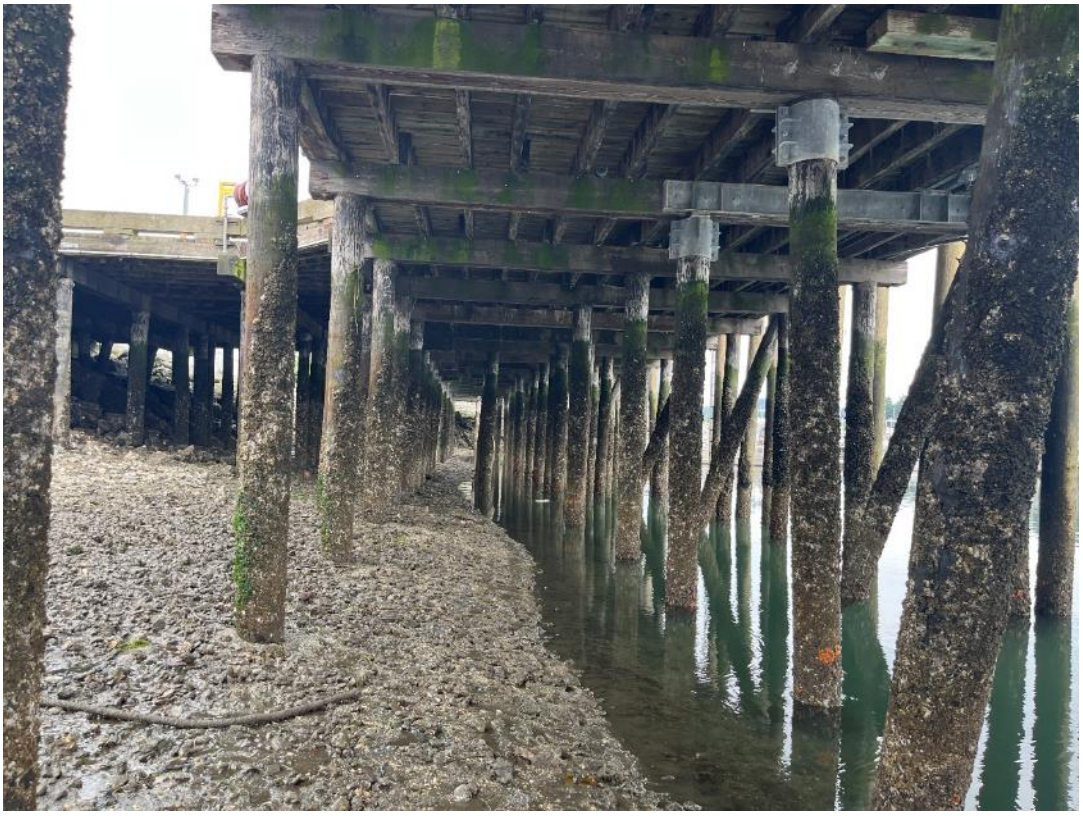


Photograph 8. Existing solid, creosote decking on T-Dock; crane to be salvaged and reinstalled.

Photograph 9. Existing solid, creosote decking on T-Dock; cranes to be salvaged and reinstalled.

Photograph 10. Existing gangway at the norther end of the T Dock to be salvaged and reinstalled.

Photograph 11. Existing riprap shoreline located under the access to T Dock. existing pile and concrete retaining wall to be removed.



Photograph 12. Existing shoreline under the T Dock; existing creosote pile and framing to be removed.

Photograph 13. Existing shoreline under the T Dock; existing creosote pile and framing to be removed.

Photograph 14. Existing riprap shoreline within the southern portion of the T Dock that will be covered following reconfiguration.

Photograph 15. Existing riprap shoreline within the northern portion of the T Dock that will be covered following reconfiguration.

Photograph 16. Existing riprap shoreline within the northern portion of the T Dock that will be covered following reconfiguration.

Photograph 17. Existing riprap shoreline within the southern portion of the T Dock that will be covered following reconfiguration; old timber bulkhead to remain.

Photograph 18. Existing shoreline conditions in the northeast portion of Cap Sante Marina where the proposed large woody debris will be installed; below the saltmarsh.

Photograph 19. Example large wordy debris installed as part of the mitigation for the A Dock replacement (2022) adjacent to the proposed mitigation location.

NOTICE OF NEIGHBORHOOD MEETING

A pre-application neighborhood meeting via video conference has been scheduled to introduce a Port of Anacortes project proposal described below. The purpose of the meeting is for the applicant to inform neighbors and interested parties about the project at an early stage and to foster communication between the applicant and the public regarding potential project issues and opportunities for solutions.

PROJECT DESCRIPTION: The Port of Anacortes is seeking approval of a Shoreline Substantial Development Permit (SDP-2024-0005) to demolish and rebuild the aging commercial T-dock at Cap Sante Marina. The proposed replacement of the existing creosote timber dock structure includes pre-cast concrete panels, cast in place pile caps, steel pipe piles, and sheet piles, with updated utility services, improved stormwater handling, and updated lighting. The proposal includes widening the single central vehicular access point by enlarging the dock's footprint along the shoreline to allow for a 145-foot-wide vehicle approach entrance.

PROJECT LOCATION: T-dock @ Cap Sante Marina, 1315 Q Avenue, Anacortes (P32984)

MEETING DATE & TIME: Tuesday October 8, 2024, @ 6:00 PM

HOW TO JOIN THE NEIGHBORHOOD MEETING: For full video conference access scan the corresponding QR code below or go to: anacorteswa.gov/1499/Public-Meetings to obtain the meeting's login access. To join the meeting by phone only (no video) call: 1 (323) 486-3157 (Phone Conference ID: 896 982 203#)

VIDEO CONFERENCE LOGIN ACCESS:

PROJECT DOCUMENT ACCESS:

WHO CAN ATTEND A NEIGHBORHOOD MEETING?

Neighborhood meeting notices are posted on the project site, published in the Anacortes American Newspaper, and mailed to neighboring landowners located within 300-feet of the subject property. Anyone however is welcome to attend a neighborhood meeting whether a neighbor of the project or not.

DOCUMENT AVAILABILITY

Project documents may be reviewed online by scanning the corresponding QR code above, or by going to https://ci-anacortes-wa.smartgovcommunity.com/Public/Home, clicking on *Public Notices* and selecting project number **SDP-2024-0005**.

CAN I SUBMIT COMMENTS?

Public comments on the Port's requested Shoreline Substantial Development Permit applicable (SDP-2024-0005) can be submitted in writing to Grace Pollard, Senior Planner gracep@anacorteswa.gov or mailed to City of Anacortes, P.O. Box 547, Anacortes, WA 98221 through October 25, 2024. Public comments will also be accepted leading up to, and at, the open record pre-decision Planning Commission public hearing on Wednesday, November 13, 2024 @ 6pm.

PROJECT APPLICANT

Port of Anacortes, 100 Commercial Ave, Anacortes, WA 98221
Kevin.Anderson@portofanacortes.com / 360-293-3134

NOTICE OF APPLICATION including written comment period & NOTICE OF PUBLIC HEARING

Project Name: T-Dock Replacement & Reconfiguration
File Number: SDP-2024-0005
Applicant: Port of Anacortes
Date of Application: May 31, 2024
Date of Completeness: July 1, 2024
Project Location: 1315 Q Avenue @ Cap Sante Marina

NOTICE IS HEREBY GIVEN THAT AN APPLICATION WAS MADE FOR THE FOLLOWING PROPOSAL:

The Port of Anacortes is seeking approval of a Shoreline Substantial Development Permit to demolish and rebuild the aging commercial T-dock at Cap Sante Marina. The proposed replacement of the existing creosote timber dock structure includes pre-cast concrete panels, cast in place pile caps, steel pipe piles, and sheet piles, with updated utility services, improved stormwater handling, and updated lighting. The proposal includes widening the single central vehicular access point by enlarging the dock's footprint along the shoreline to allow for a 145-foot vehicle approach entrance.

State Environment Policy Act (SEPA) Review: The Port of Anacortes, as lead agency, has determined that this project, which incorporated mitigation measures, will not have a probable significant adverse impact on the environment; a mitigated determination of non-significance (MDNS) does not require an environmental impact statement (EIS) under RCW 43.21C.030(2)(c). This determination was issued on April 14, 2023, and is on file with the Department of Ecology (SEPA #202301779).

Environmental Documents on File: Geotechnical Report, Fish and Wildlife Habitat Conservation Areas Assessment and Report, Cultural Resources Report, Habitat Improvement Plan, Stormwater Pollution Prevention Plan (SWPPP) Joint Aquatic Resources Permit Application (JARPA) Form, and SEPA MDNS.

Required Project Permits/Approval: City of Anacortes Floodplain Development Permit and Building Permit with Stormwater Review.

Public Comment Period: The joint Notice of Application and Notice of Public Hearing was published on September 25, 2024. Written comments to be considered prior to the public hearing must be submitted to the contact person listed below by **5:00 PM on October 25, 2024**. Additional comments and verbal testimony will be accepted at the Planning Commission open-record pre-decision public hearing. These will be your only opportunities to comment on this project before the City Council closed-record decision meeting.

Hearing Body: Planning Commission. An open-record pre-decision hearing will be held by the Planning Commission on **November 13, 2024, at 6:00 pm** in Council Chambers (904 6th Street), and via Zoom video conferencing. City Council will hold a closed-record decision meeting on Monday, November 25, 2024.

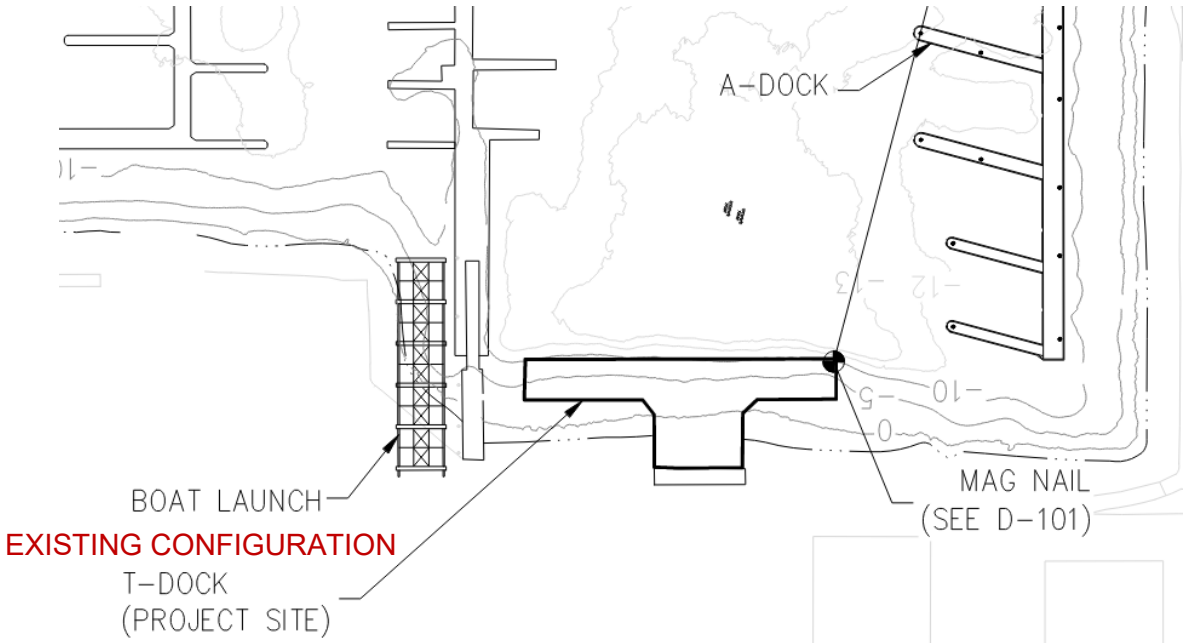
- Virtual meeting participation instructions and connection information can be accessed at anacorteswa.gov/700. Hearings will be conducted in accordance with the rules of procedure adopted by the hearing body.
- Members of the public who require special assistance to participate in or access the public hearing may contact the City Clerk at 360-299-1960 24-hours before the hearing to make special arrangements.

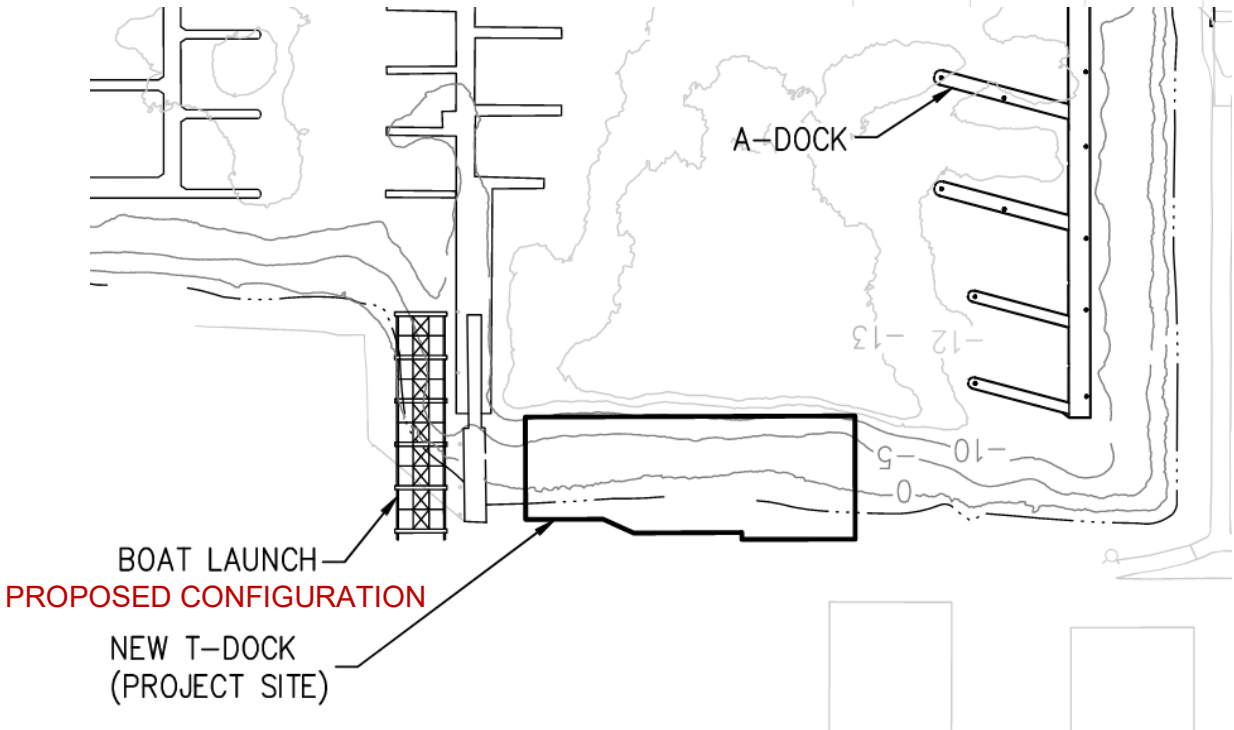
ANY PERSON HAS THE RIGHT TO RECEIVE NOTICE, PARTICIPATE IN ANY HEARINGS, AND REQUEST A COPY OF THE FINAL DECISION.

Document Availability: Application documents may be reviewed by scanning the above QR Code or by going to https://ci-anacortes-wa.smartgovcommunity.com/Public/Home and clicking *Public Notices* then selecting file no. **SDP-2024-0005**. The staff report will be available at 2pm Thursday November 7th, one week before the scheduled open-record pre-decision hearing.

City Contact: Grace Pollard, Senior Planner; Email: gracep@anacorteswa.gov; Phone: (360)299-1984
Mail: City of Anacortes Planning Dept., P.O. Box 547, Anacortes, WA 98221
Written comments must be substantive and include the name and address of the commentor.

Appeal: Per AMC Table 19.20.030-1 Land Use decisions made by City Council do not have a local appeal process. Appeals of a Shoreline Substantial Development Permit decision must be made to the State Shorelines Hearings Board (SHB). Requests for review by the Hearings Board must be received by the Shoreline Hearings Board within twenty-one (21) days of the "date of filing." The "date of filing" for the purposes of an appeal is the date that the Department of Ecology (DOE) receives City Council's Decision. The appealing party must submit a written appeal to both the SHB and the DOE.





Outlook

Request for City of Anacortes project review (SDP-2024-0005)

From Grace Pollard <gracep@anacorteswa.gov>

Date Thu 9/26/2024 5:51 PM

Bcc sepa@dahp.wa.gov <sepa@dahp.wa.gov>; mari461@ecy.wa.gov <mari461@ecy.wa.gov>; Ross.Zimmerman@dnr.wa.gov <Ross.Zimmerman@dnr.wa.gov>; DFW R4Nplanning <R4NPlanning@dfw.wa.gov>; Robert.Warinner@dfw.wa.gov <Robert.Warinner@dfw.wa.gov>; kelly.m.werdick@usace.army.mil <kelly.m.werdick@usace.army.mil>; tomwooten@samishtribe.nsn.us <tomwooten@samishtribe.nsn.us>; jferry@samishtribe.nsn.us <jferry@samishtribe.nsn.us>; KCleary@swinomish.nsn.us <KCleary@swinomish.nsn.us>; thpo@sauk-suiattle.com <thpo@sauk-suiattle.com>; KJoseph@sauk-suiattle.com <KJoseph@sauk-suiattle.com>; sschuyler@UPPERSKAGIT.com <sschuyler@UPPERSKAGIT.com>; swalsh@skagitcoop.org <swalsh@skagitcoop.org>; nkammer@skagitcoop.org <nkammer@skagitcoop.org>; klyste@stillaguamish.com <klyste@stillaguamish.com>; cstevens@stillaguamish.com <cstevens@stillaguamish.com>; agatam@nwcleanairwa.gov <agatam@nwcleanairwa.gov>

1 attachments (458 KB)

Request for Agency Comment TEMPLATE.docx;

Good Afternoon,

Please find attached a City of Anacortes Planning, Community, and Economic Development (PCED) Department request for project review and comment form. The PCED Department has received an application for a Shoreline Substantial Development Permit from the Port of Anacortes for the removal and reconstruction of their "T-Dock" located at Cap Santé Marina (1315 Q Avenue). We ask for your timely review and request your comments are received by October 25, 2024.

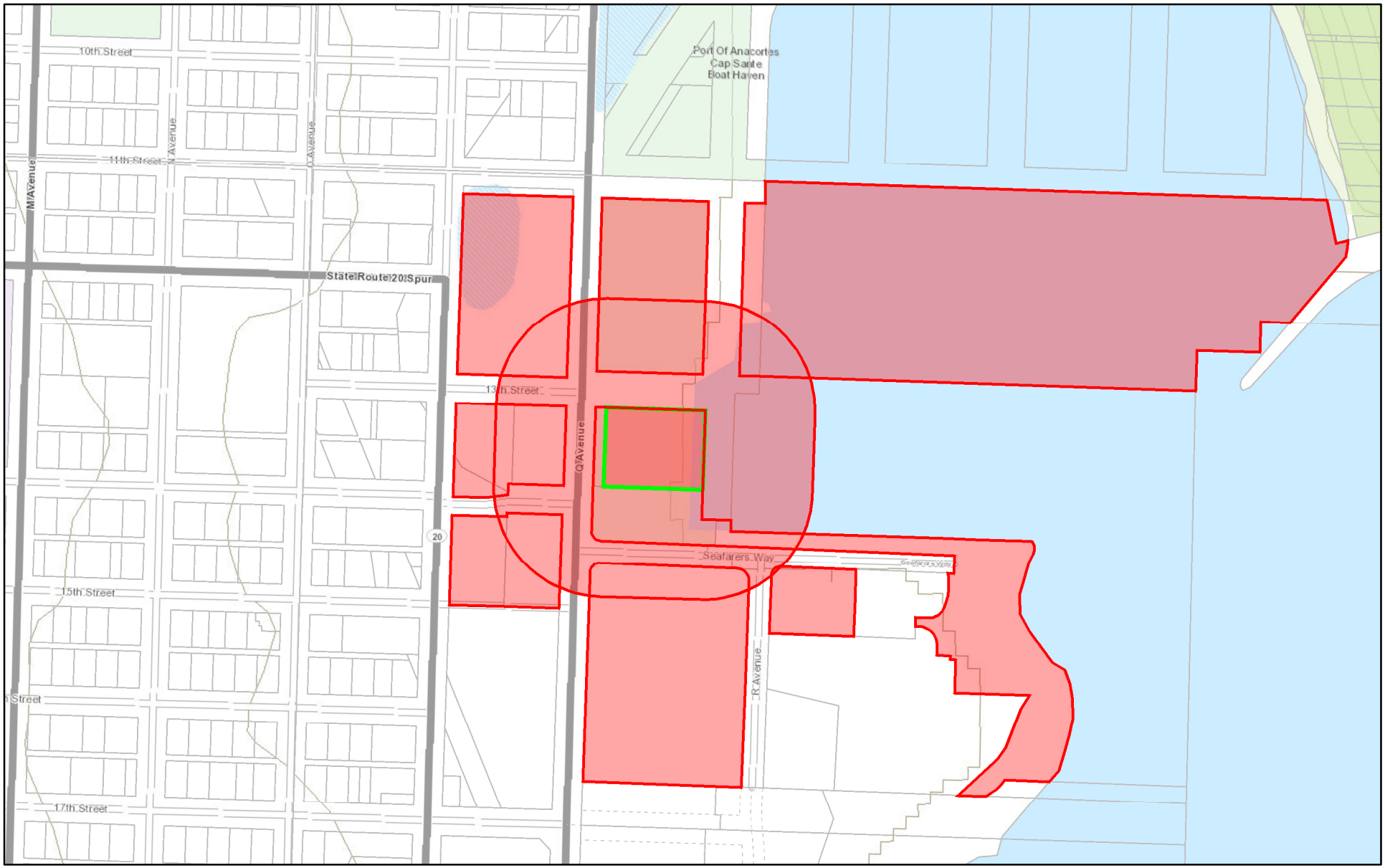
If you are in need of any additional resources please do not hesitate to contact me.

Thank you in advance,

Grace Pollard
Senior Planner
Planning, Community & Economic Development
Main : 360-299-1984 **Office : 360-588-8231**
Email : gracep@anacorteswa.gov
Web: www.anacorteswa.gov/161/Planning
My regular workdays are Monday – Thursday

Please note the city's email domain has changed to @anacorteswa.gov

PNumber	OwnerName	OwnerAdd1	OwnerAdd2	OwnerAdd3	OwnerCity	OwnerState	OwnerZip	SitusStNo	SitusStName	SitusCSZ
P114718	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221			
P125268	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221	715	SEAFARER'S WAY	ANACORTES
P125270	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221	715	SEAFARER'S WAY	ANACORTES
P125271	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221	715	SEAFARER'S WAY	ANACORTES
P125272	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221	715	SEAFARER'S WAY	ANACORTES
P125273	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221	715	SEAFARER'S WAY	ANACORTES
P125274	SAMISH INDIAN NATION		PO BOX 217		ANACORTES	WA	98221			
P130749	MAD ANTHONYS INC	PO BOX 3805			BELLEVUE	WA	98009	1207	Q AVENUE	ANACORTES
P133398	MAD ANTHONYS INC	PO BOX 3805			BELLEVUE	WA	98009	1119	Q AVENUE	ANACORTES
P32910	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221	1601	Q AVENUE	ANACORTES
P32926	PUGET SOUND ENERGY ELEC	ATTN PROPERTY TAX DEPT	PO BOX 97034		BELLEVUE	WA	98009	1019	Q STREET	ANACORTES
P32927	HIGHLAND WOODS LLC			1415 COMMERCIAL AVE UNIT 110	ANACORTES	WA	98221	1405	COMMERCIAL AVENUE	ANACORTES
P32950	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221			
P32951	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221	1207	Q AVENUE	ANACORTES
P32956	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221			
P32957	MCDONALDS CORPORATION		PO BOX 182571		COLUMBUS	OH	43218	1301	COMMERCIAL AVENUE	ANACORTES
P32960	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221	601	SEAFARER'S WAY	ANACORTES
P32984	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221			
P32985	PORT OF ANACORTES	100 COMMERCIAL AVE			ANACORTES	WA	98221			
P32986	ACI REAL ESTATE SPE 135 LLC	ATTN ALBERTSONS COMPANIES	ATTN LEGAL DEPARTMENT	250 E PARKCENTER BLVD	BOISE	ID	83706	911	11TH ST	ANACORTES
P54955	MCDONALDS CORPORATION		PO BOX 182571		COLUMBUS	OH	43218			



September 20, 2024

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

Legend

- County Boundary
- Tax Parcels
- Pre Tax Account Property

Data Accuracy Warning: All GIS data was created from available public records and existing map sources. Map features have been adjusted to achieve a best-fit registration. While great care was taken in this process, maps from different sources rarely agree as to the precise location of geographic features. Map discrepancies can be as great as 300 feet.

City Council Agenda Bill

Meeting Date: November 13, 2024 **Agenda Item:** 4.b.

Agenda Item Title: 2025 Comprehensive Plan Update - Proposed amendments to the Future Land Use Map, urban growth area boundaries, and the goals and policies in the Land Use, Housing, and Transportation elements.

Staff Contact(s): Libby Grage, John Coleman

Approved for Submittal to Council by	**Action Type**
Libby Grage	Public Hearing
John Coleman	

Item Summary: On November 13, 2024, the Planning Commission is holding a public hearing on proposed amendments to the Future Land Use Map (including two urban growth area expansion requests), as well as the goals and policies of the Land Use, Transportation and Housing Elements of the Comprehensive Plan.

The proposed amendments to the Housing Element Goals and Policies have been reviewed by the Planning Commission at their September 25, October 2, October 9, and November 6, 2024 meetings. The draft amendments, with the Planning Commission's recommended changes, are attached to this memo as two documents: "Land Use Designation Update Tracker" and "Land Use Goals & Policies Update Tracker".

The proposed amendments to the Land Use Element Goals and Policies have been reviewed by the Planning Commission at their September 25, October 2, October 9, and November 6, 2024 meetings. The draft amendments, with the Planning Commission's recommended changes, are attached to this memo in the document titled "Housing Goals & Policies Update Tracker".

The proposed amendments to the Transportation Element Goals and Policies have been reviewed by the Planning Commission at their October 9 meeting. The draft, with the recommended changes, are attached to this memo in the document titled "Transportation Goals & Policies Update Tracker".

The proposed amendments to the FLUM have been reviewed by the Planning Commission at their October 30, and November 6 meetings. The applicants also

presented their applications to the City Council on July 15 and July 22, 2024. The Council passed resolution #3161, which included the requested map changes on the 2025 Docket. The proposed map amendments, with staff's recommendations, are attached to this memo in the document titled "Staff Recommendations - Future Land Use Map (FLUM)".

No formal recommendations or final decisions about the goals and policies of the Land Use, Transportation and Housing Elements will be made at this meeting. Nor is a formal recommendation necessary for the rezone requests that will affect the FLUM. The information gathered will be used to help update the FLUM, as well as the Land Use, Transportation and Housing Elements further. This information will also help inform the updates to the rest of the Comprehensive Plan (including the Climate Element that is still being drafted). Staff will bring the revised elements back to the Planning Commission in 2025 for further public review and public hearings.

The Planning Commission will be making a formal recommendation on two urban growth area (UGA) expansion requests that affect the FLUM (see the document "Staff Recommendations - Future Land Use Map" for information on these requests):
1. a request from Signal Hill LLC to add 17.8 acres of land to the UGA.
2. a request from the City to add nine parcels of land to the UGA.

The County required that all UGA expansion requests be submitted to the County by July 31, 2024. Because the City had not completed its analysis of the UGA expansion requests, the City submitted an application to the County to include both of those requests, with the caveat that the City would submit more information by the end of the year. The final steps to complete the analysis include a public hearing, a recommendation from the Planning Commission and then a resolution passed by the Council. Thus, the Planning Commission is asked to make a recommendation to the Council on both of those expansion requests at the November 13 meeting. The suggested motion is below.

Budget Impact:

Previous Action:

Recommended Motion: Make a motion that the Planning Commission recommend that the city council pass a resolution to support the city's application to add the city-owned parcels to the urban growth area and direct staff to remove the properties owned by Signal Hill LLC from the urban growth area expansion application.

Alternative Actions:

Attachments (listed in order presented):

1. Staff Recommendations - Future Land Use Map (FLUM) amendment requests
2. Land Use Designation Update Tracker (with PC recommended changes)
3. Land Use Goals & Policies Update Tracker (with PC recommended changes)
4. Housing Goals & Policies Update Tracker (with PC recommended changes)
5. Transportation Goals & Policies Update Tracker (with PC recommended changes)
6. Public Comments received 11/5-11/12/2024
7. Public comments received 11/12-11/13/2024
8. 20241113_Presentation Slides

Comprehensive Plan **Future Land Use Map** (FLUM) Amendment Requests

STAFF RECOMMENDATIONS

The City of Anacortes is studying the below potential changes to the Future Land Use Map designations during the 2025 Comprehensive Plan Update process. The numbers in the title for each proposal correspond to the numbers on the attached maps.

#1: "Commercial Ave. /37th St." RLD2 to RMD

Applicant	**City**
City File #	N/A
Location	The area bounded by Commercial Avenue to the east, N Avenue to the west, Longview Avenue to the south, and 37th Street to the north; and the parcels on the south side of 37th Street between R Avenue and Commercial Avenue.
Summary	Amend the Future Land Use Map designation of multiple parcels from Residential Low Density 2 (RLD-2) to Residential Medium Density (RMD). Pair with a Neighborhood Commercial overlay for parcels near the Commercial Ave. and 37th St. intersection.
Background	This potential FLUM amendment was suggested by MAKERS and city staff to increase housing options and help provide more opportunities for local services to be accessible within walking distance of residences. There is an existing neighborhood grocery store located on the southeast corner of the intersection of 37th Street and Commercial Avenue. Development in the area consists of primarily single-family homes on lots ranging from approximately 6,000 sq. ft. to 21,000 sq. ft. The initial study area encompassed vacant parcels along the east side of Commercial Avenue, however, further review determined limited development capacity due to presence of open and piped portions of a stream on the parcels.
Analysis	**Consistency with the Comprehensive Plan**

Table LU-1 Land Use Designations

Current Designation: Residential Low Density 2

Purpose – This designation provides for low density residential development in mostly established neighborhoods throughout the City. These areas are inappropriate for more intensive urban development due to the established character of the area and/or due to the area's separation from transit uses and commercial services.

Principal uses & density – Single family detached dwellings are the predominant dwelling type. Other dwelling types, such as duplexes, accessory dwellings and cottage housing may be allowed under certain circumstances. The permitted density is between 4 and 8 dwelling units per gross acre, depending on the established development pattern and character of the area.

Proposed Designation: Residential Medium Density

Purpose – This designation provides for moderate density residential neighborhoods on lands that are suitable for urban development. These areas are conveniently located in relation to traffic roues, public utilities and community facilities.

Principal uses & density – Single family detached dwellings are the predominant dwelling type. Other dwelling types, such as accessory dwellings, cottage housing, and low-density multi-family may be allowed under certain circumstances. The permitted density is 7-14 dwelling units per gross acre, depending on the particular housing types used and established development pattern and character of the area.

Staff comments: The subject area is located conveniently in relation to traffic routes – it is adjacent to the SR 20 Spur and Commercial Avenue intersection. Commercial services are nearby at the neighborhood grocery store, or further north along Commercial Avenue. Public utilities are existing and community facilities such as the Tommy Thompson trail and Storvik Park are within an approximately 10-minute walk.

Goals and Policies

Policy LU-1.3. Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-).

Staff discussion: If the amendment to the FLUM is approved, a rezone to an RMD implementing zone (such as R3) would need to be accomplished so that the Official Zoning Map remains consistent with the future land use map.

Policy LU-6.1. Provide for a wide variety of housing types within the city to meet the full range of housing needs for Anacortes's evolving population.

Policy LU-7.2. Strengthen the visual appearance and economic vitality of South Commercial Avenue.

Goal LU-10. Healthy Communities. Promote land use and community design that encourages healthy living and good connectivity between compatible uses.

Policy H-1.7. Provide for multifamily housing in areas close to shopping, employment, services and public transportation.

Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)

- Whether the proposal is justified by changed or changing conditions,
- Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and
- Whether the proposal will be compatible with and not adversely affect the value of those properties.

Staff comments: Makers intended for this rezone to be strengthened by also adopting a neighborhood commercial overlay in the same vicinity (#2, Option 1 described below). However, staff is not recommending that a commercial overlay be created, so that weakens the argument to change the zoning designation in this area from RLD2 to RMD. Also, the proposed location contains few vacant or large parcels, so construction of new multi-family buildings would rely on redevelopment of existing smaller residential lots that are mostly occupied by single-family buildings.

Staff Recommendation	Recommend tabling this idea

#2, Option 1: Neighborhood Commercial Overlay Concept (4 potential locations)

Applicant	**City**
City File #	N/A
Location	Various
Summary	Establish a Neighborhood Commercial overly that enables neighborhood commercial uses in certain areas to promote more amenities and services closer to homes and to increase opportunities for walking and biking between uses. Apply the overlay to various locations throughout the city centered on vacant land or existing commercial use.

Background

This potential FLUM amendment was suggested by MAKERS and city staff to help provide more opportunities for local services to be accessible within walking distance of residences. The Neighborhood Commercial overlay could:

- Allow larger neighborhood grocery stores than currently allowed in the residential zones, and more uses (retail, restaurant/bar, personal service, office, daycare II etc.)
- Allow fewer uses (no heavy or auto-oriented uses) and smaller sizes (e.g. <5,000 sq. ft.) than in the Commercial zone.
- Allow taller heights for vertical mixed-use
- Have no parking requirements for commercial uses (the ideal is that people walk to these nodes)
- Include design standards to address compatibility and account for house conversions

If the overlay concept is adopted, the detailed rules and requirements for development within the overlay would need to be created through a public process, and they would be located in the Anacortes Municipal Code development regulations.

Analysis

Consistency with the Comprehensive Plan

Table LU-1 Land Use Designations

This Neighborhood Commercial Overlay designation does not currently exist in the Comprehensive Plan. If it were adopted, a new land use designation would be added to Table LU-1, along with its purpose and intended uses.

Goals and Policies

Policy LU-6.5. Allow some compatible nonresidential uses in residential zones, such as appropriately scaled schools, neighborhood-scaled grocery stores… and other uses that provide places for people to gather…. Maintain standards in the zoning code for locating and designing these uses in a manner that respects the character and scale of the neighborhood.

Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)

- Whether the proposal is justified by changed or changing conditions,

	• Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and • Whether the proposal will be compatible with and not adversely affect the value of those properties. *Staff comments: the actual locations are less practical than originally expected by the consultant. Staff has not received requests to construct neighborhood commercial uses, so this concept should be studied in the future. At this time, this concept does not appear necessary.*
Staff Recommendation	Recommend tabling this idea

#3: "Rockwell Light Manufacturing"

Applicant	**Port of Anacortes**
City File #	LEG-2024-13 (Resolution 3161, 2025 Docket)
	Link to application documents
Location	P32372 (south of Airport Road)
Summary	Amend the Future Land Use Map designation of a portion of P32372 near the Anacortes Airport from Aeronautical Zone to Light Manufacturing.
Background	The applicant submitted a petition for amendment of the Comprehensive Plan meeting the requirements of AMC 19.16.040. A link to the application documents is located above. Additional information is provided by staff below. The request is to change the future land use designation of a portion of Skagit County Assessor Parcel Number P32372 from Aeronautical (AZ) to Light Manufacturing (LM). Changing the land use designation /zoning and subsequent merging of the redesignated area with parcels to the south (the "Rockwell property", also designated LM) is intended to create a consistent land use and zoning designation across a future development site and help future development avoid impacts to nearby wetlands and buffers. Parcel P32372 consists of approximately 46-acres of land that contains the airport runway, hangars, access road, and other airport infrastructure. The portion of P32372 proposed to be

redesignated is separated from the rest of the 46-acre parcel by Airport Way, a 30' wide road that provides access to the airport from Anacopper Mine Road. The proposed redesignation area is approximately 60-75 ft wide and 395 ft long, totaling approximately 20,000 sf.

The entirety of Parcel P32372 is subject to a 2005 development agreement between the City and Port of Anacortes for the Anacortes Airport, recorded under AFN 200504210031 and 200505230120 (correction), and codified in the Anacortes Municipal Code (AMC) at AMC Chapter 19.82, *Development Agreement for Port-Owned Property*. The purpose of the development agreement is to establish, permit and mitigate for certain land uses and land disturbance activities related to the operation of the airport, including tree removal and clearing. The subject area proposed for redesignation is within the "Anacortes Future Process Area" referred to and shown on Exhibit A to the agreement. In the Anacortes Future Process area, only aeronautical uses are allowed through the conditional use permit process. The development agreement is in effect for a period of 20 years from the date of agreement execution – it was executed on March 29, 2005; therefore, its expiration date is March 29, 2025. Tree removal is vested and subject to the terms and conditions of the agreement for a period of 30 years (expiring on March 29, 2035).

The development agreement will continue to apply to the property, regardless of its land use and zoning designation, until the agreement expires. Upon expiration of the development agreement, any development of the property would be subject to the development regulations in effect at the time of complete application submittal.

Analysis

Consistency with the Comprehensive Plan

Table LU-1 Land Use Designations:

Current Designation: Aeronautical Zone

Purpose - This designation provides for the Anacortes Airport and associated uses.

Principal uses & density – Airport and aeronautical uses.

Staff discussion: According to the applicant's narrative, the Port does not believe aeronautical uses are appropriate for the narrow strip of land proposed for redesignation due to its size and configuration.

Proposed Designation: Light Manufacturing

Purpose – This designating provides for a mix of industrial structures and uses; service commercial uses and limited retail uses that maximize external visual or physical impacts on adjacent properties and generally do not compete with uses in the CBD and C zones.

Principal uses & density – General service and light industrial uses that can be operated in a relatively clean, quite, and safe manner compatible with adjoining uses. Retail and office uses ae limited in scale or type to avoid competition with uses in CBD and C zones.

Staff comments: After redesignation, the property would be aggregated with, and included in the development of, the parcels to the south, which are already designated Light Manufacturing.

Goals and Policies

Policy LU-1.3. Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1).

Staff comments: If the amendment to the FLUM is approved, a rezone to Light Manufacturing would need to be accomplished so that the Official Zoning Map remains consistent with the future land use map.

Policy T-3.12. Any changes to the Anacortes Airport shall be in accordance with the 2005 Sub-Area Plan, Development Agreement, and City Comprehensive Plan, considering the goals as set forth in those documents.

Policy T-3.17. Support the Port's 1994 Master Plan and current Airport Layout Plan (ALP) dated May 2012, with future development to be implemented in accordance with the 2005 Sub-Area Plan and Development Agreement.

Goal CF-9. Anacortes Airport. Coordinate with the Port of Anacortes in planning activities associated with the airport.

Policy CF-9.1. Recognize the Anacortes Airport as an essential public facility with specific limitations agreed to by the Port of Anacortes and the Federal Aviation Administration.

Policy CF-9.2. Ensure development at or near the Anacortes Airport is consistent with the 20-year development agreement between the Port of Anacortes and the City of Anacortes and the 30-year Anacortes Airport Subarea Plan goals and policies.

Staff comments: The proposal is consistent with the above-mentioned goals and policies.

	Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes) • Whether the proposal is justified by changed or changing conditions, • Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and • Whether the proposal will be compatible with and not adversely affect the value of those properties. *Staff comments: The Port of Anacortes acquired the Rockwell property subsequent to execution of the 2005 development agreement and intends to develop it with uses allowed in the LM zone. Access to the site would be via Airport Road, which will require crossing the area proposed for redesignation. The Port states in the application documents that the narrow width and configuration of the area proposed for redesignation precludes aeronautical uses. The area is physically and functionally separated from the vast majority of the Anacopper Mine Future Process area. The redesignation would not create an isolated land use designation, but rather will provide for a single, consistent designation for the Port-owned properties south of Airport Way. The change will be compatible with and is not likely to adversely affect the value of these properties.*
Staff Recommendation	Recommend approval of the request.

#4: "Fidalgo Park & Recreation District Public Designation"

Applicant	**Fidalgo Park & Recreation District**
City File #	LEG-2024-12 (Resolution 3161, 2025 Docket)
	Link to application documents
Summary	The Fidalgo Pool and Recreation District proposes amending the land use and zoning designations of multiple parcels near the 22nd St. and J Ave. intersection from Residential Medum Density (RMD) (R3) to Public (P).
Location	Fidalgo Pool & Fitness Center: 1603 22nd St. (P31802, P31803, P31794, P31795) Residences: 2210 J Ave. (P31796); 2220 J Ave. (P31799); 2222 J Ave. (P31798) Anacortes Senior Center: 1701 22nd St. (P31804)
Background	The applicant submitted a petition for amendment of the Comprehensive Plan meeting the requirements of AMC 19.16.040. A link to the application documents filed is located above. Additional information is provided by staff below. The applicant requested changing the land use designation of the subject properties from Residential Medium Density to Public to so that the land use designation better reflects the current and future land uses planned on the properties. The current uses include: • The Fidalgo Pool and Fitness Center, which is owned and operated by the Fidalgo Park and Recreation District, a municipal corporation • The Anacortes Senior Center, which is owned and operated by the City of Anacortes, on land leased from the Fidalgo Park and Recreation District • Three single family residences (SFRs) Two of the SFR properties are owned by Fidalgo Parks and Recreation District (the District). The third is owned by a private party who has authorized the District to submit this application. The District is in the process of exploring the replacement of the existing pool to better serve the current and future needs of the community. The SFRs properties are planned to accommodate space needs of future modification or replacement facility, but are planned to retained and rented until a project is ready to move forward.

Analysis **Consistency with the Comprehensive Plan**

Table LU-1 Land Use Designations

Current Designation: Residential Medium Density

Purpose – This designation provides for moderate density residential neighborhoods on lands that are suitable for urban development. These areas are conveniently located in relation to traffic roues, public utilities and community facilities.

Principal uses & density – Single family detached dwellings are the predominant dwelling type. Other dwelling types, such as accessory dwellings, cottage housing, and low-density multi-family may be allowed under certain circumstances. The permitted density is 7-14 dwelling units per gross acre, depending on the particular housing types used and established development pattern and character of the area.

Proposed Designation: Public

Purpose – The purpose is to allow for common public uses where the need arises and uses will not create a nuisance or interfere with existing uses.

Principal uses & density - Public parks and recreation facilities, open space, single family residences under certain circumstances, schools, and other public facilities.

Staff comments: Fidalgo Park and Recreation District has identified a need for replacement of the existing public pool facility to better serve the current and future needs of the community, which may include a new or expanded facility. Any such new or expanded pool facility is not anticipated to create a nuisance or interfere with existing uses. The Anacortes Municipal Code contains site and building design requirements and other performance standards to ensure new nonresidential development is compatible with neighborhoods.

Goals and Policies

Policy LU-1.3. Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1).

Staff comments: If the amendment to the FLUM is approved, a future rezone to Public would need to be accomplished so that the Official Zoning Map remains consistent with the future land use map.

Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)

- Whether the proposal is justified by changed or changing conditions,

	○ Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and ○ Whether the proposal will be compatible with and not adversely affect the value of those properties. *Staff comments:* *The Fidalgo Park & Recreation District has identified a need and is planning for a replacent pool facility to meet the needs of our growing and aging community. The proposal to change the land use designaton to Public will not affect whether a new facility could be built – it is a conditional use in both the R3 (RMD) and Public (P) zones. The change will not create an isolated land use desgination unrelatd to ajdacent designations – Anacortes Middle School is located across J Avenue and has a Publc designation. The proposal will be compatible with and is not expected to adversely affect the value of adjacent properties. Development and performance standrds will apply to any future devleopment to ensure compatibility with adjacent areas.* *Under the Growth Management Act, the land use element of the comprehensive plan must designate the proposed general distribution, location and extent of the uses of land anticipated over the planning period, including land needed for recreation and public facilities. Designating the properties as Public will further compliance with the GMA by showing on the land use map the land needed for recreation and public faciities over the planning period.*
Staff Recommendation	Recommend approval of the request.

#5: Skillings FLUM Amendment

Applicant	**Thomas Skillings**
City File #	Resolution 3042 - Exhibit A #P2 (2021 Docket)
	Link to application documents
Location	Southeast corner of the intersection of 35th Street and V Avenue. 3519 V Avenue (P33058) and 311 35th Street (P33059)
Summary	Amend the future land use map designation of a portion of P33058 and P33059 from Industrial (I) to Residential Medium Density (RMD).
Background	The applicant submitted a petition for amendment of the Comprehensive Plan meeting the requirements of AMC 19.16.040. A link to the application documents filed is located above. Additional information is provided by staff below. The applicants would like to adjust the boundary line between 3 properties currently under their ownership (P33059, P33058, P33062). The line would be adjusted toward the west, encompassing the existing pole barn structure to the west of the existing home. The City's code prohibits approval of a boundary line adjustment when it would result in a lot having more than one zoning or land use designation. Therefore, the owner has requested a change to the land use designation for portions of P33059 and P33058 so that it matches the designation of the residentially developed parcel to the east, and that, ultimately a rezone can be completed and the desired BLA accomplished.
Analysis	**Consistency with the Comprehensive Plan** **Table LU-1 Land Use Designations** **Current designation:** Industrial Purpose – This designation provides for manufacturing and closely related uses in areas with existing industrial uses or other areas with suitable land and transportation access that are buffered from residential and other uses that are likely to complain about industrial activities. Principal uses & density – Industrial, research and development, repair, warehouse, shipping terminals that minimize external impacts to adjacent districts, and accessory uses. **Proposed designation:** Residential Medium Density Purpose – This designation provides for moderate density residential neighborhoods on lands that are suitable for urban development. These areas are conveniently located in relation to traffic routes, public utilities, and community facilities. *Staff comments: The site is located within a neighborhood with moderate density residential development. The land use*

designation and zoning of the neighborhood immediately to the west was changed from Medium Density Residential to High Density Residential with a Live/Work overlay in 2019. The site is located near main traffic routes and has access to public utilities and community facilities.

Goals and Policies

Policy LU-1.3. Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1).

Staff discussion: If the amendment to the FLUM is approved, a future rezone to R3 would need to be accomplished so that the Official Zoning Map remains consistent with the future land use map.

Policy LU-8.3. Preserve Industrial-zoned land south of 22nd Street from future industrial businesses and potential for green industries.

Policy LU-9.5. Protect industrial and manufacturing lands from encroachment by other land uses, which would reduce the economic viability of industrial lands.

Policy LU-11.1.B. Provide for an adequate supply of land zoned for employment uses to support 20-year employment allocations as required by Skagit County-Wide Planning Policies.

Policy ED-4.4. Provide for adequate sites for supportive uses near marine dependent uses.

Staff comments: Changing a portion of the properties' FLUM designation from Industrial to RMD and subsequent rezone would reduce the total amount of industrial land available for supportive uses near the waterfront; however, the reduction is very small, and area conditions have changed. It would also reduce the supply of land zoned for employment use by 14,000 sq. ft. resulting in a reduction in job capacity by less than 2 jobs.

Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)

- Whether the proposal is justified by changed or changing conditions,
- Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and

	• Whether the proposal will be compatible with and not adversely affect the value of those properties. *Staff comments: The subject site appears to have historically been used to support a nearby mill and/or other commercial/industrial operations in existence in the area in the past. Conditions have changed since the site's initial designation as Manufacturing /Industrial around 50 years ago. The former Custom Plywood Mill is no longer in operation, recreational opportunities have been added with the Tommy Thompson trail to the east and along Fidalgo Bay, and the neighborhood to the west was re-designated in 2016/2019 to RHD/R4 with a live/work overlay.* *The proposal to change a portion of the site from Industrial to RMD would not create a new isolated land use designation unrelated to adjacent designations because the properties to the east and south already have an RMD designation. The proposal is compatible with and would likely increase the value of the residential property to the east because ultimately the land is proposed to be added to that lot via BLA.*
Staff Recommendation	Recommend approval of the request.

#6: "Marine Terminal"

Applicant	**Port of Anacortes**
City File #	LEG-2024-15 (Resolution 3161, 2025 Docket)
	Link to application documents
Summary	Amend the Future Land Use Map designation of a parcel located just west of the terminus of 2nd Street from Light Manufacturing to Manufacturing and Shipping.
Location	100 O Avenue (P55355)
Background	The applicant submitted a petition for amendment of the Comprehensive Plan meeting the requirements of AMC 19.16.040. A link to the application documents filed is located above. Additional information is provided by staff below. The Port of Anacortes proposes redesignation of P55355 from Light Manufacturing to Manufacturing and Shipping to better align the anticipated future uses of the property in conjunction with the Marine terminal.
Analysis	**Consistency with the Comprehensive Plan** **Table LU-1 Land Use Designations** **Current designation:** Light Manufacturing Purpose – This designation provides for a mix of industrial structures and uses, service commercial uses and limited retail uses that minimize eternal visual or physical impacts on adjacent properties and generally do not compete with uses in the CBD and C zones. Principal uses and density – General service and light industrial use that can be operated in a relatively clean, quiet, and safe manner compatible with adjoining uses. Retail and office uses are limited in scale or type to avoid competition with uses in the CBD and C zones. **Proposed designation:** Manufacturing & Shipping Purpose – This designation provides for manufacturing and shipping uses that can utilize the deep waters of the Guemes Channel. Principal uses & density – Marine oriented manufacturing and shipping uses plus complementary support uses. *Staff comments: The proposal is consistent with the purpose of the proposed designation.* **Goals and Policies** **Policy LU-1.3.** Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1). *Staff discussion: If the amendment to the FLUM is approved, a future rezone to Manufacturing and Shipping (MS) would need to be*

	accomplished so that the Official Zoning Map remains consistent with the future land use map. **Policy LU-8.3.** Capitalize on maritime industry by making full use of sites already tailored to marine uses. **Policy LU-9.2.** In shoreline areas with deep water access encourage and support water dependent and water related uses such as manufacturing, shipping, moorage, navigation, cargo handling and storage, fish processing, ship/boat construction and repair. **Consistency with Shoreline Master Program Goals and Policies** **Current shoreline designation:** Urban Maritime Purpose – Preserve a variety of water-dependent, water-oriented, and water-related public, commercial, and industrial uses such as those associated with the Port of Anacortes. *Staff comments: The proposed Manufacturing and Shipping designation of the property is consistent with the property's existing Urban Maritime shoreline environment designation*. **Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)** • Whether the proposal is justified by changed or changing conditions, • Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and • Whether the proposal will be compatible with and not adversely affect the value of those properties. *Staff comments: Conditions have changed in that the Port purchased the adjacent Quiet Cove parcels to south and intends to utilize the parcel proposed for redesignation in conjunction with those parcels to support water-dependent uses. The proposal would not create an isolated land use designation, as the parcels immediately to the east and south are currently designated Manufacturing & Shipping. The proposal will create a consistent land use designation for all Port-owned parcels that are intended to function together to support water-dependent uses*.
Staff Recommendation	Recommend approval of the request.

#7: Cap Sante Marina

Applicant	Port of Anacortes
City File #	LEG-2024-14 (Resolution 3161, 2025 Docket)
	Link to application documents
Summary	Amend the Future Land Use Map designation of multiple parcels associated with the Cap Sante Marina from Commercial and Marine Mixed Use to Commercial Marine.
Location	1119 and 1207 Q Ave. (P32951, P32950) 1315, 1319 and 1401 Q Ave. (P32985, P32984, P114718) 909 14th St. (P32956) 1601 Q Ave. (P32910)
Background	The applicant submitted a petition for amendment of the Comprehensive Plan meeting the requirements of AMC 19.16.040. A link to the application documents filed is located above. Additional information is provided by staff below. The Port of Anacortes requests changing the land use designations of: • P32951, P32950, P32958, P32984, P32956, and a portion of P114718 from Commercial (C) to Commercial Marine (CM); • P32910 and a portion of P114718 from Marine Mixed Use (MMU) to Commercial Marine (CM). According to the application, the changes are requested because the existing and anticipated future uses of the properties most closely align with the Commercial Marine designation. The Port desires establishing consistent land use and zoning designations across the Cap Sante Marina to help simplify planning for and operation of Port-owned properties.
Analysis	**Consistency of the proposal with the Comprehensive Plan** **Table LU-1 Land Use Designations** **Current designation:** Commercial Purpose – provide for a wide variety of general service, retail, commercial, and mixed-uses that serves local and regional residents and the traveling public. Principal uses and density – a variety of general service, retail commercial and professional office uses. Multifamily uses are encouraged on upper floors along South Commercial Avenue and are allowed on certain side streets. New residential uses must feature transit-supportive densities (at least 15 units/acre). **Current designation:** Marine Mixed Use Purpose – provide for a special mix of commercial, cultural, recreational, and residential uses in a high amenity area along the waterfront or with special waterfront relationship. The design of uses is intended to emphasize the unique marine setting

by providing marine access and views from public spaces and establishing /maintaining a pedestrian-friendly character.

Principal uses & density – commercial, hospitality, cultural, and recreational uses. Residential uses are encouraged in mixed-use structures and allowed in single purpose structures provided developments include a horizontal mix of uses. Multi-story buildings are encouraged provided they are designed and oriented to provide public marine views and integrate human-scaled design details. New residential uses must feature transit-supportive densities (at least 15 units/acre).

Proposed designation: Commercial Marine

Purpose – recognize the unique and irreplaceable nature of certain marine sites in Anacortes and provide for a marine-oriented uses and commercial and industrial enterprises where orientation to navigable waterways and the tourism trade is of primarily importance.

Principal uses & density
The designation allows for marine-oriented commercial, recreational, and industrial uses. Tourism uses building on marine access and views are encouraged. Retail uses are limited to small-scale establishments in support of primary uses. Large and multi-story buildings are allowed provided they are designed and oriented to provide public marine views.

Staff comments: The area north of Seafarer's Way and east of Q Ave. have direct water access and are oriented to the water. The other properties in this request are separated from the water by public right-of-way.

The implementing zones for the Marine Mixed Use (MMU) and Commercial Marine (CM) designations allow many of the same uses, including overnight lodging, parking, passenger terminals, indoor recreation, restaurants, small retail stores, marine sales/rental, research and development, and civic uses. However, the MMU zone allows a variety of uses that are not allowed in the CM zone; while the CM zone allows some uses outright that may be unsuitable for the area south of Seafarer's Way.

The table on the next page excerpts some uses from AMC Table 19.41.050, Principal uses permitted in mixed-use and industrial zones, highlighting some of the key differences between the zones:

Use	MMU	CM
Townhouse	P	
Assisted living	P	
Nursing home	C	
Medical -		
<10,000 sq. ft. GFA	P	
10,000 – 20,000 sq. f.t GFA	C	
Personal services (e.g. beauty salon, copy center, optometrist) (except animal care)	P	
Campground & RV Park		C
Retail sales	P	
<5,000 sq. ft. NFA	P	P
(25,001-50,000 sq. ft. NFA)	P	
Gas station	C	
Light Industrial (manufacturing, assembly, repair/servicing of machinery, equipment, products)	C	
Self-service storage		P
Water-oriented Industrial Uses (industrial type uses that are either water-dependent, water-related, or water-enjoyment, including ship and boat building and repair, seafood processing, maritime administration, piers and wharfs, water-based shipping terminals, boat launch, dry stack boat storage)	C	P

Consistency with Shoreline Master Program Goals and Policies

Current shoreline environment designation: Urban

Purpose – Provide for commercial, industrial, and recreational uses; residential uses in some locations; and public land uses while seeking opportunities for protection and restoration of ecological functions.

Rationale – The Urban-designated areas are zoned for industrial and commercial uses. Existing and planned uses in the Urban designation represent a variety of water-oriented and non-water-oriented uses. In addition, current zoning allows for retail businesses, professional offices, hotels, restaurants, personal service shops, recreational uses, marinas and residential uses.

Staff discussion: The proposed Commercial Marine designation of the parcels north of Seafarer's Way is consistent with the property's Urban Maritime shoreline environment designation. The other properties do not have direct shoreline access.

Goals and Policies

Policy LU-1.3. Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1).

Staff discussion: If the amendment to the FLUM is approved, a future rezone to the applicable implementing zones would need to be accomplished so that the Official Zoning Map remains consistent with the future land use map.

Goal LU-8. Fidalgo Bay and Guemes Channel Waterfronts. Maintain and enhance Anacortes's waterfront as a unique and irreplaceable environmental, economic, and recreational amenity for the city.

Consistency with AMC 19.16.080.B.1.f. (For proposed comprehensive plan map changes)

- Whether the proposal is justified by changed or changing conditions,
- Whether the proposal would create an isolated land use designation unrelated to adjacent designations (a spot zone), and
- Whether the proposal will be compatible with and not adversely affect the value of those properties.
- *Staff discussion:*
    - Property north of Seafarer's Way and east of R Avenue (P32951, P32950, P32958, P32984 and a portion of P114718):

      Staff is not aware of changed or changing conditions that justify the proposal; however, the proposal would not create an isolated land use designation and will be compatible with adjacent properties. The change would extend the existing CM designation from its current terminus at 11th Street south to Seafarer's way. Existing and planned uses of this area are consistent with the CM designation.
    - Property west of Q Ave. (P32956):

      Staff is not aware of changed or changing conditions that justify the proposal. The proposal would create an isolated land use designation of Commercial Marine on the west side of Q Avenue in an area that has no direct access to the water.
    - Property south of Seafarer's Way (P32910):

	Staff is not aware of changed or changing conditions that justify the proposal. The Marine Mixed Use designation was applied to the property in 2016, and then it was rezoned to MMU in 2019. The proposal would create an isolated land use designation of Commercial Marine on the south side of Seafarer's Way, in an area that has no direct access to the water. Surrounding properties to the east and south have a Marine Mixed Use designation. It's not been demonstrated that the proposal would be compatible with and not adversely affect the value of those properties.
Staff Recommendation	• Property north of Seafarer's Way (change P32951, P32950, P32958, P32984 from Commercial to Commercial Marine; and a portion of P114718 from Marine Mixed Use to Commercial Marine): Recommend approval of the request. • Property west of Q Ave. (change P32956 from Commercial to Commercial Marine) Recommend denial of the request. • Property south of Seafarer's Way (change P32910 from Marine Mixed Use to Commercial Marine) Recommend denial of the request.

#8: ACFL Parcels UGA expansion

Applicant	**City**
City File #	LEG-2024-05 (Resolution 3161, 2025 Docket)
	Link to application documents
Summary	Petition the County to add all City-owned ACFL parcels to the City's UGA. Parcels include those where the development rights have been extinguished or restricted through conservation easements held by Skagit Land Trust or by deed restriction.
Location	P20029 (20 acers), P60751 (3.04 acers), P60752 (5.74 acres), P60763 (5.74 acres), P60777 (2.86 acres), P19298 (20 acres), P19211 (0.54 acres), P19056 (40 acres) and P32547 (9.32 acres).
Background	The city requests adding several city-owned parcels to the Urban Growth Area. Together the nine parcels total approximately 107.24 acres. The parcels are all adjacent to city limits, and all but P32547 were acquired (either by donation or purchase) for use as Anacortes Community Forest Lands (ACFL). All but P32547 are currently used for exclusively for recreation purposes and will continue to be used for recreation purposes. With the exception of P32547, all the city-owned parcels are currently zoned Rural Reserve. P32547, a 9.32 acre parcel, was a permitted gravel pit at which Lakeside Industries has completed its quarry work. Lakeside deeded the property to the City of Anacortes in 2001 when mining on the property was completed. The parcel has a Parks Department trail on the northern portion and Public Works uses a southern portion for soil storage. The parcel is zoned Rural Resource NRL; however, the gravel at the site has been depleted and the property is no longer a viable gravel pit. Thus, the Rural Resource NRL designation should be removed. These city-owned lands will not be used to accommodate population growth (housing) or employment growth (commercial/industrial). The addition of the city-owned recreation properties will not affect the County's population and employment allocation. No employment or housing is lost by adding these properties to the UGA, and the lands will not be used for housing or employment. The city requests that all the parcels be zoned Anacortes UGA Urban Development District. The city intends to apply the Parks/ Public land use designation to the properties in the Anacortes Future Land Use map. When the properties are annexed, they will be assigned the Parks/ Public zoning designation on the Anacortes Zoning map.

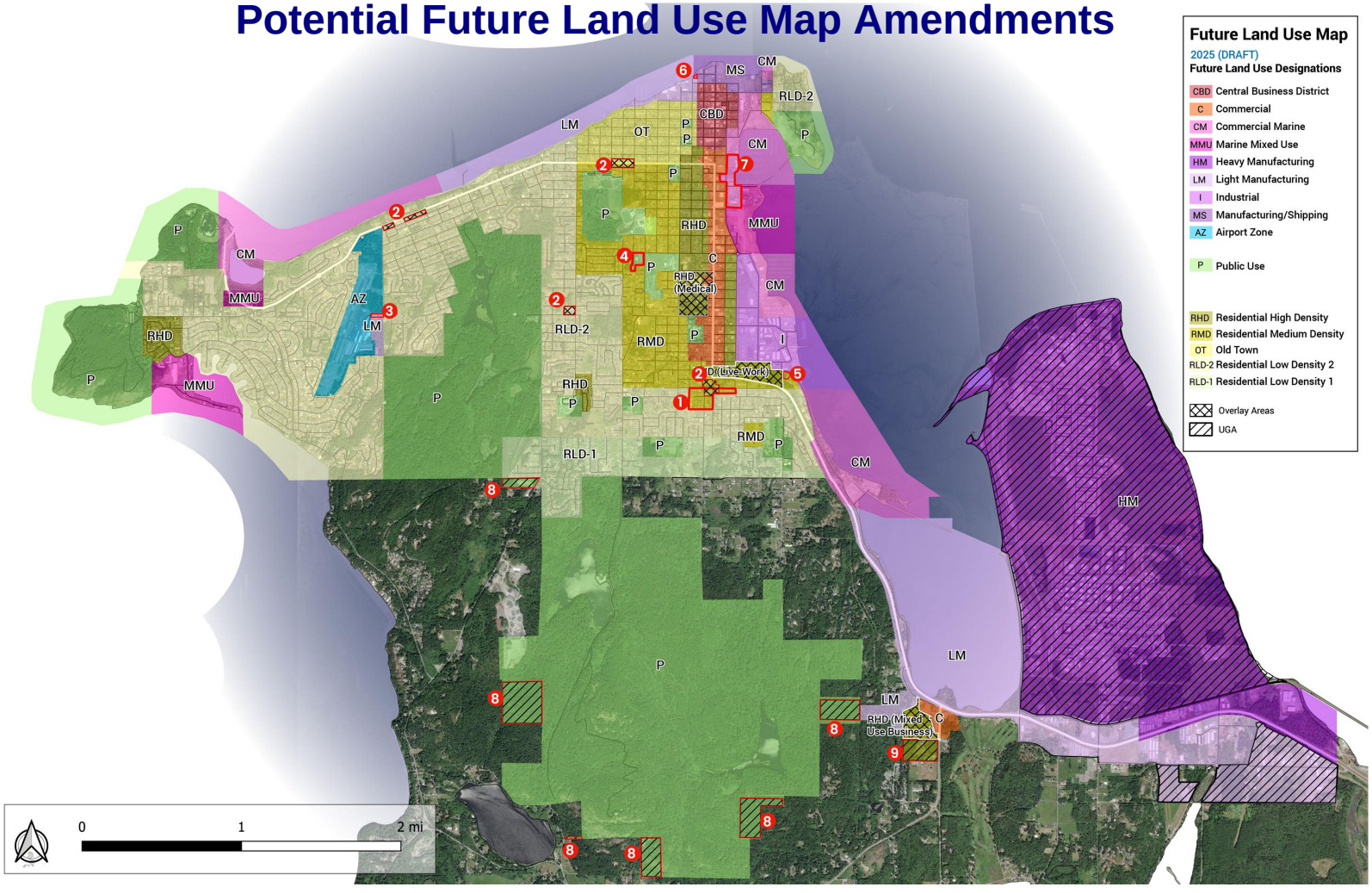
	The city-owned properties included in the UGA expansion request are adjacent to city limits, used for city purposes, primarily as recreation lands in the ACFL. The city manages these properties and it is important that permitting needs on the properties be managed comprehensively with other city-owned lands under the city's permitting systems. This makes for a cohesive, less complicated permitting process for city-managed lands and reduces the need for County staff to process permits on lands owned and managed by the city.
Analysis	See linked application documents.
Staff Recommendation	Recommend approval of the request

#9: Signal Hill UGA Expansion

Applicant	**Signal Hill Family Limited Partnership**
City File #	LEG-2024-11 (Resolution 3161, 2025 Docket)
	Link to application documents
Summary	Petition the County to add Skagit County Assessor parcel numbers P20014, P20013, and P19979 (approximately 19 acres) to the Anacortes Urban Growth Area.
Location	7442 Old Brook Lane (P20014) 7515 State Route 20 (P20013) 7503 State Route 20 (P19979)
Background	Signal Hill Family Limited Partnership (Signal Hill), the owners of parcels P20013, P20014 and P19979 have requested to include their large holding of property, which is adjacent to city limits, into the Anacortes UGA. Signal Hill requested that 132.17 acres be included in the UGA, but the Anacortes City Council did not find that most of the property is appropriate to be included in the UGA at this time, however, the Council did authorize the three aforementioned parcels, totaling approximately 17.8 acres be studied as potential lands to be included in the UGA. The 17.8 acres is adjacent to city-owned land in the Sharpe's Corner area of Anacortes. The city has completed a land capacity analysis (LCA) and under the existing zoning and the existing housing allocation, the city anticipates that it has adequate land to accommodate future housing needs. The impact of adding the 17.8 acres of Signal Hill property will allow for the property to be eligible to annex into the City of Anacortes. After annexation, the property would have the opportunity to redevelop the land from the existing land use (three single-family residences on roughly 17.8 acres) to higher density residential uses on the property as requested by the property owner. A capacity analysis based on the R4 zoning density allowances show that the 17.8 acres could accommodated between 126 units to 327 units, depending on the size of the buffers on two suspected wetlands on the property. Other constraints such as market factors, necessary paved areas and stormwater infrastructure could lower those figures further. The additional residential uses will have impacts on city services. The impacts to city services are not anticipated to strain city services because the city is planning to improve and expand these services to meet the anticipated population, housing and

	employment growth through 2045. However, the LCA indicates that the increased population, housing and employment between now and 2045 can be accommodated in the existing city limits and under the existing zoning designations. Therefore, no UGA expansion is necessary.
Analysis	See linked application documents.
Staff Recommendation	Recommend denial of the request.

Comprehensive Plan
Potential Future Land Use Map Amendments



1. Change from RLD-2 to RMD
2. Option 1 - neighborhood commercial overlay areas
   Option 2 - update use chart to allow more commercial uses
3. Parcel change from AZ to LM
4. Several parcels change from RMD to P
5. Several parcels change from I to RMD
6. Parcel change from LM to MS
7. Several parcels change from C and MMU, to CM
8. Add all unincorporated ACFL parcels to the UGA
9. Expand UGA to include Signal Hill properties

Descriptions of Potential Future Land Use Map (FLUM) Amendments

The following numbered descriptions correspond to the numbers on the map on the previous page.

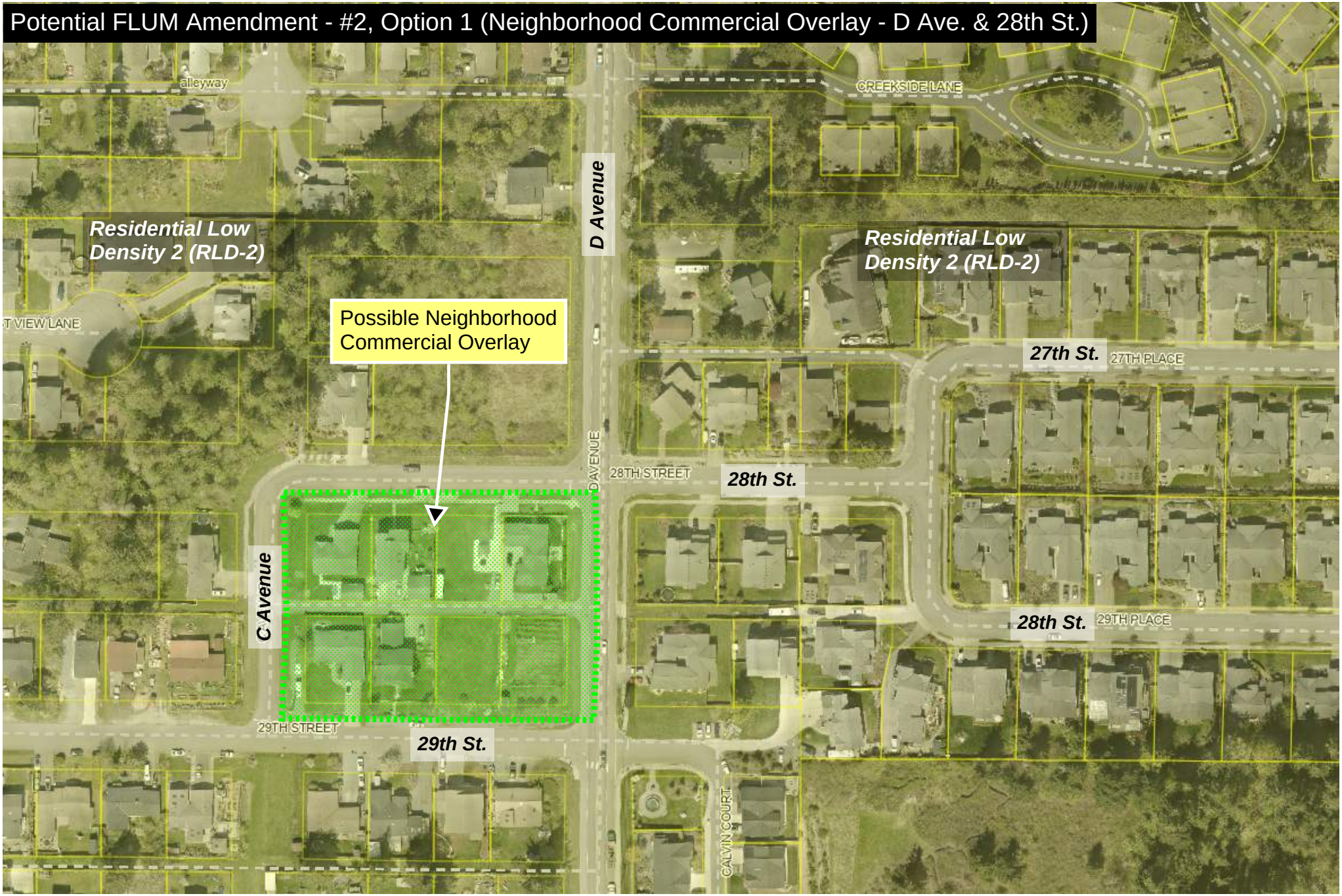
1. Change from Residential Low Density-2 (RLD-2) to Residential Medium Density (RMD) to create more housing options in a high opportunity area of the City. This change also supports H-1.7 *(provide for development of multifamily housing in areas close to shopping, employment, services and public transportation)* and Item #LEG-2024-08 *(provide more opportunities through zoning for more local services to be accessible within walking distance of residences),* as a neighborhood grocery store is in the center of the area, as well as a couple of vacant or partially used sites
2. These potential changes are intended to provide options for implementing current land use policy LU-6.5 – "Allow some compatible nonresidential uses in residential zones, such as appropriately scaled schools, neighborhood-scaled grocery stores, religious facilities, home occupations, parks, open spaces, and other uses that provide places for people to gather, senior centers and day care centers."
    - Option 1 – would add features to the Future Land Use Map (FLUM). Similar to other overlays symbolized on the current FLUM, additional "neighborhood commercial" overlays would be placed on the FLUM indicating areas with special allowances for small commercial uses. Uses that are currently allowed on these properties would continue to be allowed.
    - Option 2 – does not add any additional overlays to the FLUM and instead updates the allowed use chart in the zoning code to allow for more neighborhood-scale commercial uses.
3. Port of Anacortes - Requested land use designation change for 3 parcels near the airport from Aeronautical Zone (AZ) to Light Manufacturing (LM). (Res. 3161, LEG-2024-13).
4. Fidalgo Pool & Recreation District - Requested land use designation change for multiple parcels near the Fidalgo Pool from Residential Medium Density (RMD) to Public (P). (Res. 3161, LEG-2024-12).
5. Tom Skillings - Requested land use designation change of a portion of a parcel from Industrial to Residential Medium Density (RMD). (Res. 3161, 2021 Docket).
6. Port of Anacortes - Requested land use designation change of one parcel west of the terminus of 2nd St. from Light Manufacturing (LM) to Manufacturing and Shipping (MS). (Res. 3161, LEG-2024-15).
7. Port of Anacortes - Requested land use designation change of multiple parcels associated with the Cap Sante Marina from Commercial (C) and Marine Mixed Use (MMU) to Commercial Marine (CM). (Res. 3161, LEG-2024-14).
8. Add all unincorporated Anacortes Community Forest Land (ACFL) parcels to the UGA. (Res. 3161, LEG-2024-05).
9. Expand the UGA to include Signal Hill properties. (Res. 3161, LEG-2024-11).

Potential FLUM Amendment - #1 (37th & Commercial Ave.)
Residential Medium Density (RMD)
Residential High Density (RHD)
State Route 20 Spur
36th Street
N Avenue
Residential Medium Density (RMD)
37th Street
M Avenue
38th Street
Residential Low Density 2 (RLD-2)
Change from Residential Low Density 2 (RLD-2) to Residential Medium Density (RMD)
Commercial Avenue
Longview Avenue
Residential Low Density 2 (RLD-2)
O Avenue
Q Avenue
R Avenue
S Avenue
Fidalgo Avenue

Potential FLUM Amendment - #2, Option 1 (Neighborhood Commercial Overlay - 37th St. & Commercial Ave.)
Residential Medium Density (RMD)
Possible Neighborhood Commercial Overlay
Residential High Density (RHD)
State Route 20 Spur
36th Street
N Avenue
Residential Medium Density (RMD)
37th Street
37th Street
M Avenue
38th Street
Residential Low Density 2 (RLD-2)
COMMERCIAL AVENUE
LONGVIEW AVENUE
Longview Avenue
Residential Low Density 2 (RLD-2)
O Avenue
Commercial Avenue
Q Avenue
R Avenue
S Avenue
FIDALGO A
Fidalgo Avenue

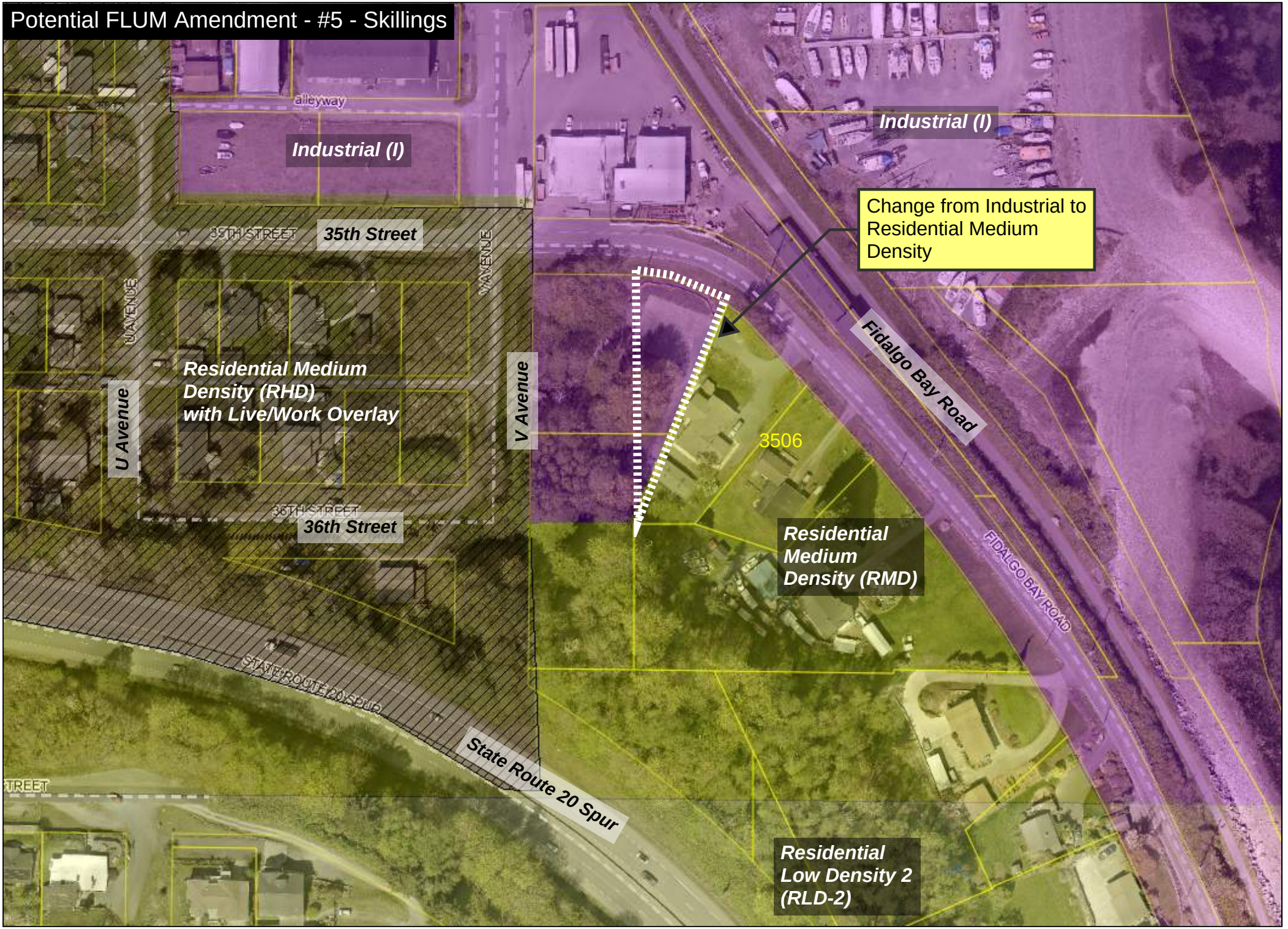
Potential FLUM Amendment - #2, Option 1 (Neighborhood Commercial Overlay - 12th Street & H Ave.)

Potential FLUM Amendment - #2, Option 1 (Neighborhood Commercial Overlay - Oakes Ave. & Anacopper Mine Rd.)
Guemes Channel
CM
Possible Neighborhood Commercial Overlay
Commercial Marine (CM)
Roadside Park
Oakes Avenue
Kansas Avenue
Jackson Avenue
West 2nd Street
West 3rd Street
Oakes View Lane
Minnesota Avenue
Anacopper Mine Rd.
Residential Low Density 2 (RLD-2)
Aeronautical Zone
Anacortes Airport
LEEWARD LANE
OAKES AVENUE
OAKES VIEW LANE
WEST 2ND STREET
ISLE WAY
COTTAGE PLACE
ANACOPPER MINE ROAD
MINNESOTA AVENUE
WEST 4TH STREET
KANSAS AVENUE

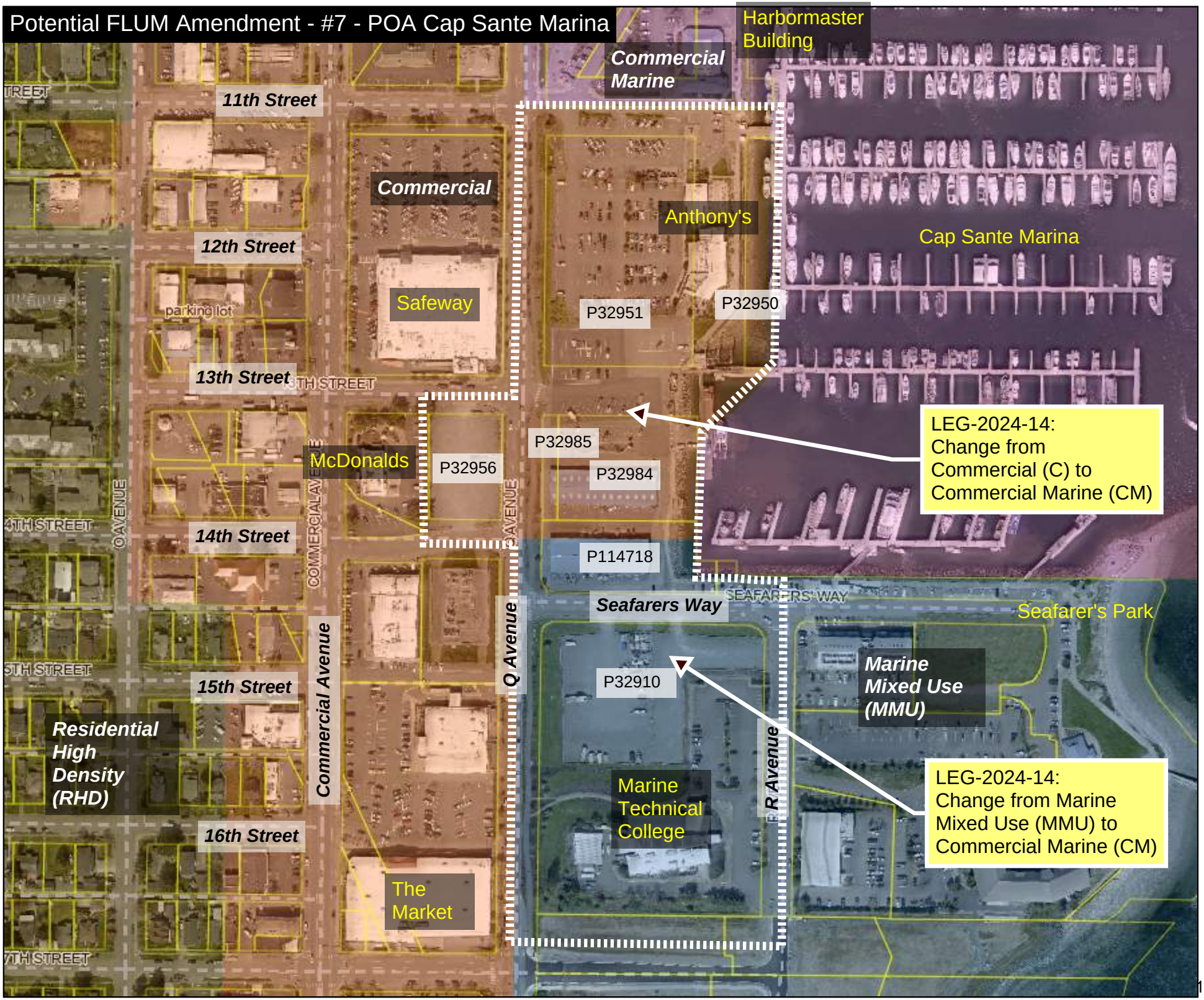

Potential FLUM Amendment - #2, Option 1 (Neighborhood Commercial Overlay - D Ave. & 28th St.)
alleyway
CREEKSIDE LANE
D Avenue
Residential Low Density 2 (RLD-2)
Residential Low Density 2 (RLD-2)
T VIEW LANE
Possible Neighborhood Commercial Overlay
27th St.
27TH PLACE
D AVENUE
28TH STREET
28th St.
C Avenue
28th St.
29TH PLACE
29TH STREET
29th St.
CALVIN COURT

Potential FLUM Amendment - #3 POA Airport
LEG-2024-13:
Change from
Aeronautical (AZ) to Light
Manufacturing (LM)
Anacopper Mine Rd.
ANACOPPER MINE ROAD
Residential
Low Density 2
(RLD-2)
P32372
Airport Rd.
AIRPORT ROAD
Pennsylvania Ct.
alleyway
Aeronautical
AZ
"Rockwell Property"
P32372
P32363
West 12th Street
P32361
Anacortes
Airport
P32362
Pennsylvania Avenue
PENNSYLVANIA AVENUE
OREGON AVENUE
Light
Manufacturing
(LM)
LM
Oregon Avenue

Potential FLUM Amendment - #4: Fidalgo Pool
Residential Medium Density (RMD)
Residential Medium Density (RMD)
22nd Street
Public
Fidalgo Pool
Anacortes Middle School
LEG-2024-12: Change from Residential Medium Density (RMD) to Public (P)
Senior Center
H Avenue
J Avenue
J Avenue
Residential Low Density 2 (RLD 2)
Island View Elementary School
22ND STREET
24TH STREET
24TH COURT
25TH H COURT
SLAND VIEW PLACE
RMD


Potential FLUM Amendment - #5 - Skillings
alleyway
Industrial (I)
Industrial (I)
35TH STREET
35th Street
Change from Industrial to Residential Medium Density
U AVENUE
V AVENUE
U Avenue
V Avenue
Residential Medium Density (RHD) with Live/Work Overlay
Fidalgo Bay Road
3506
36TH STREET
36th Street
Residential Medium Density (RMD)
FIDALGO BAY ROAD
STATE ROUTE 20 SPUR
State Route 20 Spur
Residential Low Density 2 (RLD-2)

Potential FLUM Amendment - #6 - POA Marine Terminal
Guemes Channel
Curtis Wharf
LEG-2024-15:
Change from Light Manufacturing (LM)
to Manufacturing & Shipping (MS)
Manufacturing &
Shipping (MS)
2nd Street
2ND STREET
Q'elech'ilhch
Park
O Avenue
N Avenue
3nd Street
3RD STREET
Trident
Seafoods
Light
Manufacturing
(LM)
Central
Business
District (CBD)


Potential FLUM Amendment - #7 - POA Cap Sante Marina
Harbormaster Building
Commercial Marine
11th Street
Commercial
12th Street
Anthony's
Cap Sante Marina
Safeway
parking lot
P32951
P32950
13th Street
P32985
McDonalds
P32956
P32984
LEG-2024-14: Change from Commercial (C) to Commercial Marine (CM)
14th Street
P114718
Seafarers Way
Seafarer's Park
15th Street
P32910
Marine Mixed Use (MMU)
Residential High Density (RHD)
Commercial Avenue
Q Avenue
R Avenue
Marine Technical College
LEG-2024-14: Change from Marine Mixed Use (MMU) to Commercial Marine (CM)
16th Street
The Market

Potential FLUM Amendment - #8 - City of Anacortes ACFL UGA Expansion Request
P32547
City Limits & UGA
SR 20 Spur
Fidalgo Bay
Heart Lake
LEG-2024-05
Add all city-owned ACFL parcels to the Urban Growth Area (UGA)
South Fidalgo Bay Road
Anacortes Community Forest Lands (ACFL)
P19056
P20029
Whistle Lake
SR 20 Spur
Mount Erie
P60751
P60752
P60763
P60777
Lake Erie
P19211
P19298

Potential FLUM Amendment - #9 - Signal Hill UGA expansion request
Light Manufacturing
Commercial
High Density Residential & Mixed Use Business Overlay
State Route 20
Fidalgo Bay
Current Anacortes Urban Growth Area (UGA) Boundary and City Limits
LEG-2024-11: Add these parcels to the Urban Growth Area
P20014
P20013
P19979
CEMETERYRD
State Route 20
MILLERRD

Land Use Designation Updates - Tracker

11/6/24 Planning Commission Recommended Changes

Land Use Designation Preliminary Amendment Proposals

The initial proposed changes are shown in ~~strike-through~~/underline format in the first column.

The Planning Commission reviewed the 1st draft proposed amendments at their September 25, October 2, October 9, and November 6 meetings. The Planning Commission's recommended changes are shown in the last column.

Table LU-1. Land use designations.

The allowed uses and densities noted herein are intended as a summary of key provisions to guide implementing zoning codes, and not as a complete description of all possible uses.

"Special topics to explore" are intended to document future potential considerations that may warrant additional review.

Land Use Designation 1st **draft** proposed changes shown in strike-through/underline format **below**)	**Implementing Zoning Designation**	**Rationale**	**PC Comments and/or recommended changes to the 1st draft**
Residential Low Density 1 Purpose: This designation provides for low density residential development in the southern end of the City that is inappropriate for more intensive urban development due to topography, the frequent presence of wetlands, the high cost and difficulty in extending public facilities, and the desire to create a lower intensity transitional area between the city and the surrounding unincorporated rural pasture, forest and agricultural land. Principal uses & density: Single-family detached dwellings are the predominant dwelling type. Other dwelling types, such as accessory dwellings and cottage housing, may be allowed under certain circumstances. The permitted base density is up to 2 dwelling units per gross acre. Densities up to 4 units per gross acre may be permitted via a special review process.	R1		Purpose: [no change] Principal uses & density: Single-family detached dwellings and accessory dwelling units are the predominant dwelling type. Other dwelling types, such as ~~accessory dwellings and~~ cottage housing, may be allowed under certain circumstances. The permitted base density is up to 2 dwelling units per gross acre. Densities up to 4 units per gross acre may be permitted via a special review process
Residential Low Density 2 Purpose: This designation provides for low density residential development in mostly established neighborhoods throughout the City. These areas are inappropriate for more intensive urban development due to ~~the established character of the area and/or due to~~ the area's separation from transit uses and commercial services. Principal uses & density: Single-family detached dwellings, accessory dwelling units, duplexes, and cottages are the predominant dwelling types. ~~Other dwelling types, such as duplexes, accessory dwellings and cottage housing may be allowed under certain circumstances.~~ The permitted density is between 4 and 8 dwelling units per ~~gross~~ acre~~, depending upon the established development pattern and character of the area.~~ ~~*Special topics to explore: Accommodate affordable housing and tiny houses (see Housing Element). Explore option for 6,000 sf lots where compatible with existing development (east of Anacopper Mine Rd.).*~~	R2, R2a	Updated to reflect changes made in 2019 to allow cottages in this designation. Duplexes in the R2 zone were changed from a conditional use to permitted outright in 2024 (Ord. 4070) Density measurement of du/acre would apply to new land divisions and cottages. Standards for calculating minimum and maximum permitted density are in AMC 19.42.100.	Purpose: This designation provides for low density residential development in mostly established neighborhoods throughout the City. These areas are inappropriate for more intensive urban development due to the established form and scale of existing lower density development ~~character of the area~~ and/or due to the area's separation from transit uses and commercial services. Principal uses & density: [no change from 1st draft]
Residential Medium Density Purpose: This designation provides for moderate density residential neighborhoods on lands that are suitable for urban development. These areas are conveniently located in relation to traffic routes, public utilities and community facilities. Principal uses & density: Single-family detached dwellings, accessory dwelling units, cottages, duplexes, triplexes, and townhomes are the predominant dwelling types. Other dwelling types, such as fourplexes~~accessory dwellings, cottage housing,~~ and low density multi-family may be allowed under certain	R3 ~~R3a~~	Duplexes, triplexes, fourplexes, and townhomes up to 4 units are allowed by right in RMD zones. Density measurement of du/acre would only apply to new land divisions. Standards for calculating minimum and maximum permitted density are in AMC 19.42.100.	No PC comments.

Land Use Designation 1st draft proposed changes shown in strike-through/underline format **below**)	Implementing Zoning Designation	Rationale	PC Comments and/or recommended changes to the 1st draft
circumstances. The permitted density is 7-14 dwelling units per ~~gross~~ acre~~, depending on the particular housing types used and established development pattern and character of the area~~. ~~*Special topics to explore: Accommodate tiny houses (see Housing Element), reduce minimum lot size to 4,500 sf, and explore option for 3,000 sf lots where consistent with historic plats. Consider uses that provide neighborhood gathering places.*~~			
Old Town Purpose: This designation recognizes the unique heritage~~,~~ and scale~~, and character~~ of the oldest residential area of the city by establishing standards to maintain the scale ~~and character~~ of the area. Principal uses & density: Single-family detached dwellings, accessory dwelling units, and duplexes are the predominant dwelling type. Other dwelling types such as ~~accessory dwellings and duplexes,~~ cottages, triplexes, and townhomes may be allowed under certain circumstances. The permitted density is 7-14 dwelling units per ~~gross~~ acre~~, depending on the particular housing types used and established development pattern and character of the area~~.	OT	The Racially Disparate Impacts (RDI) analysis and Department of Commerce guidance recommend moving away from the term "character" when possible, as it is a vague term that historically has been used to exclude people of color from certain neighborhoods and cities. Duplexes are permitted outright and are subject to special Old Town design standards and the duplex design standards established in 2019. Allowing cottages, triplexes, and townhomes 'under certain circumstances' complements new proposed revisions to housing goals and policies to allow for the next increment of housing throughout Anacortes neighborhoods to promote organic change over time.	No PC comments.
Residential High Density Purpose: This designation provides for urbanized areas with a mixture of multifamily dwelling units that are within walking distance of public transit and commercial/employment areas and/or community facilities. This designation creates a transition from high intensity uses, such as commercial or industrial development, to lower intensity residential areas. Principal uses & density: A mixture of ~~single and~~ multifamily dwelling units. Some commercial uses may be permitted~~.~~. A minimum density of 15 du/acre applies to development of ~~all~~ lots 6,000 square feet or more in size ~~There is no prescribed density limit, except in designated areas away from downtown and South Commercial Avenue (up to 18 dwelling units per gross acre)~~. ~~*Special topics to explore: Consider adopting density minimums for new development; and consider uses that provide neighborhood gathering places.*~~	R4 R4a	The HAP recommends consideration of prohibiting new large-lot single family uses in Medium and High-Density designations to promote more efficient use of the limited areas zoned for higher density housing types. A minimum density standard for new development of lots exceeding a certain size could accomplish similar results without completely prohibiting new SF development on existing smaller lots. About 25% of the parcels in the R4 zone are less than 6,000 square feet. Therefore, a minimum density that applies to lots 6,000 sf or more is intended to ensure multifamily and townhouse development happen in the majority of RHD zones.	No PC comments.
Central Business District Purpose: This designation has been applied to the existing downtown commercial district in Anacortes. The purpose of the district is to reinforce downtown as the center of commercial, civic, and cultural activities within the city. Downtown is expected to accommodate new development while reinforcing and enhancing its historic pedestrian-friendly character and scale. Principal uses & density: A broad mix of commercial, retail, professional office, civic and cultural, and residential uses. Active uses are required on the ground floor along Commercial Avenue and key side streets. Multi-story buildings and a mixture of uses are encouraged. New residential uses must feature transit-supportive densities (at least 15 dwelling units per gross acre). *Special topics to explore: Consider concept of a transitional zone or related land use and development standards provisions along the east side of Q Avenue.*	CBD		No PC comments.

Land Use Designation 1st **draft** proposed changes shown in strike-through/underline format **below**)	**Implementing Zoning Designation**	**Rationale**	**PC Comments and/or recommended changes to the 1st draft**
Commercial Purpose: This designation provides for a wide variety of general service, retail, commercial, and mixed-uses that serves local and regional residents and the traveling public. Principal uses & density: A wide variety of general service, retail commercial, and professional office uses. Multifamily uses are encouraged on upper floors along South Commercial Avenue and are allowed on certain side streets. New residential uses must feature transit-supportive densities (at least 15 dwelling units per gross acre).	C		No PC comments.
Marine Mixed-Use Purpose: This designation provides for a special mix of commercial, cultural, recreational, and residential uses in a high amenity area along the waterfront or with special waterfront relationship. The design of uses is intended to emphasize the unique marine setting by providing marine access and views from public spaces and establishing/maintaining a pedestrian-friendly character. Principal uses & density: The primary uses are commercial, hospitality, cultural, and recreational uses. Residential uses are encouraged in mixed-use structures and allowed in single purpose structures provided developments include a horizontal mix of uses. Multi-story buildings are encouraged provided they are designed and oriented to provide public marine views and integrate human-scaled design details. New residential uses must feature transit-supportive densities (at least 15 units/acre).	MMU		No PC comments.
Commercial Marine Purpose: This designation is established in recognition of the unique and irreplaceable nature of certain marine sites in Anacortes and provides for a marine-oriented uses and commercial and industrial enterprises where orientation to navigable waterways and the tourism trade is of primary importance. Principal uses & density: Marine-oriented commercial, recreational, and industrial uses. Tourism uses building on marine access and views are encouraged. Retail uses are limited to small scale establishments in support of primary uses. Large and multi-story buildings are allowed provided they are designed and oriented to provide public marine views.	CM, ~~CM1,~~ CM2	The CM1 zone was eliminated with the 2019 development regulation updates.	No PC comments.
Light Manufacturing Purpose: This designation provides for a mix of industrial structures and uses, service commercial uses and limited retail uses that minimize external visual or physical impacts on adjacent properties and generally do not compete with uses in the CBD and C zones. Principal uses & density: General service and light industrial uses that can be operated in a relatively clean, quiet, and safe manner compatible with adjoining uses. Retail and office uses are limited in scale or type to avoid competition with uses in the CBD and C zones.	LM, LM1		No PC comments.
Manufacturing & Shipping Purpose: This designation provides for manufacturing and shipping uses that can utilize the deep waters of the Guemes Channel. Principal uses & density: Marine oriented manufacturing and shipping uses plus complementary support uses. *Special topics to explore: Consider concept of a transitional zone or related land use and development standards provisions for the area between T and U Avenues north of 4th Street.*	MS		No PC comments.
Industrial Purpose: This designation provides for manufacturing and closely related uses in areas with existing industrial uses or other areas with suitable land and transportation access that are buffered from residential and other uses that are likely to complain about industrial activities.	I		No PC comments.

Land Use Designation 1st draft proposed changes shown in strike-through/underline format **below**)	Implementing Zoning Designation	Rationale	PC Comments and/or recommended changes to the 1st draft
Principal uses & density: Industrial, research and development, repair, warehouse, shipping terminals that minimize external impacts to adjacent districts, and accessory uses. *Special topics to explore: Refine use, design, bulk and dimensional standards to promote desired development.*			
Heavy Manufacturing Purpose: This designation provides for heavy manufacturing and closely related uses in the March Point area. Principal uses & density: Industrial, research and development, repair, warehouse, shipping terminals and related uses whose production process creates a potential hazard or nuisance to adjacent uses.	HM		No PC comments.
Public Use Purpose: This designation is to allow for common public uses where the need arises and uses will not create a nuisance or interfere with existing uses. Principal uses & density: Public parks and recreation facilities, open space, public green space, single family residences under certain circumstances, schools, and other public facilities. Green space is defined as an area of land, vegetated by natural features such as grass, trees, or shrubs, within an urban context and less than one acre in size that creates public value through promoting physical and mental health, providing relief from urban heat, protecting streams or water supply, or enhancing visual quality along a highway, road, or street.	P	GMA requires that the land use element designate the proposed general distribution and location and extent of certain public land uses, including public utilities, public facilities, recreation, and open spaces. HB 1181 added 'green space' and 'urban and community forests' into the list of uses of land that must be designated. Green space is proposed to be included in the Public designation.	No PC comments.
*See note re: Urban and community forests in the right-hand column.			*A map designating the proposed general distribution, location and extent of green space and urban and community forest consistent with the new Climate legislation is being developed and will be available for review at a future date.
Aeronautical Zone Purpose: This designation provides for the Anacortes Airport and associated uses. Principal uses & density: Airport and aeronautical related uses.	AZ		No PC comments.

Table LU-2. Overlay designations

Some areas within the city have unique characteristics, special land uses and/or land use objectives that call for an overlay that would apply in addition to the base land use designation.

Special Land Use Overlays (initial proposed changes shown in strike-through/underline format)	**Implementing Zoning Designation**	**Rationale**	**PC comments and/or recommended change to the 1st draft**
Medical Overlay Purpose: This overlay designation provides for coordinated expansion of Island Hospital and growth of medical support uses in the immediate vicinity while minimizing the impacts on surrounding residential uses. Principal uses & density: Hospitals and medical clinics in addition to permitted uses in the underlying zoning district. Uses are subject to height, density and other development standards in the underlying zone, unless modified by the overlay standards. ~~*Special topics to explore: Refine overlay boundary, use provisions, and height provisions.*~~	MED-O		No PC comments.
Live/Work Overlay Purpose: This overlay designation provides the opportunity to combine living and working spaces in individual units, provided the scale and impact of such non-residential uses is limited. This designation is appropriate for select R-3 and R-4 zones that are adjacent to commercial or manufacturing zones. Principal uses & density: Small scale retail, commercial, and manufacturing uses are allowed if combined with a permitted use in the base zoning district. Subject non-residential activities shall be conducted indoors and external impacts minimized. Limited outdoor storage and sales may be allowed on a case by case basis provided measures are taken to minimize external impacts.	LW-O		No PC comments.
Mixed-Use Business Overlay Purpose: This overlay designation provides the opportunity to integrate non-residential uses together with residential uses. Such uses shall be limited to those uses that minimize external or physical impacts on residential uses. This designation is appropriate for select R-2, R-3, and R-4 zones ~~that are adjacent to commercial or manufacturing zones~~. Principal uses & density: Professional office, institutional, educational, and small scale retail in addition to permitted uses in the underlying district. Non-residential activities shall be conducted indoors and external impacts minimized. *Special topics to explore: Refine overlay boundary, use provisions, and height provisions.*	MUB-O	Looking for ways to support current land use policy LU-6.5 – "Allow some compatible nonresidential uses in residential zones, such as appropriately scaled schools, neighborhood-scaled grocery stores, religious facilities, home occupations, parks, open spaces, and other uses that provide places for people to gather, senior centers and day care centers." The current "mixed-use business overlay" could be adjusted and updated to apply in more areas or new neighborhood commercial overlays.	No PC comments.

Anacortes Comprehensive Plan Update

Land Use Goals and Policies Tracker

DRAFT September 18, 2024

11/6/24 Planning Commission Recommended Changes Version

The Planning Commission reviewed the 1st draft proposed amendments at their September 25, October 2, October 9, and November 6 meetings. The Planning Commission's recommended changes to the 1st draft, if any, are shown in the last column.

Introduction

This goals and policies tracker reviews the Land Use element of the 2016 Anacortes Comprehensive Plan in support of the 2025 periodic update. MAKERS is providing comments, considerations, and recommendations for updating goals and policies. Further updates and additions will be added to the Land Use element to meet climate element requirements and better connect policies that are both land use and climate related.

Some frequent abbreviations used in this audit:

AMC = Anacortes Municipal Code
GMA = Growth Management Act
HAP = Housing Action Plan
RDI = Racially disparate impacts
SMP = Shoreline Management Program

Land Use Element

Goals and Policies

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Goal LU-1	**1**	**Land Use Pattern. Establish a development pattern consistent with the community's vision.**			No PC comments.
Policy LU-1.1	1	Designate the general distribution, location and extent of the uses of land for housing, commerce, recreation, open spaces, public utilities and facilities, and other land uses.	Designate the general distribution, location and extent of the uses of land for housing, commerce, recreation, open spaces, green spaces, urban and community forests, public utilities and facilities, and other land uses	Updates to the Growth Management Act (GMA) under HB 1181 (passed in 2023) updates the requirements for types of lands cities must designate in their comprehensive plan. See RCW 36.70A.070(1).	No PC comments.
Policy LU-1.2	1	Establish land use designations, densities and intensities as shown in Table LU-1.			No PC comments.
Policy LU-1.3	1	Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Future Land Use Map (see Figure LU-1).			No PC comments.
Policy LU-1.4	1	Implement land use designations through a clear regulatory process that ensures transparency, fairness and predictability in the land development process.			No PC comments.
Policy LU-1.5	1	Review and reconcile the inconsistencies between zoning, shoreline designation and actual land uses along the Guemes Channel shoreline between Lovric's marina and Old Town area, as well as possible re-use of existing historic overwater structures in that area in a manner that minimizes impacts on the adjoining residential area on the uplands.	[Move under Goal LU-8]	This is a very specific policy compared to the general nature of other policies under Goal LU-1. This can better fit under Goal LU-8 which provides waterfront policies. The policy could potentially be removed when the Anacortes Shoreline Master Program (SMP) is updated.	No PC comments.
N/A			**New Policy:** Annually review zoning regulations to ensure continued compliance with changes in state law, including but not limited to the Growth Management Act and the State Environmental Policy Act.	The Legislature has shown an interest in frequent GMA amendments, particularly affecting housing.	No PC comments.
Goal LU-2	**9**	**Community Design. Promote compatible pedestrian-oriented development that respects Anacortes's historic character and small town scale while strengthening its unique marine identity.**	**Community Design. Promote compatible pedestrian-oriented development that respects Anacortes's historic qualities~~character~~ and small town scale while strengthening its unique marine identity.**	The Racially Disparate Impact (RDI) analysis and Department of Commerce guidance recommend moving away from the term "character" when possible, as it is a vague term that historically has been used to exclude people of color from certain neighborhoods and cities.	No PC comments.
Policy LU-2.1	9	Adopt and administer user-friendly design standards and guidelines for commercial and multifamily development that emphasize the concepts below.	Maintain~~Adopt and administer~~ user-friendly and objective design standards ~~and guidelines~~ for commercial and multifamily development that emphasize the concepts below. Periodically	Much of this policy was implemented in the 2019 development regulations update. Updated to emphasize design	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		Evaluate the effectiveness of adopted standards and guidelines over time and make adjustments as necessary to achieve community design goals and policies. A. Employ site and building design techniques that promote safe and inviting pedestrian access and connections, particularly public access to and along the waterfront. B. Provide building massing standards that respect the character and scale of Anacortes's business districts and residential neighborhoods. C. Place an emphasis on human-scaled design details that contribute to the City's character and identity. D. Promote the use of high quality durable materials that respect the site's historic context and enhance the City's maritime character. E. Promote design that takes advantage of special vistas, particularly marine views from public spaces. F. Encourage the use of landscaping elements as a defining feature of Anacortes's character. G. Develop special standards and guidelines for large site development that incorporate open space and landscaping as a unifying element, provide a connected system of pathways, integrate safe internal vehicular circulation, demonstrate sensitivity to the surrounding context, and take advantage of special on-site and nearby features. E. Integrate opportunities for flexibility in the design guidelines by allowing multiple ways of achieving standards and allowing strategic design departures provided the project meets the design intent.	~~E~~evaluate the effectiveness of adopted standards in response to built outcomes and community feedback~~and guidelines over time and make adjustments as necessary to achieve community design goals and policies~~. A. Employ site and building design techniques that promote safe and inviting pedestrian access and connections, particularly public access to and along the waterfront. B. Provide building massing standards that are compatible with ~~respect the character and scale of~~ Anacortes's business districts and residential neighborhoods. C. Place an emphasis on human-scaled design details that contribute to the City's ~~character and~~ identity. D. Promote the use of high quality durable materials that respect the site's historic context and enhance the City's maritime character. E. Promote design that takes advantage of special vistas, particularly marine views from public spaces. F. Encourage the use of landscaping elements for visual buffering, wildlife habitat, stormwater management, and other benefits. ~~as a defining feature of Anacortes's character~~. G. ~~Develop~~ Provide special standards ~~and guidelines~~ for large site development that incorporate open space and landscaping as a unifying element, provide a connected system of pathways, integrate safe internal vehicular circulation, demonstrate sensitivity to the surrounding context, and take advantage of special on-site and nearby features. E. Integrate opportunities for ~~flexibility in the design guidelines by allowing multiple ways of achieving standards and allowing~~ strategic design departures provided the project meets the design intent.	standards should be maintained, take out the reference "guidelines" which are not used, and reference "objective" design standards under new state law RCW 36.70A.630. Also limit the use of "character," as recommended by the RDI analysis.	
Policy LU-2.2	9	Design public facilities to support and strengthen Anacortes's community character and identity. A. Recognize that the character of public rights-of-way play a role in determining community character. Wherever feasible, promote complete streets and incorporate streetscape improvements, such as wayfinding signs, lighting, public art, enhanced landscaping and street furniture, to enhance community character. B. Recognize, maintain, and enhance community entry and gateway sites to enhance Anacortes's distinct maritime character and setting. C. Design public facilities to serve as a model of architectural and site design for private development in the city through use of quality building materials, human scale detailing, design character, and landscape materials. D. Locate and design public spaces that reflect and enhance Anacortes's character and function as welcoming formal and informal gathering spaces.	Design public facilities to support and strengthen Anacortes's community character and identity. A. Recognize that the character of public rights-of-way play a role in ~~determining community character.~~ showcasing community design and civic pride. Wherever feasible, promote complete streets and incorporate streetscape improvements, such as wayfinding signs, lighting, public art, enhanced landscaping and street furniture~~, to enhance community character.~~. B. Incorporate consideration of physical health and well-being into the location and design of public facilities ~~B~~C. Recognize, maintain, and enhance community entry and gateway sites to enhance Anacortes's distinct maritime character and setting. D~~C~~. Design public facilities to serve as a model of architectural and site design for private development in the city through use of quality building materials, human scale detailing, sustainable building design ~~character~~, and landscape materials. E~~D~~. Locate and design public spaces that ~~reflect and~~ enhance the public experience of Anacortes~~'s character~~ and function as welcoming formal and informal gathering spaces.	Updated to limit the use of "character," as recommended by the RDI analysis. New sub-policy B, and edited sub-policy D, is relocated from Policy LU-4.5.	Design public facilities to support and strengthen Anacortes's community ~~character and~~ identity. [*no other changes from 1st draft*]

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Goal LU-3.	**10**	**Historic Preservation. Protect, preserve, and celebrate Anacortes's historic, cultural, and archeological resources.**			No PC comments.
Policy LU-3.1	10	Support continued efforts by the Anacortes Historic Preservation Board (AHPB) in administering the City's historic preservation program. This includes identifying, evaluating, protecting, and enhancing historic properties.			No PC comments.
Policy LU-3.2	10	Craft and maintain zoning regulations to balance the need to accommodate anticipated growth while preserving the City's historic resources and character. Consider techniques to integrate incentives and/or site design flexibility for preservation and/or reuse of historic structures.	~~Craft and m~~Maintain zoning regulations to balance the need to accommodate anticipated growth while preserving the City's historic resources ~~and character~~. Consider techniques to integrate incentives and/or site design flexibility for preservation and/or reuse of historic structures.	The 2019 development regulations update included design standards that partially implemented this, so the recommendation is to adjust language to maintain because such regulations have been crafted. Other ideas could be inserted into this policy such as air rights swaps, density bonuses for structure or façade preservation, etc.	~~Craft and m~~Maintain zoning regulations to balance the need to accommodate anticipated growth while preserving the City's historic and cultural resources ~~and character~~. Consider techniques to integrate incentives and/or site design flexibility for preservation and/or reuse of historic structures.
Policy LU-3.3	10	Adopt design standards and guidelines that provide guidance on preserving, rehabilitating, reconstructing, or adding to designated historic and other older structures within the Central Business District, Old Town, and other applicable areas. The standards and guidelines should also provide guidance to the design of new construction in historical settings so that such buildings are respectful of the historic context while discouraging designs that promote a false sense of historicism.	~~Adopt design standards and guidelines that provide guidance on preserving, rehabilitating, reconstructing, or adding to designated historic and other older structures within the Central Business District, Old Town, and other applicable areas. The standards and guidelines should also provide guidance to the design of new construction in historical settings so that such buildings are respectful of the historic context while discouraging designs that promote a false sense of historicism.~~	Removing this policy because the policy has not been implemented and there appears to be limited staff and budget capacity to do so. Anacortes can continue relying upon the new commercial and residential design standards (such as Chapters 19.43 and 19.63 AMC) which address issues that touch upon historic design features such as residential porches, location of parking, commercial storefronts and building materials, etc. The local Historic Preservation Board and the Washington State Department of Archaeology and Historic Preservation also provide guidance on design for historic buildings.	No PC comments.
Policy LU-3.4	10	Participate in regional efforts to identify and preserve historic and cultural sites.	Participate in State and Tribal government ~~regional~~ efforts to identify and preserve historic and cultural sites.	This policy is vague, as there is no known effort for this occurring at the regional (county) scale. It should refer to State and tribal government efforts instead.	No PC comments.
Policy LU-3.5	10	Acquire historical or cultural resources when feasible. Consider cost sharing for acquisition, lease, or maintenance with other public or private agencies or governments.	The city of Anacortes ~~A~~acquires historical or cultural resources when feasible. Consider cost sharing for acquisition, lease, or maintenance with other public or private agencies or governments.	Update is meant to clarify that the City government should acquire such resources.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Policy LU-3.6	10	Incorporate interpretive signage, historic street names and features reflecting original historic designs into park projects, transportation projects, and buildings when feasible, as a means of commemorating past events, persons of note, and City history.			No PC comments.
Policy LU-3.7	10	Provide assistance to developers, landowners, and interested citizens in obtaining grants and tax incentives for the reuse and rehabilitation of designated historic sites and buildings.	Provide assistance to developers, landowners, and interested citizens in obtaining grants and tax incentives for the reuse and rehabilitation of designated historic sites and buildings, through the use of resources like the Anacortes Museum, the local Historic Preservation Board, and the Downtown Anacortes Alliance.	Update is meant to note that the Anacortes Museum, the local Historic Preservation Board, and the new Downtown Anacortes Alliance are good resources.	No PC comments.
			New Policy: Adopt enforceable development regulations which designate heritage buildings and prohibit demolition by neglect.	Directed by City Council Resolution 3161, item ~~A-10~~LEG-2024-10.	No PC comments.
Goal LU-4	**10**	**Resource protection & sustainable design. Maintain and enhance Anacortes's robust environmental stewardship.**		Note: - This goal and policies have some overlap with the goals/policies in the Environment and Conservation Element. These will be reviewed again for consistency and opportunities to consolidate at a future date.	No PC comments.
Policy LU-4.1	10	Maintain and strengthen regulations to protect sensitive natural areas and pursue strategies/actions to restore degraded natural areas.			No PC comments.
Policy LU-4.2	10	Update development regulations to emphasize sustainable design in new developments, including forms of Low Impact Development.	Update development regulations to emphasize sustainable design of buildings, landscapes, streets, stormwater systems, and other elements ~~in~~ of new developments. This can include~~, including~~ forms of Low Impact Development, green building rating systems, renewable energy, and multimodal transportation.	Low Impact Development (LID) is stated as the city's preferred approach in the stormwater regulations under AMC 19.76.010, and it is encouraged for street design under AMC 19.52.010. This policy can be updated to be more specific about landscaping and building design, which do not have as much reference in the code.	No PC comments.
Policy LU-4.3	10	Encourage retrofits to existing development and infrastructure to reduce environmental impact. Explore providing incentives to residents and businesses that improve building energy performance and/or incorporate onsite renewable energy.	Encourage retrofits to existing development and infrastructure to reduce environmental impact. Explore providing incentives to residents and businesses that improve building energy performance, ~~and/or~~ incorporate onsite renewable energy, reduce indoor and outdoor water use, reduce untreated stormwater runoff, and support multimodal transportation.	This policy adds examples of other types of outcomes that can explored.	No PC comments.
Policy LU-4.4	11	Develop policies and prescriptive designs to encourage property owners to landscape unimproved right-of-way with functional Low Impact Development features (e.g..,			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		bioswale, raingarden) or for use as private food gardens.			
Policy LU-4.5	11	Emphasize sustainable design/practice in public improvements and in the design/use of public facilities and events. Key elements: - Update public works standards, as necessary, to emphasize best practice sustainable design/practice. - Incorporate consideration of physical health and well-being into the location and design of public facilities	~~Emphasize sustainable design/practice in public improvements and in the design/use of public facilities and events.~~ ~~Key elements:~~ ~~Update public works standards, as necessary, to emphasize best practice sustainable design/practice.~~ ~~Incorporate consideration of physical health and well-being into the location and design of public facilities.~~	Removal suggested because it is an opportunity to combine/consolidate with Policy LU-2.2 above.	No PC comments.
Policy LU-4.6	11	Explore the feasibility of an incentive zoning/development credit program. For example, under such program, developers could have an option to purchase additional density credits or other zoning code flexibility. Funds from this purchase could go towards purchasing land or the development rights from property owners in sensitive natural/rural areas or toward some other public benefit.	Explore the feasibility of an incentive zoning/development credit program. For example, under such program, developers could have an option to purchase additional density credits or other zoning code flexibility. Funds from this purchase could go towards purchasing land or the development rights from historic properties, environmentally sensitive areas, rural resource lands, or toward some other public benefit. ~~property owners in sensitive natural/rural areas or toward some other public benefit.~~	Transfer of development (TDR) rights programs for natural/rural areas protection have proved to be largely infeasible, especially in smaller markets outside of major metropolitan regions. However, this policy seems to contemplate something different or additional to TDR programs. Some more specificity is also suggested.	No PC comments.
Policy LU-4.7	11	Establish resource protection and sustainability goals, monitor development to track success in meeting those goals, and refine the implementation strategy as needed to help meet goals.	Establish ~~resource protection and sustainability goals~~ a monitoring and adaptive management program to increase fairness, transparency, and improved ecological outcomes for critical areas protection. ~~, monitor development to track success in meeting those goals, and refine the implementation strategy as needed to help meet goals.~~	Updated to provide more specific direction. Monitoring and adaptive management is encouraged in WAC 365-195-905(6) to improve implementation of critical areas regulations.	No PC comments.
Goal LU-5	**11**	**Community Gathering Space. Preserve and develop inviting and distinctive gathering spaces, with the greatest emphasis in Downtown and commercial areas.**			No PC comments.
Policy LU-5.1	11	Maintain and extend the Guemes Channel Trail and waterfront esplanades integrating community gathering spots at strategic locations along the trail corridor.	Maintain and extend the Guemes Channel Trail and waterfront esplanades integrating community gathering spots at strategic locations along the trail corridor. Require development adjacent to the trail to help complete the trail (such as with improvement dedications, easements, or fee-in-lieu) and provide public access to the water.	This project is still in progress. The City is working toward obtaining easements, and plans to conduct an environmental impact statement for the remaining portion of trail planning/construction. The policy should be updated to make the nexus to Land Use more apparent.	No PC comments.
Policy LU-5.2	11	Adopt development regulations that encourage the integration of usable public open space in commercial and mixed-use areas.	Maintain~~Adopt~~ development regulations that encourage the integration of usable public open space in commercial and mixed-use areas.	This policy was achieved in the 2019 development regulations update. Suggest updating to say "maintain."	No PC comments.
Policy LU-5.3	11	Maintain and enhance streetscape design standards that enable safe access for all users and enhance character and identity of the City.	Maintain and enhance streetscape design standards that enable safe access for all users and enhance public experience~~character and identity~~ of the City.	This policy was achieved in the 2019 development regulations update, primarily Title 19 Article 5. Updated to limit the use of "character," as recommended by the RDI analysis.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Policy LU-5.4	11	Pursue strategic public/private partnerships with large developments to leverage high quality public space integrated with new development.			No PC comments.
Policy LU-5.5	11	Continue to encourage public participation in the design of public spaces throughout the City.			No PC comments.
Goal LU-6	**11**	**Residential uses. Preserve and enhance the quality, character and function of Anacortes's residential neighborhoods.**	**Residential uses. Preserve and enhance the quality ~~, character~~ and function of Anacortes's residential neighborhoods.**	Updated to limit the use of "character," as recommended by the RDI analysis.	No PC comments.
Policy LU-6.1	12	Provide for a wide variety of housing types within the city to meet the full range of housing needs for Anacortes's evolving population.			
	12	A. Accessory dwelling units (ADU). Allow for attached and detached ADU's in all residential districts provided size, design, and other provisions are included to promote compatibility with surrounding uses.	A. Accessory dwelling units (ADU). ~~-~~Allow for attached and detached ADU~~'~~s on all lots that allow for single-family homes. ~~in all residential districts~~. Provide ~~provided~~ size, design, and other ~~provisions~~standards which are compliant with state law.~~included to promote compatibility with surrounding uses~~.	Revised to de-emphasize "compatibility" given new state law (RCW 36.70A.681) that restricts the types of design standards and other regulations that may be imposed on ADUs.	
	12	B. Small lot single family. Allow for small lot single family development (lots smaller than 5,000 square feet) in the R3 zone provided design provisions that emphasize a pedestrian-oriented design and the inclusion of usable open space are included.	B. Small lot single family. Allow for small lot single family development (lots smaller than 5,000 square feet) in ~~the~~ medium density residential zones. Maintain design standards ~~R3 zone provided design provisions~~ that emphasize a pedestrian-oriented design and the inclusion of usable open space ~~are included~~.	This R3-specific policy was achieved in the 2019 development regulation update. Suggest updating to say "maintain." Other rewording for ease of reading.	B. Small lot single family. Allow for small lot single family development (lots smaller than 5,000 square feet) in the ~~medium density residential zones.~~ Residential Medium Density and Old Town zones. Maintain design standards ~~R3 zone provided design provisions~~ that emphasize a pedestrian-oriented design and the inclusion of usable open space ~~are included~~.
	12	C. Cottage housing. Encourage the development of cottage housing (a cluster of small homes around a common open space) in single family zones as an increasingly popular housing type, provided special design provisions are included to ensure a pedestrian-oriented design, inclusion of common open space, and strict cottage size limitations.	C. Cottage housing. Encourage the development of cottage housing (a cluster of small homes around a common open space), including attached cottages, in most residential zones ~~single family zones as an increasingly popular housing type~~ ., Maintain~~provided special~~ design ~~provisions~~ standards ~~are included to~~ that ensure a pedestrian-oriented design, inclusion of common open space, and ~~strict~~ cottage size limitations.	This policy was generally achieved in the 2019 development regulation update. Suggest updating to say "maintain" and incorporate some 2-2023 HAP recommendations. Other rewording for ease of reading.	
	12	D. Duplexes & triplexes. Encourage these housing types in the R3 and R4 zones provided design provisions that emphasize a pedestrian-oriented design and the inclusion of usable open space are included.	D. Duplexes & triplexes. Encourage these housing types in the low and medium density residential zones. ~~R3 and R4 zones.~~ Maintain~~provided~~ design ~~provisions~~ standards that emphasize a pedestrian-oriented design and the inclusion of usable open space ~~are included~~.	This policy was generally achieved in the 2019 development regulation update. Suggest updating to say "maintain." Other rewording for ease of reading. Specific zone references are not strictly necessary, since the Land Use Designations (Table LU-1) already describes allowed uses.	D. Duplexes & triplexes. Encourage these housing types in the ~~low and medium density residential zones~~ Residential Low Density 2 and Residential Medium Density zones. ~~R3 and R4 zones.~~ Maintain~~provided~~ design ~~provisions~~ standards that emphasize a pedestrian-

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
					oriented design and the inclusion of usable open space ~~are included~~.
	12	E. Townhouses. Encourage the development of townhouses in the R-3, R-4 and on certain side streets in the C and CBD zones as an efficient and popular form of housing for a large demographic of Anacortes's population. Design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space are particularly important.	E. Townhouses. Encourage the development of townhouses in the medium and high density residential zones ~~R-3, R-4~~ and on certain side streets in commercial zones ~~the C and CBD zones~~ as an efficient and popular form of housing for a large demographic of Anacortes's population. ~~Design~~ Maintain design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space ~~are particularly important.~~	This policy was generally achieved in the 2019 development regulation update. Suggest updating to say "maintain" and incorporate some 2023 HAP recommendations. Other rewording for ease of reading. Specific zone references are not strictly necessary, since the Land Use Designations (Table LU-1) already describes allowed uses.	E. Townhouses. Encourage the development of townhouses in the ~~medium and high density residential zones~~ ~~R-3, R-4~~ Residential Medium Density and Residential High Density zones and on certain side streets in ~~commercial zones~~ ~~the C and CBD zones~~ Commercial and Central Business District designations as an efficient and popular form of housing for a large demographic of Anacortes's population. ~~Design~~ Maintain design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space ~~are particularly important.~~
	12	F. Senior and assisted housing. Encourage these housing types in the R-4 zone and under certain circumstances in the R3, and along certain side streets in the C, and CBD zones. Design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space are particularly important.	F. Senior and assisted housing. Encourage these housing types in ~~the~~ medium and high density residential zones ~~R-4 zone and under certain circumstances in the R3~~, and along certain side streets in ~~the~~ commercial zones ~~C, and CBD zones~~. Apply multifamily and commercial design standards to these uses. ~~Design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space are particularly important.~~	Progress was made on this policy in the 2019 development regulations update for assisted living and nursing homes, along with subsequent code amendments made to implement recommendations from the 2023 HAP. Specific zone references are not strictly necessary, since the Land Use Designations (Table LU-1) already describes allowed uses. Senior and assisted housing is typically in a multifamily form and does not need special design standards different from the city's current multifamily and commercial design standards.	F. Senior and assisted housing. Encourage these housing types in ~~the~~ ~~medium and high density residential zones~~ ~~R-4 zone and under certain circumstances in the R3~~, Residential Medium Density and Residential High Density designations and along certain side streets in ~~the~~ ~~commercial zones~~ ~~C, and CBD zones~~ the Commercial and Central Business District designations. Apply multifamily and commercial design standards to these uses. ~~Design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space are particularly important.~~
	12	G. Walk up apartments and stacked flats. Encourage these housing types in the R-4 zone and in the C and CBD zones above shops and on side streets. Design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space are particularly important.	G. Walk up apartments and stacked flats. Encourage these housing types in ~~the~~ medium and high density residential zones and in commercial ~~R-4 zone and in the C and CBD~~ zones above shops and on side streets. Maintain ~~D~~design standards emphasizing pedestrian-oriented design, façade articulation, and usable open space ~~are particularly important~~.	This policy was generally achieved in the 2019 development regulation update. Suggest updating to say "maintain." Other rewording for ease of reading. Specific zone references are not strictly necessary, since the Land Use Designations (Table LU-1) already describes allowed uses.	G. Walk up apartments and stacked flats. Encourage these housing types in ~~the~~ ~~medium and high density residential zones~~ the Residential Medium Density and Residential High Density designations and in eCommercial and Central Business District designations ~~R-4 zone and in the C and CBD~~ ~~zones~~ above shops and on side streets. Maintain ~~D~~design standards

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
					emphasizing pedestrian-oriented design, façade articulation, and usable open space ~~are particularly important~~.
	12	H. Live-work units. Promote opportunities to combine live and work spaces in the C and CBD zones and within Live-Work Overlay zones.	H. Live-work units. Promote opportunities to combine live and work spaces in ~~the~~ commercial zones~~C and CBD zones~~ and within Live-Work Overlay zones.	The development regulations also allows this use in the MMU zone; the description of land use designations covers allowed uses and the zone-specific reference could possibly be removed.	H. Live-work units. Promote opportunities to combine live and work spaces in ~~the~~ c Commercial, Central Business District, and Marine Mixed Use designations zones~~C and CBD zones~~ and within Live-Work Overlay zones.
Policy LU-6.2	12	Protect the character of single family neighborhoods by focusing higher intensity land uses close to commercial and community services and transit.	~~Protect the character of single family neighborhoods by focusing higher intensity land uses close to commercial and community services and transit.~~	The Racially Disparate Impact (RDI) analysis and Department of Commerce guidance recommend moving away from the term "character" when possible, as it is a vague term that historically has been used to exclude people of color from certain neighborhoods and cities. The Housing Action Plan also found a need and community interest in diversifying the housing options available in most neighborhoods. Focusing growth in certain areas is still a valid approach, but there are already other policies that call for it in both the Land Use and Housing elements.	Retain this policy: Protect the ~~character~~ identity of single family neighborhoods by focusing higher intensity land uses close to commercial and community services and transit.
Policy LU-6.3	12	Adopt design standards for small lot single family development to gracefully integrate these uses into existing neighborhoods in ways that maintain general neighborhood scale and character. Key concepts to consider in the design standards: - A covered entry facing the street. - Minimize the impacts of garages and driveways on the streetscape. - Provide usable open space on all single family lots. - Maximum floor area ratio to better ensure that homes are proportional to lot sizes. - Minimum amount of façade transparency to promote more "eyes on the street" for safety and to create a welcoming streetscape.	Maintain the following~~Adopt~~ design standards for small lot development to promote neighborhood compatibility and enhance the livability of new housing ~~for small lot single family development to gracefully integrate these uses into existing neighborhoods in ways that maintain general neighborhood scale and character.~~ Key concepts ~~to consider in the~~for design standards: - A covered entry facing the street. - Minimize the impacts of garages and driveways on the streetscape. - Provide usable open space ~~on all single family lots.~~ - ~~Maximum floor area ratio to better ensure that homes are proportional to lot sizes.~~ - Minimum amount of façade transparency to promote more "eyes on the street" for safety and to create a welcoming streetscape.	This policy was achieved in the 2019 development regulations update; however, the HAP recommends de-emphasizing this housing type. Suggest updating to say "maintain." Also, updated to limit the use of "character," as recommended by the RDI analysis. The floor area ratio concept is suggested to be removed because City staff and decision-makers report the current types of development standards (height, lot coverage, landscape, etc.) are working adequately.	No PC comments.
Policy LU-6.4	13	Adopt design standards for new multifamily development to promote neighborhood compatibility, enhance the livability of new housing, and enhance the	Maintain ~~the following Adopt~~ design standards for new multifamily development to promote neighborhood compatibility and ~~,~~enhance the livability of new housing~~, and enhance the character of residential and mixed-use areas.~~	This policy was achieved in the 2019 development regulations update.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		character of residential and mixed-use areas. Key concepts to emphasize in the design standards: - Emphasize pedestrian oriented building frontages. - Emphasize façade articulation consistent with neighborhood scale. - Integrate high quality durable building materials and human scaled detailing. - Provide for usable open space for residents. - Provide compatible site edges and sensitive service area design. - Provide for vehicular access and storage while minimizing visual and safety impacts of vehicles. - Integrate landscaping elements to soften building elevations, enhance neighborhood compatibility, and improve the setting for residents.	Key concepts ~~to emphasize in the~~for design standards: - Emphasize pedestrian oriented building frontages. - Emphasize façade articulation consistent with neighborhood scale. - Integrate high quality durable building materials and human scaled detailing. - Provide for usable open space for residents. - Provide compatible site edges and sensitive service area design. - Provide for vehicular access and storage while minimizing visual and safety impacts of vehicles. - Integrate landscaping elements to soften building elevations, enhance neighborhood compatibility, and improve the setting for residents.		
Policy LU-6.5	14	Allow some compatible nonresidential uses in residential zones, such as appropriately scaled schools, neighborhood-scaled grocery stores, religious facilities, home occupations, parks, open spaces, and other uses that provide places for people to gather, senior centers and day care centers. Maintain standards in the zoning code for locating and designing these uses in a manner that respects the character and scale of the neighborhood.	Allow some compatible nonresidential uses in residential zones, such as appropriately scaled schools, neighborhood-scaled grocery stores, religious facilities, home occupations, parks, open spaces, ~~and other uses that provide places for people to gather,~~ senior centers and other civic uses, and day care centers. Maintain standards in the zoning code for locating and designing these uses in a manner that is compatible with~~respects the character and scale of~~ the neighborhood.	Neighborhood grocery stores were permitted in the 2019 development regulations update. Updated to limit the use of "character," as recommended by the RDI analysis.	No PC comments.
Policy LU-6.6	14	Explore the development of zoning incentives to help meet housing diversity and affordability goals. Examples could include residential density bonuses, variations in allowed housing type, or flexibility in regulations, if a proposal meets community goals for affordable, senior, size-limited or other types of innovative housing. If not permitted outright or through discretionary review processes, consider providing for these incentives through pilot programs or other innovative measures.			No PC comments.
Goal LU-7	**14**	**Downtown and South Commercial Avenue. Enhance the character and economic vitality of Downtown and the South Commercial Avenue corridor.**	**Downtown and South Commercial Avenue. Enhance the public experience~~character~~ and economic vitality of Downtown and the South Commercial Avenue corridor.**	Suggest using the term "public experience" instead of "character" because the term gets closer to the describing the intent of the goal.	No PC comments.
Policy LU-7.1	14	Maintain and strengthen downtown as the center for civic, retail, cultural, dining and entertainment activity in Anacortes.			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		A. Encourage a mixture of uses downtown, including restaurants and taverns, retail, office, civic, cultural, lodging, and residential uses to support day and evening activities for all ages.			
	14	B. Facilitate more opportunities for people to live downtown through regulatory changes and proactive communication with property owners and the development community. Key concepts: - Integrate zoning flexibility to allow single purpose multifamily residential on most side streets. - Consider increasing flexibility for minimum parking requirements.	B. Facilitate more opportunities for people to live downtown through regulatory changes and proactive communication with property owners and the development community. Key concepts: - ~~Integrate~~ Maintain zoning flexibility to allow single purpose multifamily residential on most side streets. - ~~Consider increasing~~Increase the flexibility ~~for~~ of minimum parking requirements.	This policy was generally achieved in the 2019 development regulations update. Retain this policy to emphasize "maintaining" the standards.	No PC comments.
	14	C. Craft and apply form-based design standards for downtown: Key concepts to emphasize in the design standards: - Reinforce the historic storefront pattern on Commercial Avenue. - Accommodate a variety of pedestrian-friendly building frontages on side streets. - Promote the continued preservation and restoration/rehabilitation of historic and contributing buildings. - Promote façade massing and articulation that complements historical context. - Integrate high quality durable building materials and human scaled detailing. - Provide compatible site edges and sensitive rooftop and service area design. - Locate and design off-street parking to minimize impacts to the retail and pedestrian environment.	C. ~~Craft and~~ A~~a~~pply form-based design standards for downtown: Key concepts ~~to emphasize in the~~for design standards: - Reinforce the historic storefront pattern on Commercial Avenue. - Accommodate a variety of pedestrian-friendly building frontages on side streets. - Promote the continued preservation and restoration/rehabilitation of historic and contributing buildings. - Promote façade massing and articulation that complements historical context. - Integrate high quality durable building materials and human scaled detailing. - Provide compatible site edges and sensitive rooftop and service area design. - Locate and design off-street parking to minimize impacts to the retail and pedestrian environment.	This policy was generally achieved in the 2019 development regulations update. Retain this policy to emphasize "maintaining" the standards.	No PC comments.
	14	D. Emphasize downtown as the primary gathering place for Anacortes: - Explore the development of a centralized public plaza space downtown. - Continue to promote festivals and other special events downtown. - Encourage the integration of public space and amenities associated with non-residential uses. - Enhance the streetscape downtown to provide opportunities for outdoor dining, interaction, public art, and people watching.			No PC comments.
	14	E. Explore opportunities to build a new City Hall and promote adaptive re-use of the existing City Hall with uses complementary to other downtown uses.			No PC comments.
	14	F. Craft and maintain zoning and design provisions that emphasize a graceful transition between downtown and adjacent residential neighborhoods.	F. ~~Craft and maintain~~Maintain zoning and design provisions that emphasize a graceful transition between downtown and adjacent residential neighborhoods.	This policy was generally achieved in the 2019 development regulations update.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
				Retain this policy to emphasize "maintaining" the standards.	
	14	G. Encourage multi-story construction with underground or structured parking that facilitates transit-friendly densities and vibrant pedestrian-oriented streetscapes.			No PC comments.
			New Policy: Explore full or partial pedestrianizing of streets in Downtown to enhance public experience and economic vitality.	Recommend new policy based on public feedback and city council interest. Directed by City Council Resolution 3161, item A-9.	No PC comments.
	14	H. Identify and improve walking and biking routes to downtown as a pedestrian and biking-friendly destination. Provide safe methods such as textured crosswalk paths and bulb-outs where people can cross major streets at regular and convenient intervals.			No PC comments.
	14	I. Prioritize and implement recommendations in the Anacortes Parking Study, which identifies short and long-term strategies and alternatives for providing additional and better management of downtown public parking.			No PC comments.
Policy LU-7.2	15	Strengthen the visual appearance and economic vitality of South Commercial Avenue.			No PC comments.
	15	A. Maintain and strengthen the function of the corridor for retail, commercial, and service uses.			No PC comments.
	15	B. Encourage residential development on side streets and in the form of mixed-use buildings (housing over shops) complementary to retail/service uses.			No PC comments.
	15	C. Craft and apply form-based design standards for South Commercial Avenue. Key concepts to emphasize in the design standards: - Provide for pedestrian-friendly building frontages. - Promote façade massing and articulation that reinforces Anacortes's character and scale. - Integrate high quality durable building materials and human scaled detailing. - Encourage the integration of public space and amenities associated with non-residential uses. - Emphasize landscaping elements as a major character defining feature of the corridor. - Provide compatible site edges and sensitive service area design. - Locate and design off-street parking to minimize visual impacts to South Commercial Avenue.	C. ~~Craft and apply~~Maintain form-based design standards for South Commercial Avenue. Key concepts to emphasize ~~in the design standards~~: - Provide for pedestrian-friendly building frontages. - Promote façade massing and articulation that reinforces Anacortes's scale and community design~~character and scale~~. - Integrate high quality durable building materials and human scaled detailing. - Encourage the integration of public space and amenities associated with non-residential uses. - Emphasize landscaping elements as a major character defining feature of the corridor. - Provide compatible site edges and sensitive service area design. - Locate and design off-street parking to minimize visual impacts to South Commercial Avenue.	This policy was generally achieved in the 2019 development regulations update. Retain this policy to emphasize "maintaining" the standards. Suggest using the term "community design" instead of "character" because the term gets closer to the describing the intent of the goal.	No PC comments.
	16	D. Design, implement, and maintain streetscape improvements to:			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		- Enhance the visual appearance of the corridor and character/identity of the city. - Promote private investment in the corridor. - Enhance and promote non-motorized access and transit use.			
Goal LU-8	**16**	**Fidalgo Bay and Guemes Channel Waterfronts. Maintain and enhance Anacortes's waterfront as a unique and irreplaceable environmental, economic, and recreational amenity for the city.**			No PC comments.
Policy LU-8.1	16	Enhance physical and visual access to the water. A. Maintain and extend the Guemes Channel Trail and waterfront esplanade along the entire waterfront consistent with the goals and policies of the Shoreline Master Program. B. Enhance the pedestrian connections between downtown and Fidalgo Bay waterfront. Key considerations: - Improve pedestrian crossings on Q/R Avenue near Cap Sante Marina. - Consider options to re-establish logical connection between Q and Commercial Avenue near 12th Street. C. Explore improved transit connections to the Fidalgo Bay waterfront. D. Adopt design standards that promote site and building design that enhance physical and visual access to the water from streets, parks and other publicly accessible spaces. E. In partnership with other organizations, such as the Port of Anacortes, consider options for a public boat ramp on Fidalgo Bay.			No PC comments.
Policy LU-8.2	16	Encourage public/private partnerships to facilitate coordinated development that balances economic, public amenity, environmental, and historical/cultural preservation goals. Example concepts: - Infrastructure agreements. - Public space provisions. - Provisions to encourage special/active waterfront uses – including lodging/conference facilities, recreational/cultural facilities.			No PC comments.
Policy LU-8.3	18	Capitalize on maritime industry by making full use of sites already tailored to marine uses. A. Preserve Industrial-zoned land south of 22nd Street for future industrial businesses and potential for green industries. B. Encourage preservation of industrial waterfront at 22nd Street to provide for manufacturing access to water. C. Encourage the preservation of access to the dredged channel near 22nd Street. D. Encourage the development of a modern haul-out for vessels up to 150 feet to increase opportunities for local			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
		businesses and a work yard open to business and the general public. E. Consider improvements and upgrades to the existing city haul-out facilities. F. Retain open industrial space for large-scale manufacturing.			
Policy LU-8.4	18	Adopt form-based design standards for the central Fidalgo Bay waterfront that promote coordinated development that enhances Anacortes's unique marine character. A. Provide for physical and visual access to the water. B. Create a coordinated network of internal roadways and walkways that serves the envisioned mix of uses and creates a distinctive setting and identity for the district. C. Provide for pedestrian-friendly building frontages. D. Encourage building layout, orientation, modulation, and articulation to reduce the perceived scale of large buildings, add visual interest, and establish a distinct design character for the district. Emphasize human scaled design components and details that add interest to facades and entries. E. Provide for building heights up to four stories with the ability to go to six-stories via incentives for public amenities, desired mix of uses, and/or integration of special design features. F. Encourage the integration of public space and amenities associated with non-residential uses. H. Emphasize landscaping elements as a major character defining feature. I. Include design provisions that seek to minimize potential negative conflicts between different uses. For example, provide compatible site edges and sensitive service area design. J. Locate and design off-street parking to minimize negative visual impacts to pedestrian areas and uses.	Maintain~~Adopt~~ form-based design standards for the central Fidalgo Bay waterfront that promote coordinated development that enhances Anacortes's unique marine character. A. Provide for physical and visual access to the water. B. Create a coordinated network of internal roadways and walkways that serves the envisioned mix of uses and creates a distinctive setting and identity for the district. C. Provide for pedestrian-friendly building frontages. D. Encourage building layout, orientation, modulation, and articulation to reduce the perceived scale of large buildings, add visual interest, and establish a distinct design character for the district. Emphasize human scaled design components and details that add interest to facades and entries. E. Provide for building heights up to four stories with the ability to go to six-stories via incentives for public amenities, desired mix of uses, and/or integration of special design features. F. Encourage the integration of public space and amenities associated with non-residential uses. H. Emphasize landscaping elements as a major character defining feature. I. Include design provisions that seek to minimize potential negative conflicts between different uses. For example, provide compatible site edges and sensitive service area design. J. Locate and design off-street parking to minimize negative visual impacts to pedestrian areas and uses.	Such design standards were adopted in 2019 – but suggest updating to say "Maintain" while keeping all of the sub-policy details as these are all still important.	No PC comments.
Policy LU-8.5	18	Plans and regulations should take into account sea-level rise, tsunamis and other natural hazards.			No PC comments.
Goal LU-9	**19**	**Industrial & Manufacturing Areas. Maintain and promote active use of industrial lands.**			No PC comments.
Policy LU-9.1	19	Heavy manufacturing development should be contained in those general areas presently designated for Heavy Manufacturing (on March Point).			No PC comments.
Policy LU-9.2	19	In shoreline areas with deep water access encourage and support water dependent and water related uses such as manufacturing, shipping, moorage, navigation, cargo handling and storage, fish processing, and ship/boat construction and repair.			No PC comments.
Policy LU-9.3	19	Encourage multiple business manufacturing development, providing a more stable economic base through diversity, as opposed to a single large manufacturing business.	Encourage development of multiple types of manufacturing businesses ~~manufacturing development~~, providing a more stable economic base through diversity, as opposed to a single large manufacturing business.	Edits for clarification.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Policy LU-9.4	19	Limit non-industrial uses to those that are complementary to industrial activities in terms of access and circulation, public safety, hours of operation, and other land use activities.	Limit non-industrial uses to those that are complementary to industrial activities in terms of access and circulation, public safety, hours of operation, and other land use activities. For example, ground-floor retail, indoor recreation, and daycare to serve industrial employees and/or located within walking distance of commercial and high density residential zones can be complementary when appropriately sized and designed.	Edit suggested to support City Council Resolution 3161, item LEG-2024-18 and LEG-2024-21	No PC comments.
Policy LU-9.5	19	Protect industrial and manufacturing lands from encroachment by other land uses, which would reduce the economic viability of industrial lands.			No PC comments.
Policy LU-9.6	19	Develop industrial and manufacturing lands to minimize impacts on surrounding land uses, especially residential land uses.			No PC comments.
Policy LU-9.7	19	New or additional industrial and manufacturing development should comply with the following criteria: A. Sewer, water, and communications services should be available or planned for the industrial site area. B. New sites designated for industrial use should have convenient access to existing or planned highways or major arterials. C. Consistent with the Environment and Conservation Element of the Comprehensive Plan.			No PC comments.
Goal LU-10	**19**	**Healthy Communities. Promote land use and community design that encourages healthy living and good connectivity between compatible uses.**			No PC comments.
Policy LU-10.1	19	Adopt development regulations that facilitate a complementary mix of uses within mixed-use centers that encourage more walking and bicycling between uses.	Adopt development regulations and design provisions that facilitate a complementary mix of uses within neighborhoods~~mixed-use centers~~ and provide for safe and attractive non-motorized connectivity between uses and amenities, to~~hat~~ encourage more walking and bicycling between uses.	Recommended updates are based on public feedback and interest in making walking and biking more prominent in policies. Additionally, there are co-benefits to addressing climate change.	Adopt development regulations and design provisions that facilitate a complementary mix of uses within neighborhoods~~mixed-use centers~~ and provide for safe and attractive ~~non-motorized~~ multi-modal connectivity between uses and amenities, to~~hat~~ encourage more walking and bicycling between uses.
Policy LU-10.2	19	Adopt design provisions that provide for safe and attractive non-motorized connectivity between uses and amenities, with the frequency of connections commensurate with the envisioned intensity of land uses (e.g., housing, employment, community services, and amenities).	~~Adopt design provisions that provide for safe and attractive non-motorized connectivity between uses and amenities, with the frequency of connections commensurate with the envisioned intensity of land uses (e.g., housing, employment, community services, and amenities).~~	Anacortes generally has a good street grid already with small block sizes. This mostly applies to large sites like the MMU zone, which has regulations in place to implement this type of policy. This has enough overlap with Policy LU-10.1 above that it could be deleted or merged.	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Policy LU-10.3	19	Adopt development regulations that encourage the integration of recreational space with multifamily development.	Maintain~~Adopt~~ development regulations that encourage the integration of recreational space with multifamily development.	Suggest updating to say "maintain" due to already having development regulations that do this.	No PC comments.
Policy LU-10.4	19	Integrate public recreational amenities accessible to all Anacortes residents, workers, and visitors, with highest priority on locations, facilities, and activities that best serve the community.	~~Integrate~~ Increase access to ~~public~~ recreational amenities and activities ~~accessible to~~ for all Anacortes residents, workers, and visitors, including at public facilities which are located to serve the general public. ~~, with highest priority on locations, facilities, and activities that best serve the community.~~	The meaning of this policy was not entirely clear. It has been updated to emphasize public projects.	~~Integrate public recreational amenities accessible to all Anacortes residents, workers, and visitors, with highest priority on locations, facilities, and activities that best serve the community.~~ [*delete policy because its intent/meaning is unclear*]
Policy LU-10.5	20	Increase access to health foods by encouraging the location of fresh food markets and community food gardens in close proximity to multifamily uses and transit facilities through zoning regulations.			No PC comments.
Goal LU-11	**20**	**Growth management & regional coordination. Emphasize compact growth to minimize sprawl and protect Anacortes's Community Forestlands.**			No PC comments.
Policy LU-11.1	20	Plan for accommodating anticipated growth within the City to protect surrounding forest and parklands, and minimizing sprawl, while strengthening Anacortes's unique marine character and identity. A. Provide for residential infill development opportunities throughout the city, but focus the highest intensity residential uses close to commercial and community services and transit. B. Provide for an adequate supply of land zoned for employment uses to support 20-year employment allocations as required by Skagit County County-Wide Planning Policies. C. Monitor and report growth as directed in Skagit County County-Wide Planning Policies.	Plan for accommodating anticipated growth within the City to protect surrounding forest and parklands, and minimizing sprawl, while strengthening Anacortes's unique marine character and identity. A. Provide for residential infill development opportunities throughout the city, but focus the highest intensity residential uses close to commercial and community services and transit. B. Provide for an adequate supply of land zoned for residential and commercial~~employment~~ uses to support 20-year population and employment allocations as required by Skagit County County-Wide Planning Policies. C. Monitor and report growth as directed in Skagit County County-Wide Planning Policies.	The City must also provide an adequate supply of land for housing.	No PC comments.
Policy LU-11.2	20	Adopt user-friendly and coordinated development regulations that facilitate Anacortes's preferred land use pattern (e.g., allowed density, uses, and site provisions). A. Refine the land use code on an ongoing basis to make it easier to use by employing simple language, easy to read charts, and illustrative graphics. B. Monitor and refine the land use code as needed to facilitate the preferred land use pattern and development character. C. Integrate an appropriate balance of predictability and flexibility when updating development regulations that allow ease of administration and interpretation and offer optional ways of meeting requirements when possible.	Maintain~~Adopt~~ user-friendly and coordinated development regulations that facilitate Anacortes's preferred land use pattern (e.g., allowed density, uses, and site provisions). A. Refine the land use code on an ongoing basis to make it easier to use by employing simple language, easy to read charts, and illustrative graphics. B. Monitor and refine the land use code as needed to facilitate the preferred land use pattern and development character. C. Integrate an appropriate balance of predictability and flexibility when updating development regulations that allow ease of administration and interpretation and offer optional ways of meeting requirements when possible.	Add "maintain" since from time-to-time development regulations needed to be amended.	Maintain~~Adopt~~ user-friendly and coordinated development regulations that facilitate Anacortes's preferred land use pattern (e.g., allowed density, uses, and site provisions). A. Refine the land use code on an ongoing basis to make it easier to use by employing simple language, easy to read charts, and illustrative graphics. B. Monitor and refine the land use code as needed to facilitate the preferred land use pattern and ~~development character~~ form. C. Integrate an appropriate balance of predictability and flexibility when updating development regulations that allow ease of administration and interpretation and offer optional ways of meeting requirements when possible.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended changes to the 1st draft
Policy LU-11.3	20	Allow new development only where adequate public services can be provided.			No PC comments.
Policy LU-11.4	20	Work with other jurisdictions and agencies, educational and other organizations, and the business community to develop and carry out a coordinated, regional approach for meeting the various needs of Skagit County communities, including housing, human services, economic vitality, public safety, utilities, infrastructure, parks and recreation, transportation, and environmental protection.			No PC comments.
	New subheading: Climate focused goals and policies				
TBD	TBD	TBD	TBD	TBD	

Anacortes Comprehensive Plan Update

Housing Goals and Policies Tracker

DRAFT September 18, 2024

11/6/24 Planning Commission Recommended Changes Version

The Planning Commission reviewed the 1st draft proposed amendments at their September 25, October 2, October 9, and November 6 meetings. The Planning Commission's recommended changes to the 1st draft, if any, are shown in the last column.

Introduction

This goals and policies tracker reviews the Housing Element of the 2016 Anacortes Comprehensive Plan in support of the 2025 periodic update. MAKERS is providing comments, considerations, and recommendations for updating goals and policies. Further updates and additions will be added to the Housing Element to meet climate element requirements and better connect policies that are both housing and climate related.

Some frequent abbreviations used in this audit:

HAP = Housing Action Plan
AMC = Anacortes Municipal Code
RDI = Racially disparate impacts

Housing Element

Some comments reference the Racially Disparate Impact (RDI) analysis, which is available on the project webpage. See also the 2023 Anacortes Housing Action Plan (HAP).

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Goal H-1	**31**	**Housing Supply and Variety. Provide for a sufficient quantity and variety of housing to meet community needs.**			No PC comments.
Policy H-1.1	31	Provide for an adequate supply of appropriately zoned land to accommodate the city's housing growth targets.			No PC comments.
Policy H-1.2	31	Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.	Per the Racially Disparate Impacts (RDI) analysis, amend this policy (or add a similar policy) that that specifically addresses the housing needs and preferences of people of color.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. ~~For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.~~ [*The examples seem unnecessary*]
Policy H-1.3	31	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into residential neighborhoods.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into low and medium density residential zones ~~residential neighborhoods.~~	Replace "residential" with a more general reference to zones to avoid implying existing neighborhoods only consist of single-family residences. Note the city has been making progress on this with updated development regulations and is already seeing construction of more diverse housing types in recent years.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into ~~low and medium density residential zones~~ ~~residential~~ neighborhoods.
Policy H-1.4	31	Consider the potential for development of tiny houses in selected areas of the city.	Consider the potential for development of tiny houses in selected areas throughout~~of~~ the city.	The RDI analysis cautions that the "selected areas" not be restricted to segregated or higher-density areas of the city. The Housing Action Plan recommendation is consistent with the RDI analysis, as it recommends considering permanent tiny home clusters only in low- and medium density residential zones such as R2, R2A, and R3 in order to preserve the limited land available for denser housing.	No PC comments.
Policy H-1.5	31	Encourage infill development on vacant or under-utilized land.			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Policy H-1.6.	31	Evaluate barriers to achieving increased density in multifamily residential and mixed use zones and revise regulations if appropriate.			No PC comments.
Policy H-1.7	31	Provide for development of multifamily housing in areas close to shopping, employment, services and public transportation.	Provide for development of multifamily housing in high-opportunity areas and areas close to shopping, employment, services and public transportation.	The RDI analysis recommends referring to "high opportunity" areas and avoiding the suggestion that new multifamily use must be concentrated in areas that typically have higher exposure to noise and pollution (e.g. arterial streets).	Provide for development of multifamily housing in high-opportunity areas and areas close to shopping, employment, services and public transportation. High-opportunity areas have attributes that have a positive effect on the economic mobility, health, and well-being of residents. These are often characterized by access to quality jobs, education, healthcare, healthy food, recreation, transit/transportation options, and lower exposure to environmental and health hazards.
Policy H-1.8	31	Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, enhance neighborhood character, employ low impact development techniques, and other similar goals.	Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, ~~enhance neighborhood character,~~ employ low impact development techniques, and other similar goals.	Updated to avoid the use of "neighborhood character," as it is a vague term that can often be employed to the effect of excluding new types of development. Recommendation from the RDI analysis.	10/2/24 – PC comments: Change to "enhance neighborhoods". Take out "character". Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, enhance neighborhoods ~~character,~~ employ low impact development techniques, and other similar goals.
Policy H-1.9	32	Encourage demonstration projects of innovative housing types or programs, such as co-housing, tiny houses, or others.	Encourage more development of innovative housing~~demonstration~~ projects ~~of innovative housing types or programs~~ and strategies, such as co-housing, co-living, land trusts, sweat equity, co-location of housing with public facilities, ~~tiny houses~~, or others.	The City has already implemented or seen development of demonstration projects, which the Skagit Co-Housing project is a great example of. Suggesting updating policy language to move towards development of more of these projects, rather than referring to them as demonstration projects. Tiny houses are already mentioned specifically in policy H-1.4. Co-living (single room occupancies) is required to be addressed by cities under new state law RCW 36.70A.535.	Encourage more development of innovative housing~~demonstration~~ projects ~~of innovative housing types or programs~~ and strategies, such as co-housing, co-living, land trusts, sweat equity, co-location of housing with public facilities, tiny houses, or others. [*Retain tiny houses*.]
Policy H-1.10	32	Permit manufactured homes on individual lots in residential zones in accordance with the provisions of state and federal law.			No PC comments.
			New Policy Maintain development regulations that permit allowed residential uses by right and avoid conditional uses.	City Council expressed interest in such a policy. This policy will help reduce confusion from applicants on what residential uses are allowed and help speed up aspects of the permitting process. (2025 Docket Item - LEG-2024-07).	No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Goal H-2	**32**	**Neighborhood Character. Promote the stability and vitality of residential and mixed use neighborhoods.**	**Neighborhood ~~Character~~Form. ~~Promote the stability and vitality of residential and mixed use neighborhoods~~Allow organic change of neighborhoods over time to meet community needs, while preventing neighborhoods from experiencing extreme changes in a short period of time.**	A goal centered on the phrase "neighborhood character," is vague, and can be used to justify leaving higher-income neighborhoods unchanged, based on the RDI analysis recommendations and Department of Commerce guidelines. Instead a new housing goal can be focused on allowing change of housing types over time but in a manner that is more incremental and doesn't have major jumps in housing types for a given neighborhood. City Council expressed interest in this. (2025 Docket Item – LEG-2024-06)	
Policy H-2.1	32	Encourage housing types and design that reinforce and enhance the character and scale of established neighborhood development patterns.	~~Encourage housing types and design that reinforce and enhance the character and scale of established neighborhood development patterns.~~ When necessary to meet housing needs over time, provide zoning changes that allow the next increment of housing throughout any neighborhood in Anacortes.	Replace the current policy with a new policy that better aligns to the new goal suggested above. (2025- Docket Item – LEG-2024-06)	Zoning should allow the next increment of housing in all neighborhoods and should disallow sudden, radical change in all neighborhoods.
Policy H-2.2	32	Develop design guidelines, standards or other measures to achieve the following benefits: A. Allow growth without sacrificing Anacortes's unique small town character. B. Facilitate compatibility between existing and new housing. C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods. D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.	Maintain~~Develop~~ design ~~guidelines,~~ standards or other measures to achieve the following benefits: A. Allow growth without sacrificing Anacortes's unique small town character. B. Facilitate compatibility between existing and new housing. C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods. D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.	Updated language to emphasizes the maintenance of design standards, since such standards have already been adopted.	10/9/24 – No PC comments.
Policy H-2.3	32	Encourage rehabilitation and improvement programs to preserve the character and condition of existing housing.	Encourage rehabilitation and improvement programs to preserve the ~~character and~~ condition of existing housing, especially for homes owned by seniors, low-income people, and people of color who may face mobility and/or financial barriers to home maintenance.	Updated to avoid the use of "character". The RDI analysis notes that rehabilitation programs can help people stay in their homes, but it mostly benefits existing homeowners and does not help reduce racial disparities in homeownership. RDI analysis suggests the City work with	10/9/24 – No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
				organizations representing seniors and communities of color to prioritize any potential program funding.	
Goal H-3	**32**	**Housing Affordability. Provide for a range of housing opportunities to address the needs of all economic segments of the community.**			No PC comments.
Policy H-3.1	32	Encourage preservation, maintenance, and improvements to existing affordable housing.			No PC comments.
Policy H-3.2	32	Develop meaningful, measurable goals and strategies that promote the development of affordable workforce housing to meet local needs and monitor progress toward meeting those goals.	Develop meaningful~~.~~, measurable ~~goals~~ metrics and strategies that promote the development of affordable ~~workforce~~ housing to meet local needs and monitor progress toward achieving those strategies. ~~meeting those goals.~~ Metrics should include homeownership rates and housing cost burden for people of color, and other statistics recommended by the Housing Action Plan.	It is a misnomer to have a policy require new goals that are not already listed in the Housing Element, so it is suggested to replace that term. Refer to the HAP Section 6.4 for recommendations on how to monitor housing progress. This updated Housing Element policy also suggests an additional layer of metrics that include a focus on racial equity and addressing historic patterns of segregation, as recommended by the RDI analysis. With the edits, this policy may now fit better under Goal H-6, which relates to implementation and monitoring.	No PC comments.
Policy H-3.3	32	Support non-profit agencies and public/private partnerships to preserve or develop additional housing for very low, low and moderate income households.			No PC comments.
Policy H-3.4	32	Support both rental and ownership forms of affordable housing in a variety of types and sizes.			No PC comments.
Policy H-3.5	32	Locate affordable housing throughout the city and especially in areas with good access to transit, employment, education, and shopping.	Locate affordable housing throughout the city and especially in high opportunity areas ~~with good access to transit, employment, education, and shopping~~.	The RDI analysis recommends referring to "high opportunity" areas and avoiding concentrating new housing in a single area or areas with higher exposure to noise and pollution (e.g. arterial streets). The use of "high opportunity" areas, widens the scope of appropriate areas for affordable housing while still including transit, employment education, and shopping areas.	Add a glossary to the Comp Plan.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Policy H-3.6	32	Consider a housing levy to provide ongoing funding for affordable housing.	~~Consider~~ Explore a housing levy to provide ~~ongoing~~ funding for construction and preservation of affordable housing.	More forward language suggested. The RDI analysis finds a levy has the potential to improve racially disparate impacts.	Consider ~~Explore~~ a housing levy to provide ~~ongoing~~ funding for construction and preservation of affordable housing.
Policy H-3.7	32	Consider developing an inclusionary zoning program as a means of increasing the City's affordable housing supply.	~~Consider developing~~Explore the establishment of a Multifamily Tax Exemption (MFTE) program~~n inclusionary zoning program~~ as a means of increasing the City's affordable housing supply. Consider the provisions recommended by the Housing Action Plan on the residential target area, eligible properties, duration, duration, and other standards.	Recommend this policy be removed and replaced with support for implementing a Multifamily Tax Exemption (MFTE) program. Inclusionary zoning (IZ) was considered in the Housing Action Plan (fulfilling this 2016 policy) and it was found that IZ likely would reduce or not significantly increase housing production due the lack of significant multifamily development occurring in the city. Instead, direct subsidies such as Housing Choice (known as "Section 8") vouchers and bonus programs such as the MFTE program will likely be more effective at producing affordable housing in Anacortes.	~~Consider developing~~Explore the establishment of incentives for the development of affordable housing, such as a Multifamily Tax Exemption (MFTE) program~~n inclusionary zoning program~~ as a means of increasing the City's affordable housing supply. ~~Consider the provisions recommended by the Housing Action Plan on the residential target area, eligible properties, duration, duration, and other standards.~~
Policy H-3.8	32	Require that affordable housing achieved through public incentives or assistance remains affordable for the longest possible term.			No PC comments.
Policy H-3.9	32	Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust,-or similar, -type model.	~~Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust,-or similar, -type model.~~ Disposition of City-owned surplus land will prioritize affordable housing developers (especially those serving communities of color) or other community-determined uses, consistent with the allowances of state law.	Recommended by HAP Section 4.4.1 and allowed under new state law, RCW 39.33.015. RDI analysis says city should prioritize working with groups that directly serve communities of color when seeking development partners for projects on public land.	~~Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust,-or similar, -type model.~~ ~~Disposition of City-owned surplus land will p~~Prioritize affordable housing developers (especially those serving communities of color) or other community-determined uses, when disposing of city-owned surplus land, consistent with the allowances of state law.
			New Policy Explore opportunities for affordable housing on City-owned and other public land in downtown, including redevelopment of parking lots, co-location of affordable housing with public facilities, and new land acquired by the City for the purpose of developing housing.	Recommended by several strategies in HAP Section 4.4.	No PC comments.
Policy H-3.10	33	Develop and implement a detailed affordable housing program that identifies specific actions to increase the	~~Develop and implement a~~Maintain and update the Anacortes Housing Action Plan, with a focus on ~~detailed affordable housing program that identifies~~	The spirit of this policy was achieved with the Housing Action Plan. However, this policy can be worked to encourage updating	~~Develop and implement a~~Maintain and update the Anacortes Housing Action Plan, with a focus on ~~detailed affordable housing program that identifies~~

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
		supply of housing that is affordable to low to middle-income individuals and families.	~~specific actions to increase~~ increasing the supply of housing that is affordable to low to middle-income individuals and families and addressing racial disparities and past patterns of segregation and exclusion.	the HAP over time. The RDI also recommends the HAP have more information and strategies to address past patterns of segregation and exclusion.	~~specific actions to increase~~ increasing the supply of housing that is affordable to low to middle-income individuals and families. ~~and addressing racial disparities and past patterns of segregation and exclusion~~. End the sentence without the last phrase regarding addressing racial disparities…. Especially in light of the RDI report findings.
Goal H-4	**33**	**Special Needs. Provide housing options for special needs populations, including independent living for seniors, assisted living, memory care, drug & alcohol rehab and mental health facilities.**			No PC comments.
Policy H-4.1	33	Provide accommodation throughout the city for housing for people with special needs and avoid concentrations of such housing.			No PC comments.
Policy H-4.2	33	Encourage the development of senior-friendly housing opportunities, particularly in areas near services and amenities.			No PC comments.
Policy H-4.3	33	Promote a range of housing types for seniors; e.g., adult family homes, skilled nursing facilities, assisted living, and independent living communities.			No PC comments.
Policy H-4.4	33	Support ways for older adults and people with disabilities to remain in the community as their housing needs change by encouraging universal design or retrofitting homes for lifetime use.			No PC comments.
Policy H-4.5	33	Promote the provision of support services, including transportation options, to allow seniors and those with special needs to remain in their own homes or non-institutional settings.			No PC comments.
Policy H-4.6	33	Support public and private housing and services for people who are homeless.	Support public and private housing and services for people who are homeless and transitioning out of homelessness. Allow the development of emergency shelters, transitional housing, emergency housing, and permanent supportive housing throughout Anacortes and consistent with state law.	Added policy that shows consistency with requirements in HB 1220.	Support public and private housing and services for people who are homeless and transitioning out of homelessness. Allow the development of emergency shelters, transitional housing, emergency housing, and permanent supportive housing ~~throughout Anacortes and~~ consistent with state law.
Goal H-5.	**33**	**Regional Collaboration. Actively participate and coordinate with other agencies in efforts to meet regional housing needs**			No PC comments.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Policy H-5.1	33	Encourage local and regional affiliations and alliances to provide affordable housing.			No PC comments.
Policy H-5.2	33	Explore local and regional funding options to support development of housing for low- and moderate-income households.			No PC comments.
Policy H-5.3	33	Work with other jurisdictions and health and social service organizations to develop a coordinated, regional approach to homelessness.			No PC comments.
Goal H-6	**33**	**Monitoring. Implement Housing Element goals in a manner that is efficient and transparent.**			No PC comments.
Policy H-6.1	33	Evaluate and report on how the goals and policies of this Housing Element are being achieved.	Evaluate and report on how the goals and policies of this Housing Element and the Housing Action Plan are being achieved.	More specificity recommended.	Evaluate and report on how the goals and policies of this Housing Element ~~and the Housing Action Plan~~ are being achieved.
Policy H-6.2	33	Monitor housing supply, type and affordability, including progress toward meeting a proportionate share of the countywide need for affordable housing for very low-, low-, and moderate-income households.			No PC comments.
Policy H-6.3	33	Monitor local data and routinely reassess and adjust policies, strategies and regulations to improve effectiveness of programs to meet local housing needs.			No PC comments.
	New subheading: Climate focused goals and policies				
TBD	TBD	TBD	TBD	TBD	

Anacortes Comprehensive Plan Update
Transportation Goals and Policies Tracker

DRAFT October 1, 2024

10/9/24 Planning Commission Discussion Version

The Planning Commission reviewed the 1st draft proposed amendments at the October 9, 2024 meeting.

Introduction

This goal and policy tracker reviews the **Transportation Element** of the 2016 Anacortes Comprehensive Plan in support of the 2025 periodic update. **Transpo Group** is providing comments, considerations, and recommendations for updating goals and policies. Further updates and additions will be added to the **Transportation Element** to meet climate element requirements and better connect policies that are both land use and climate related.

Some frequent abbreviations used in this audit:

AMC = Anacortes Municipal Code
GMA = Growth Management Act

RCW = Revised Code of Washington

Transportation Element

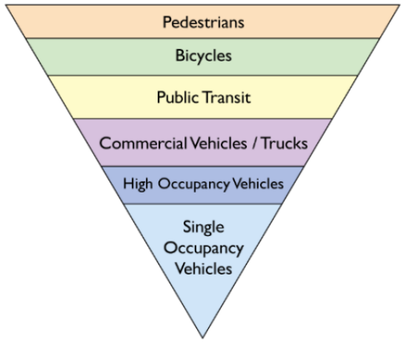
Goals and Policies

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Goal T-1	**56**	**Operations, Maintenance, Management and Safety.** As a high priority, maintain, preserve, and operate the city's transportation system in a safe and functional state.	**Prioritize Safety, Operations, Maintenance, and Management~~, and Safety. As a high priority, m~~** Maintain, preserve, and operate the city's transportation system in a safe and functional state for all travelers~~.~~	Prioritizing implies highest importance. Safety is paramount in transportation. GMA emphasizes all travelers, all modes.
Category		**Maintenance and Preservation**		
Policy T-1.1	56	Maintain and operate the city's transportation systems working to minimize impacts to mobility from maintenance activities and provide continuous safe, efficient, and reliable movement of people, goods, and services.	~~Maintain and operate the city's transportation systems working to m~~Minimize impacts to mobility from maintenance activities and provide continuous safe, efficient, and reliable movement of people, goods, and services.	Simplicity, clear direction.
Policy T-1.2	56	Protect the investment in the existing system and lower overall life-cycle costs through effective maintenance and preservation programs.	Protect the investment in the existing transportation system and lower overall life-cycle costs through effective maintenance and preservation programs.	Specificity
Policy T-1.3	56	Using Asset Management methodology, prioritize essential maintenance, preservation, and safety improvements of the existing transportation system to protect mobility and avoid more costly replacement projects.	No change	
Category		**Transportation Systems Management for the System as a Whole**		
Policy T-1.4	57	Develop a citywide traffic monitoring system to collect AM, PM and daily traffic volume data on a regular basis to determine how transportation investments are performing over time.	No change	
Policy T 1.5	57	Strive to increase the efficiency of the current transportation system to move goods, services, and people to and within the city before adding additional capacity.	No change	
Policy T-1.6	57	Work with the Washington State Ferry system to encourage ferry walk-on and transit service and additional passenger-only service centered in Anacortes.	Move to and consolidate into Policy 1.7	Consolidate all WSDOT ferry policies
Policy T-1.7	57	Encourage the replacement and modernization of the Washington State Ferry Terminal which is the gateway to the world famous San Juan Islands; continued maintenance of the facility; and continued use of the reservation system to prevent the ferry lines from backing up onto Oakes Avenue.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies
Policy T-1.8	57	Consistently work with Washington State Ferries to continue making the international ferry service to Sidney, B.C., and Canada successful.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies
Policy T-1.9	57	Reserve undeveloped city right-of-way for future use and do not vacate city right-of-way unless overwhelmingly beneficial to the city.	Renumber to 1.6	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
			Policy T-1.7. Work with the Washington State Ferry system to encourage: a. Additional transit service, walk-on ridership, and passenger-only ferry service centered in Anacortes. b. Replacement, modernization, and continued maintenance of the Washington State Ferry Terminal which is the gateway to the world-famous San Juan Islands. c. Restore international ferry service from Anacortes to Sidney, B.C., Canada. d. Continued use of the reservation system to prevent the ferry lines from backing up onto Oakes Avenue. e. An Intelligent Transportation System (ITS) improvement (electronic information collection and display for highway users) to reduce impacts of ferry traffic.	Consolidate all WSDOT ferry policies
Policy T-1.10	57	Encourage Guemes Island Ferry facilities that are compatible with the surrounding neighborhood and mitigate for ferry traffic impacts; this should include bus service during the Guemes Island Ferry maintenance shutdown.	Delete; Rewrite as Policy T-1.8	
			Policy T-1.8. Encourage Skagit County to provide Guemes Island Ferry facilities that: • Are compatible with the surrounding neighborhood • Mitigate for daily ferry vehicle traffic impacts; and • Include bus service during the annual ferry maintenance shutdown.	Bullets provides 3 clear requests
Category	57	**Coordination of the State Highways (SR 20 and SR 20 Spur) going through Anacortes**	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.11	57	Work with Washington State Department of Transportation to give a high priority to safety and mobility projects at Sharpe's Corner.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies. Sharpe's corner roundabout completed since this was written.
Policy T-1.12	57	Plan and budget for a safety plan and project follow through for the SR 20 Spur/R Avenue intersection and other high accident locations in Anacortes.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.13	57	Encourage, and partner with Washington State Department of Transportation in the long-term (20 plus years) to pursue reduction of signals by creation of grade separated intersections along SR 20 at Christiansen Road, Thompson Road, and/or Reservation Road using as a basis the WSDOT Route Development Plan titled "SR 20 to Sharpes Corner to SR 536 Safety Improvement Project" (Nov. 2003).	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.14	57	Plan for and develop a more robust and usable frontage road system in the SR 20 corridor using existing roadways.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.15	57	Consider an Intelligent Transportation System (ITS) improvement (electronic information collection and display for highway users) to reduce impacts of Washington State Ferry traffic.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-1.16	57	Partner with Washington State Department of Transportation to provide adequate shoulders, safe bicycle lanes, sidewalks, and street lighting from Commercial Avenue to the Ferry Terminal.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.17	58	Provide an alternate route, or routes, for local and emergency traffic between the west end of town (Skyline area) and downtown Anacortes (Island Hospital), such as West 2nd Street.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.18	58	Work to improve, and increase the number of, pedestrian crossings along the SR 20 and SR 20 Spur corridors; such as the proposed crossing at Christiansen Road and SR 20 intersection as proposed as part of the Sharpe's Corner project.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.19	58	Coordinate on road maintenance issues and continue the close relationship with Washington State Department of Transportation to keep lines of communication open and increase the chances of successful collaboration in the future.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
			Policy T-1.9. The City will continue to work with WSDOT to: a. Provide adequate shoulders, safe bicycle lanes, sidewalks, and street lighting on SR 20 Spur from Commercial Avenue to the Ferry Terminal, consistent with RCW 47.04.035 Complete Streets Principles and the 2020 WSDOT Active Transportation Plan. b. Complete a safety plan for the SR 20 Spur/R Avenue intersection and other high accident locations in Anacortes. c. Pursue reduction of signals by creation of grade separated intersections along SR 20 at Christiansen Road, Thompson Road, and/or Reservation Road based on the WSDOT Route Development Plan titled "SR 20 to Sharpes Corner to SR 536 Safety Improvement Project" (Nov. 2003). d. Plan for and develop a more robust and usable frontage road system in the SR 20 corridor using existing roadways. e. Provide an alternate route, or routes, for local and emergency traffic between the west end of town (Skyline area) and downtown Anacortes (Island Hospital), such as West 2nd Street. f. Improve, and increase the number of, pedestrian crossings along the SR 20 and SR 20 Spur corridors. g. Coordinate on road maintenance issues, maintain a close relationship, and keep lines of communication open to increase the chances of successful collaboration in the future.	Rewritten to consolidate all WSDOT highway policies, but if any obsolete statements or completed projects should be deleted.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Category		**Financial**		
Policy T-1.20	58	Emphasize transportation investments that provide and encourage alternatives to single occupancy vehicle travel and increase travel options, especially to and within commercial and mixed-use areas and along corridors served by transit to reduce infrastructure costs associated with system expansion.	No change	
Policy T-1.21	58	Focus on investments that produce significant net benefits to people and businesses and aim to minimize the environmental impacts of transportation.	No change	
Policy T-1.22	58	Encourage public and private sector partnerships to identify and implement improvements to personal mobility.	No change	
Policy T-1.23	58	In coordination with other agencies and organizations, participate in planning for and funding of the expansion of multi-modal transportation capital facilities.	No change	
Policy T-1.24	58	Update transportation impact fees on an annual basis using the Engineering News-Record Construction Cost Index (ENR CCI) to reflect current inflation, policies, and needs and discuss a method of updating the impact fees on an annual or biannual basis.	~~Update~~ Adjust transportation impact fee (TIF) base rates on an annual basis using the Engineering News-Record Construction Cost Index (ENR CCI) to reflect current inflation, policies, and needs. ~~and discuss a method of updating the impact fees on an annual or biannual basis.~~	Adjustment using index does not require a complete update of the TIF program, but simply an adjustment to the base rate. This can be built into the new 2025 TIF program so the intended TIF base rate will be known for each year going forward, but actual rate will need to be adjusted for index.
Policy T-1.25	58	Consider city financing methods that create, sustain and/or expand local transit service. This service could be city provided, SKAGIT TRANSIT provided, or privately provided.	No change	
Policy T-1.26	58	Strive to create and maintain a balance between available revenue and needed capital facilities. If projected funding is inadequate to finance needed capital facilities adjust the level of service, the planned growth, and/or the sources of revenue. The City should first consider identifying additional funding, then adjusting LOS standards, before considering reassessment of land use assumptions.	Strive to create and maintain a balance between available revenue and needed capital facilities. If projected funding is inadequate to finance needed capital facilities adjust the level of service (LOS), the planned growth, and/or the sources of revenue. The City should first consider identifying additional funding, then adjusting LOS standards, before considering reassessment of land use assumptions.	Abbreviate before using acronym in next sentence.
Goal T-2	58	**Greater Safety, Options and Mobility.** Invest in transportation systems that offer greater options, mobility, and access in support of the city's growth strategy.	~~**Greater**~~ **Multimodal Transportation Safety, Options, and Mobility.** Invest in multimodal transportation systems that offer ~~greater~~ increased safety, options, mobility, and access in support of the city's growth strategy.	Multimodal is more inclusive
Category		**Safety**		
Policy T-2.1	58	Policy T-2.1. Continue to improve the safety of the transportation system to work towards the state's goal of zero deaths and disabling injuries by the year 2030.	~~Continue to~~ Improve the safety of the multimodal transportation system ~~to work~~ by continually working towards the City, state, ~~'s~~ and federal goal of zero deaths and ~~disabling~~ serious injuries ~~by the year 2030~~.	Zero fatalities is the goal and while WSDOT has established 2030 as the goal in Target Zero, the state and national trend has been increasing, especially for pedestrian/bicycle deaths and injuries. Remove the date so that it is a continual effort with no end.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-2.2	59	In our concern for safety for all travelers; while making planning and budget decisions the City will utilize the following prioritization for different travel modes: A. Pedestrian B. Bicycle C. Motorcycle D. Transit E. Freight F. Carpool G. Single Occupant Vehicle	~~In our concern for safety for all travelers; while making~~ City planning and budget decisions ~~the City~~ will be based on ~~utilize~~ the following prioritization for different travel modes, with an emphasis on safety for the most vulnerable roadway users: A. Pedestrian B. Bicycle ~~C. Motorcycle~~ D. Transit E. Freight F. Carpool G. Single Occupant Vehicle  	More directive that City budget decision will be based on …. Motorcycles included by default in motor vehicle categories below Add graphic to illustrate priorities Staff Note: During their 10/9 review, Planning Commission recommended re-inserting motorcycles as a separate category in the graphic to the left.
Policy T-2.3	59	Provide facilities for, and education on, safe and non-threatening travel throughout the city on all modes of transportation using the prioritization list in T-2.2	Provide facilities for, and education on, safe and non-threatening travel throughout the city on all modes of transportation using the investment prioritization list in policy T-2.2. and the equity analysis and prioritization in the City Safety Action Plan.	Current effort to complete Safety Action Plan requires an equity analysis that can be used going forward
Policy T-2.4	59	Keep an emphasis on the enforcement of motorized and nonmotorized safety	~~Keep~~ Maintain an emphasis on the enforcement of ~~motorized and nonmotorized~~ traffic safety laws for all roadway users.	All-inclusive
Policy T-2.5	59	Consider roundabouts and traffic calming devices to reduce excessive speeding and other unsafe driving choices.	No change	
Policy T-2.6	59	Utilize a non-motorized travel awareness campaign so drivers expect pedestrians and bicycles on the roadway.	~~Utilize a non-motorized~~ Fund and promote a citywide travel awareness campaign so drivers expect ~~pedestrians and bicycles on~~ to see people walking, biking, and rolling along and across the roadway.	Direction to provide funding; people-oriented; more inclusive
Category		**Mobility Options**		
		New policy	Policy T-2.7 Establish a citywide Active Transportation Network (ATN) of existing and planned safe and comfortable ADA-compliant walking, biking, and rolling facilities coordinated and connected to regional pedestrian and bicycle routes.	ATN is based primarily on Anacortes Walks and Bikes maps in existing Transportation Element
Policy T-2.7	59	Decrease the proportion of trips made by single occupant vehicles by increasing alternative transportation choices.	**~~Policy T-2.8.~~** Work to decrease the proportion of trips made by single occupant vehicles by increasing ~~alternative~~ active transportation ~~choices~~ facilities and opportunities.	Adding “work” acknowledges that this will take effort; Not easy

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	**First Draft Proposed Policy Revision** *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-2.8	59	Address the needs of non-driving populations in the coordination, development, and management of local and regional transportation systems (e.g., electric bike rentals)	**Policy T-2.9.** Address the needs of non-driving populations in the coordination, development, and management of local and regional transportation systems (e.g., ADA accessibility, adequate transit service, and affordable electric bike rentals).	ADA now required in GMA Transportation Element
Policy T-2.9	59	Locate and design transit facilities to simplify access for pedestrian and bicycle patrons.	**Policy T-2.10.** Locate and design transit facilities to simplify access for ~~pedestrian and bicycle patrons~~ people walking, biking, and rolling.	People-oriented
Policy T-2.10	59	Encourage local street connections and walkways between existing neighborhoods and new developments to provide an efficient network of travel route options for pedestrians and bicycles.	**Policy T-2.11.** Encourage local street connections and walkways between existing neighborhoods and new developments to provide an efficient network of travel route options for pedestrians and bicycles.	
Policy T-2.11	59	Encourage development of safe and easy-to-use bike paths and pedestrian walkways in and around Anacortes and coordinate with regional pedestrian and bicycle routes. Separate grade crossing facilities in certain locations should be considered.	Delete; Replaced by new Policy T-2.7	
Policy T-2.12	59	Encourage identification and pedestrian scale signing of shopping and public use facilities (e.g. wayfinding signs).	No change	
Policy T-2.13	59	Revise development policies to reduce city sign clutter.	No change	
Policy T-2.14	59	Develop improved signing for public transportation-related facilities, e.g. airport, ferry systems, etc. Develop improved signing for public transportation-related facilities, e.g. airport, ferry systems, etc.	No change	
Policy T-2.15	59	Encourage pedestrian movement to and from gathering spaces, public facilities, and parks, particularly in downtown Anacortes, the Skyline area, and appropriate locations on the Fidalgo Bay waterfront.	No change	
Policy T-2.16	59	Improve pedestrian crossing opportunities not only across the state highway (SR 20 Spur) but on other highly traveled corridors in the city such as Commercial Avenue, R Avenue, D Avenue, etc).	No change	
Policy T-2.17	60	Provide safe bicycle and pedestrian travel to and from schools throughout the community.	No change	
Policy T-2.18	60	Prepare, and implement, a master plan for pedestrian and bicycle safety, beautification, and economic stimulus to South Commercial Avenue from 12th to 34th Streets.	Delete; Replaced by new Policy T-2.7	
Policy T-2.19	60	Implement “high value” bicycle corridor improvements as identified in the “2012 Anacortes Bike and Walks” report.	Delete; Replaced by new Policy T-2.7	
Policy T-2.20	60	Incorporate pedestrian and bicycle accommodations into all new construction (complete streets) as appropriate.	Policy T-2.~~20~~ 18.	
Policy T-2.21	60	Use bump outs, curb extensions, and/or pedestrian refuge islands in the design and construction of pedestrian crossings when appropriate and feasible.	Policy T-2.~~21~~ 19.	
Policy T-2.22	60	Fill in gaps in the bicycle and pedestrian network whenever possible (example: West 2nd Street between Alaska and Florida Avenues).	Delete; Replaced by new Policy T-2.7	
		New policy	**Policy T-2.20.** Strive to elevate the League of American Bicyclists certification of Anacortes as a Bronze-level Bicycle Friendly Community to a Silver- or Gold-level Bicycle Friendly Community.	City should apply for promotion by LAB as progress is made to complete the ATN.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Category		**Transportation Demand Management (TDM)**		
Policy T-2.23	60	Support local transportation demand management programs to reduce the impacts of high traffic generators such as city offices, hospitals, schools, and large employers. The City of Anacortes should serve as a model to the community by voluntarily complying with the requirements of the State Commute Trip Reduction Act (CTR) possibly using the City of Seattle Commute Trip Reduction program as an example with programs including: bike and pedestrian safety demonstrations; hosted lunch where employees can learn about building a routine around being a bike or walk commuter; route planning and advice from other city employees; hold regular no cost bike tuneups; and giving out free lights so commuters are more visible at night.	Rewrite. **Policy T-2.~~23~~ 21.** Support local transportation demand management programs to reduce the impacts of high traffic generators such as city offices, hospitals, schools, and large employers. To ~~he City of Anacortes should serve as a model to the community by voluntarily~~ comply~~ing~~ with the requirements of the State Commute Trip Reduction (CTR) Act ~~(CTR) possibly using~~ the City ~~of Seattle Commute Trip Reduction program as an example with~~ could sponsor and fund programs including: • bike and pedestrian safety demonstrations; • hosted lunch where employees and residents can learn about building a routine around being a bike or walk commuter; • route planning and advice from ~~other~~ city employees and bike commute advocates; • hold regular no cost bike tuneups; and • giving out free lights so commuters are more visible at night.	Remove reference/identification of City staff needing to model this behavior. Many reasons why people may choose, or need, to drive vehicles and doing so does not imply that they do not care or have a "Do as I say and not as I do" attitude. Needs to apply to all.
		New Policy	**Policy T-2.22** Create educational content on the City web site and materials distributed in the community to promote ADA accessibility, walking, biking, and riding Skagit Transit to reduce traffic congestion, vehicle miles traveled, and greenhouse gas emissions.	TDM requires continual community education
		New Policy	**Policy T-2.23** Continue to promote the Anacortes Open Streets event and similar community events to highlight accessibility, walkability, bicycle advocacy, safe routes to school, and Skagit Transit bus routes.	TDM requires continual community education
Policy T-2.24	60	Support the reduction of vehicle dependence in the city by supporting "ride share" and on-demand car/bike services.	No change	
Category		**Design**	**Retitle as "Street Design"**	
Policy T-2.25	61	Continue to focus on context sensitive complete streets by designing, constructing, operating and maintaining transportation facilities to serve all users safely and conveniently, including motorists, pedestrians, bicyclists, people with disabilities, and transit users.	Continue to focus on context sensitive complete streets by designing, constructing, operating and maintaining transportation facilities to serve all users safely and conveniently, ~~including motorists, pedestrians, bicyclists, people with disabilities, and transit users~~ according to the investment priorities in Policy T-2.2.	Reference back to Policy 2.2 priorities and inverted triangle graphic
Policy T-2.26	61	Improve local street design for walking, bicycling, and transit use to enhance communities, connectivity, and physical activity.	No Change	
Policy T-2.27	61	Design or redesign roads and streets to accommodate a range of motorized and non-motorized modes in order to reduce injuries, further reduce the risk of fatalities and to encourage non-motorized travel. The design should include well defined, safe, and appealing spaces for pedestrians and bicyclists with a goal of all users feeling safe and comfortable using the facility.	Design or redesign roads and streets to accommodate a range of ~~motorized and non-motorized~~ transportation modes ~~in order~~ to reduce injuries, further reduce the risk of fatalities and to encourage non-auto ~~motorized~~ travel. The design should include well defined, safe, and appealing spaces for ~~pedestrians and bicyclists~~ people walking, biking, and rolling with a goal of all users feeling safe and comfortable using the facility.	More inclusive and people-oriented.
Policy T-2.28	61	Be flexible with development standards to promote infill by allowing alternate ways, such as narrower streets, modified parking requirements, one-way	No Change	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
		streets, and/or low-speed design streets to meet those standards where full compliance with standards is not feasible or desirable.		
Category		**Transit**		
Policy T-2.29		Work to expand local transit service and connections to adjacent jurisdictions.	No change	
Policy T-2.30		New development and redevelopment in the city should be designed to provide and encourage non-motorized access to transit. The location of bus stops and shelters should be incorporated into both larger residential and non-residential project development design.	New development and redevelopment in the city should be designed to provide and encourage ~~non-motorized~~ walking, biking, and rolling access to transit. The location of bus stops and shelters should be incorporated into both larger residential and non-residential project development design.	More inclusive and people-oriented.
Policy T-2.31		Adopt road design standards, site-access guidelines, and land use regulations that support transit. This could include "pullouts" so buses can stop and pickup/dropoff outside of the traffic flow.	No change	
Policy T-2.32		SKAGIT TRANSIT Work to provide a citywide transit service that is dependable, affordable, maintains regular schedules with frequent service to all destinations in the City, connects neighborhoods to downtown and other frequented destinations, and provides an adequate level of service throughout the day, including weekends, and holidays.	~~SKAGIT TRANSIT~~ Work with Skagit Transit to provide a citywide transit service that is dependable, affordable, maintains regular schedules with frequent service to all destinations in the City, connects neighborhoods to downtown and other frequented destinations, and provides an adequate level of service throughout the day, including weekends, and holidays.	City partnership with Skagit Transit
Policy T-2.33		Consider, for a reasonable fee, a dial-a-ride type of transit service with door-to-door service for the entire Fidalgo Island similar to paratransit but not requiring a disability to qualify for service, so that people who cannot drive or choose not to drive can access services even if they are not near a regular bus route.	~~Consider, for a reasonable fee,~~ Work with Skagit Transit to determine the financial feasibility of providing a dial-a-ride type of transit service with door to door service for the entire Fidalgo Island similar to paratransit but not requiring a disability to qualify for service, so that people who cannot drive or choose not to drive can access services even if they are not near a regular bus route.	City partnership with Skagit Transit
Goal T-3	62	**Support Growth.** Support the city's and region's growth strategy by focusing on moving people and goods within the city and beyond with a highly efficient multimodal transportation network for now and into the future.	**Support Growth.** Support the ~~city's and region's~~ City and regional growth strategy by focusing on moving people and goods ~~within~~ throughout the city and beyond with a ~~highly~~ safe and efficient multimodal transportation network for now and into the future.	"Highly efficient" in transportation realm implies free-flow and speed; emphasize safety above all else.
Category		**Concurrency**	**Transportation Concurrency and Multimodal LOS Standards**	
Policy T-3.1	62	Maintain a concurrency management system that monitors the impacts of growth and development on the transportation system and aims to ensure that LOS standards are met within required timeframes.	Maintain a transportation concurrency management system that monitors the impacts of growth and development on the transportation system and aims to ensure that roadway corridor and intersection LOS standards are met within required timeframes.	Specificity.
Policy T-3.2	62	Assess, and adopt per ordinance, new impact fees pursuant to all concurrency improvements mentioned in the 2016 Transportation Element Background Information document.	~~Assess, and adopt per ordinance,~~ Adopt a new multimodal transportation impact fee~~s~~ program ~~pursuant to all concurrency improvements mentioned in the 2016 Transportation Element Background Information document~~ to include vehicle capacity, active transportation network completeness, and ADA accessibility to transit service.	SB 5452 explicitly allows ped-bike facilities to be included on TIF program project lists

<table>
<tr><th>Goal or Policy</th><th>Existing Page Number</th><th>Existing Goal or Policy Text</th><th>First Draft Proposed Policy Revision
The policies will undergo at least another round of revisions before their estimated final adoption in 2025</th><th>Reasoning for Proposed Policy Change</th></tr>
<tr><td>Policy T-3.3</td><td>62</td><td>Address non-motorized, pedestrian, transit and other multimodal types of transportation options in the city’s concurrency program – both in assessment and mitigation of transportation impacts.</td><td>Address ~~non-motorized, pedestrian, transit and other~~ all multimodal types of transportation options in the city’s annual concurrency ~~program~~ report to document both in assessment and mitigation of transportation impacts compliance with corridor and intersection LOS standards and progress made on completion of active transportation and transit networks.</td><td>More inclusive; References new Annual Concurrency Report; More specificity.</td></tr>
<tr><td>Policy T-3.4</td><td>62</td><td>Revise the Traffic Impact Analysis process for development to streamline the process and remove ambiguities from the system.</td><td>Delete. ~~Revise the Traffic Impact Analysis process for development to streamline the process and remove ambiguities from the system.~~</td><td>Vague policy; No specificity. If a policy on TIAs is desired, then write a new policy with specific direction.</td></tr>
<tr><td>Category</td><td></td><td>Corridor Level of Service</td><td></td><td></td></tr>
<tr><td>Policy T-3.5</td><td>62</td><td>All corridors must pass the Corridor LOS standard for the transportation system to be considered adequate. The Corridor LOS is designed to account for the impact of non-motorized facilities on an urban street network.</td><td>Policy T-3.4 All corridors must pass the Corridor LOS standard for the transportation system to be considered adequate. The Corridor LOS is designed to account for the ~~impact~~ presence and availability of ~~non-motorized facilities~~ sidewalks, bikeways, or multiuse trails or pathways on an urban street ~~network~~ corridor. The presence of active transportation facilities and/or safety features increases traffic flow and the people-moving capacity of a roadway corridor while the lack of these facilities decreases the corridor capacity.</td><td>Adds specificity. Advise re-examining this LOS approach. Have any City street corridors ever not passed this concurrency test? If so, what type of mitigation is conceived? Road widening is not consistent with goals and policies promoting active transportation and safety.</td></tr>
<tr><td></td><td>62</td><td>Table T-1. Capacity for Various Roadway Classifications and Modifications
<table><tr><th>Functional Classification</th><th>Base Peak Hour Capacity (vphpl)</th><th>Left-Turn Lane (vph)</th><th>Access Management (vph)</th><th>No Bike Lane (vph)</th><th>No Sidewalk (vph)</th></tr><tr><td>State Highway (55mph;SR20 and SR 20 Spur)</td><td>1,100</td><td>550</td><td>770</td><td>0</td><td>0</td></tr><tr><td>Principal Arterial (30/40mph; SR 20 Spur)</td><td>800</td><td>400</td><td>560</td><td>-120</td><td>-280</td></tr><tr><td>Minor Arterial</td><td>550</td><td>275</td><td>385</td><td>-55</td><td>-165</td></tr><tr><td>Urban Collector</td><td>550</td><td>275</td><td>385</td><td>-55</td><td>-140</td></tr></table></td><td>Retain Table T-1</td><td></td></tr>
<tr><td>Category</td><td>62</td><td>Intersection Level of Service (LOS)</td><td></td><td></td></tr>
<tr><td>Policy T-3.6</td><td>62</td><td>Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures for the PM peak hour. Calculation of the AM peak hour for areas near, or affected by, the Washington State Ferry traffic may be required. The adopted standard is LOS D for intersections that include Principal Arterials and LOS C for intersections that include Minor Arterial or collector roadways.</td><td>Policy T-3.5 Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures for the PM peak hour. Calculation of the AM peak hour for areas near, or affected by, the Washington State Ferry traffic may be required. The adopted standard is LOS D for intersections that include Principal Arterials and LOS C for intersections that include Minor Arterial or collector roadways. Intersection LOS is limited to measuring the average seconds of delay per vehicle for drivers on the roadway network.</td><td>More specificity.</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th>Goal or Policy</th><th>Existing Page Number</th><th>Existing Goal or Policy Text</th><th>First Draft Proposed Policy Revision
The policies will undergo at least another round of revisions before their estimated final adoption in 2025</th><th>Reasoning for Proposed Policy Change</th></tr>
<tr><td></td><td></td><td>New Policy</td><td><u>Policy T-3.6. Pedestrian and Bicycle LOS Standards are based on degree of completeness of sidewalk and bikeway connections as measured on the citywide Active Transportation Network. The LOS standards shown in green, orange, and red emphasize system completion of sidewalks, bikeways, or multi-use trails on arterial and collector roadways.</u>

• <u>A GREEN LOS indicates that a primary facility meets adopted roadway standards and has active mode facilities on both sides of the street, while a secondary facility may only have facilities on one side of the street.</u>
• <u>An ORANGE LOS indicates a primary facility has facilities only on one side of the roadway, when both sides would be preferred.</u>
• <u>A RED LOS indicates that there are no designated active mode facilities provided and is considered inadequate.</u></td><td>New MMLOS standard to comply with GMA requirements. Colors similar to traffic signal messaging; graphically intuitive. Applies to ATN map (presentation slides); Registered to City street standards.</td></tr>
<tr><td></td><td></td><td></td><td><table><tr><th>LOS</th><th>Primary Route</th><th>Secondary Route</th></tr><tr><td></td><td>Meets City standards, facilities on both sides</td><td>Meets City standards, facilities on one or both sides</td></tr><tr><td></td><td>Facilities exist, but only on one side</td><td>N/A</td></tr><tr><td></td><td>No facilities exist, does not meet standards</td><td>No facilities exist, does not meet standards</td></tr></table><u>Active Transportation Levels of Service (LOS) Standards</u></td><td></td></tr>
<tr><td></td><td></td><td>New Policy</td><td><u>Policy T-3.7. The Transit LOS Standard is based on ADA accessibility of Skagit Transit bus stops within the public road right-of-way. The prioritization and completion of ADA upgrades at all bus stops provides mutual benefit to the City of Anacortes and Skagit Transit.</u></td><td>New Transit LOS standard to comply with GMA requirements. Mutually beneficial for City and Skagit Transit. City builds out ADA Transition Plan and Skagit Transit is more accessible, safe, and convenient to use.</td></tr>
<tr><td>Category</td><td></td><td>Rail</td><td>Rail <u>Transport</u></td><td></td></tr>
<tr><td>Policy T-3.7</td><td>62</td><td>The City of Anacortes supports legislation to address freight rail safety and congestion issues, funding for hazardous materials first responder training, and funding for analysis of inland spill response planning and capability.</td><td></td><td></td></tr>
<tr><td>Category</td><td></td><td>Freight</td><td>Freight <u>Transport</u></td><td></td></tr>
<tr><td>Policy T-3.8</td><td>63</td><td>Provide a freight system infrastructure that, for all types of freight, meets the needs for local distribution, including truck routes.</td><td>Renumber as Policy T-3.9</td><td></td></tr>
<tr><td>Policy T-3.9</td><td>63</td><td>Actively encourage truck use of truck routes. Signs will be placed along the truck route and the City will identify and work with the major shippers to make their drivers aware of the truck routes.</td><td><u>Policy T-3.10. Actively encourage truck drivers to</u> use <u><s>of</s> designated</u> truck routes <u>with signs installed by the City</u> <u><s>Signs will be placed along the truck route</s></u> and <u><s>the City will identify and</s></u> work with the major shippers to make their drivers aware of the truck routes.</td><td>Provides clear direction that truck routes are designated and signed and City expects trucking companies to train drivers to use them.</td></tr>
</table>

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-3.10	63	The shipment or movement of hazardous and nuisance materials within or through the City should be managed by the City.	Renumber as Policy T-3.11	"Should" is a problematic word. Does City have legal oversight of this or is this an opinion?
Category		**Air**	**Air Transport**	
Policy T-3.11	63	Explore options for float plane landing and service areas in the skyline marina and in Fidalgo Bay.	Renumber as Policy T-3.12	
Policy T-3.12	63	Any changes to the Anacortes Airport shall be in accordance with the 2005 Sub-Area Plan, Development Agreement, and City Comprehensive Plan, considering the goals as set for in those documents.	Renumber as Policy T-3.13	
Policy T-3.13	63	Skagit Regional Airport should support air transportation growth needs of Anacortes and the Islands that are not compatible with the intent of the 2005 Sub-Area Plan and Development Agreement.	Renumber as Policy T-3.14	
Policy T-3.14	63	Encourage increases in scheduled commuter air traffic to utilize the facilities at Skagit Regional Airport	Renumber as Policy T-3.15	
Policy T-3.15	63	Cumulative Impact shall be considered for all airport related development.	Renumber as Policy T-3.16	
Policy T-3.16	63	Support the Port of Anacortes strategic plan, goal #5 for the airport that states the airport should be recognized as a community oriented facility.	Renumber as Policy T-3.17	
Policy T-3.17	63	Support the Port's 1994 Master plan and current Airport Layout Plan (ALP) dated May 2012, with future development to be implemented in accordance with the 2005 Sub-Area Plan and Development Agreement.	Renumber as Policy T-3.18	
Category		**Marine**	**Marine Transport**	
Policy T-3.18	63	Encourage the Port of Anacortes to provide more transient boat moorage. The City is willing to partner on this effort, and in reducing existing moorage vacancy rates, as it benefits the economy of the downtown area.	Renumber as Policy T-3.19	
Policy T-3.19	63	Require sufficient space for parking of boat trailers and vehicles at existing and future boat launch sites, marinas and boat storage facilities.	Renumber as Policy T-3.20	
Policy T-3.20	63	The City should request that Washington State Department of Transportation and Washington State Ferries include the City in all communications and meetings concerning the operation of the ferry terminal in Anacortes. The City shall invite Washington State Department of Transportation and Washington State Ferries to participate and cooperate in all traffic management and any associated improvements necessary for the operation of this ferry.	**Policy T-3.21.** The City should request that ~~Washington State Department of Transportation~~ WSDOT and Washington State Ferries include the City in all communications and meetings concerning the operation of the ferry terminal in Anacortes. The City shall invite ~~Washington State Department of Transportation~~ WSDOT and Washington State Ferries to participate and cooperate in all traffic management and any associated improvements necessary for the operation of this ferry.	No need to write full name, WSDOT is commonly understood acronym.
Policy T-3.21	63	The City supports commercial and industrial development along the waterfront within the City that meets City requirements and maintains public access.	Renumber as Policy T-3.22	
Policy T-3.22	63	The City supports public, commercial and private marinas within the City that meet City requirements and maintain public access.	Renumber as Policy T-3.23	
Category		**Parking**		
Policy T-3.23	64	Provide adequate parking space in high demand areas by: A. Developing a comprehensive parking plan which designates immediate and future parking lot sites and shuttle parking lots, B. Investigating opportunities to reduce parking requirements, C. Identifying minimum and maximum parking standards, D. Creating an action plan to implement a comprehensive parking plan over time,	Renumber as Policy T-3.24	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
		E. Periodically surveying parking space availability and occupancy to determine any emerging needs for additional space, F. Considering funding the purchase of land for developing public parking lots, G. Considering a parking availability study as a means of parking mitigation by businesses and developers to avoid overdesigning parking facilities around town, H. Developing a 'fee-in-lieu-of' parking space fee program for projects which are unable to meet on-site parking requirements and use these funds to provide parking or save for a larger parking project.		
Policy T-3.24	64	Develop an investment program to obtain land and construct public parking areas.	Renumber as Policy T-3.25	
Policy T-3.25	64	Encourage public/private partnerships for developing public parking lots.	Renumber as Policy T-3.26	
Policy T-3.26	64	Encourage Washington State Ferry system to provide adequate parking for State Ferry patrons. Overflow parking and appropriate signage should be provided out of town and a shuttle provided to the State Ferry Terminal.	Renumber as Policy T-3.27	
Policy T-3.27	64	Encourage Skagit County to provide adequate parking and pedestrian access for Guemes Island ferry patrons.	Renumber as Policy T-3.28	
Goal T-4	64	**Sustainability.** Design and manage the city's transportation system to minimize the negative impacts of transportation on the natural environment, promote public health and safety, and achieve optimum efficiency.	**Sustainability.** Design and manage the citywide multimodal transportation system to minimize the negative impacts of transportation on the natural environment, promote public health and safety, and achieve optimum efficiency.	Inclusive of all modes
Category		**Sustainability and the Natural Environment**		
Policy T-4.1	64	Foster a less polluting system that reduces the negative effects of transportation infrastructure and operation on air quality, the climate, and also the natural environment including the use of techniques to reduce pollutants in storm drains.	Foster a less polluting system that reduces the negative effects of transportation infrastructure and operation on air quality, the climate, and ~~also~~ the natural environment including the use of techniques to reduce pollutants in storm drains.	
Policy T-4.2	64	Seek the development and implementation of transportation modes and technologies that are energy efficient and improve system performance.	Seek the development and implementation of multimodal transportation modes and technologies that are energy efficient and improve system performance.	Inclusive of all modes
Policy T-4.3	64	When feasible, design and operate transportation facilities in a manner that emphasizes community character and is compatible with and integrated into the natural and built environment including features, such as street trees, natural drainage, native plantings, and local design themes.	When feasible, design and operate multimodal transportation facilities in a manner that emphasizes community character and is compatible with and integrated into the natural and built environment including features, such as street trees, natural drainage, native plantings, and local design themes.	Inclusive of all modes
Policy T-4.4	64	Promote the expanded use of alternative fuels by acquiring and converting public vehicles using advanced technologies and providing for electric vehicle charging stations throughout the city.	No Change	
Policy T-4.5	64	Plan and develop a citywide transportation system that reduces greenhouse gas emissions by shortening trip length and replacing vehicle trips with other modes of transportation by implementing higher density and mixed-use development, and encouraging ride-sharing, public transit, and nonmotorized transportation, to decrease vehicle miles traveled.	Plan and develop a citywide multimodal transportation system that reduces greenhouse gas emissions by shortening trip length and replacing vehicle trips with other modes of transportation by implementing higher density and mixed-use development, and encouraging ridesharing, public transit, and ~~nonmotorized~~ active transportation, to decrease vehicle miles traveled.	Inclusive of all modes
Category		**Human Health and Safety**		

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	**First Draft Proposed Policy Revision** *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-4.6	64	Develop a transportation system that aims to minimize negative impacts to human health, including exposure to environmental toxins generated by vehicle emissions, noise, or a lack of non-motorized options.	Develop a multimodal transportation system that aims to minimize negative impacts to human health, including exposure to environmental toxins generated by vehicle emissions, noise, or a lack of ~~non-motorized~~ active transportation and transit options.	Inclusive of all modes
Policy T-4.7	64	Provide opportunities for an active, healthy lifestyle by integrating the needs of pedestrians and bicyclists in the local and regional transportation plans and systems.	Provide opportunities for an active, healthy lifestyle by integrating the needs of pedestrians and bicyclists in the local and regional multimodal transportation plans and systems.	Inclusive of all modes
Policy T-4.8	64	Oakes Avenue and 12th Street are a major bicycle and pedestrian route, make a separated facility along this route a priority in future transportation planning efforts.	Oakes Avenue and 12th Street between downtown and the WSDOT ferry terminal is ~~are~~ a major bicycle and pedestrian route~~, make~~ and a separated or protected walking and biking facility ~~along this route~~ should be a priority in future transportation planning efforts.	More specificity, but this could also be deleted with adoption of ATN, RCW for Complete Streets on State highways, and WSDOT Active Transportation Plan requirement for LTS Type 1 or 2 ped and bike facilities on State highways.
Policy T-4.9	64	Work to secure right-of-way and to develop a pedestrian and bike trail along the Guemes Channel from the state ferry terminal to connect with the Fidalgo Bay Trail (Tommy Thompson Trail).	Work to secure right-of-way and to develop a pedestrian and bike trail along the Guemes Channel from the ~~state~~ WSDOT ferry terminal to connect with the Fidalgo Bay Trail (Tommy Thompson Trail).	All public engagement included strong support for this trail connection.
Policy T-4.10	64	Review options for, and consider the installation of, city owned electric car charging stations.	Interview other cities in northwest Washington to learn about successes, review options for, and consider the installation of, city-owned electric car charging stations.	Learn from success stories
Policy T-4.11	64	Encourage private charging station installations as part of parking requirements for larger projects.	No change	
Category		**Transportation Equity**		
Policy T-4.12	64	Implement transportation programs and projects in ways that aim to prevent or minimize negative impacts to low income, minority, and special needs populations.	Implement multimodal transportation programs and projects in ways that aim to prevent or minimize negative impacts to low income, minority, and special needs populations.	
Policy T-4.13	64	Work to improve mobility choices for people with special transportation needs, including persons with disabilities, the elderly, the young, and low income populations.	No change	
Policy T-4.14	64	Plan transportation and street improvements to consider the existing and desired character of the area and cost of future maintenance.	Plan multimodal transportation and street improvements to consider the existing and desired character of the area and cost of future maintenance.	Inclusive of all modes
Policy T-4.15	64	Complete the 2016 Americans with Disabilities Act (ADA) Transition Plan including a financial plan for constructing and replacing ADA compliant ramps and sidewalks. Develop a prioritized list of ADA compliant routes throughout town, which provide access to key city amenities and services for people with disabilities and implement facilities improvements based on these priorities.	No change	
Policy T-4.16	64	Budget for, and provide, the construction and repair of sidewalks and ramps to meet ADA standards according to priorities established in the 2016 ADA Transition Plan.	Budget for, and provide, the ~~construction~~ maintenance and repair of existing, as well as the construction of new, sidewalks and ramps to meet ADA standards according to priorities established in the 2016 ADA Transition Plan.	Consider removing the 2016 date and replacing with “citywide.” The date reference is 8-years old. At very least reference newest plan.

Libby Grage

From: Ian Munce <ianmunce@gmail.com>
Sent: Tuesday, November 5, 2024 5:12 PM
To: Libby Grage
Subject: Comments on the November 5 'Land Use Designation Updates'

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Hi, Libby, please forward these Comments to the Planning Commission for tomorrow tonight's meeting and add to the Comment section of your webpage. Thank you.

Dear Commissioners

I write once again to bring your attention to the deeply flawed so called "Housing Action Plan". Simply put, it was written by real estate and development interests. Neighborhood and environmental stakeholders were excluded from the process used to develop what should better be referred to as a Housing Guidance Document (HGD), a menu of possible actions. Neighborhood and environmental stakeholders were promised in the associated public hearing notice that these possible actions would be balanced against neighborhood and environmental interests. However, it is apparent now that such balancing is not going to occur and that staff and certain City officials intend to rewrite the Comprehensive Plan to exclude consideration of such interests.

This is evidenced by the stakeholders that were consulted by staff and Makers: Anacortes Family Center, Housing Authority, Skagit Habitat for Humanity, **Irwin Development, Landed Gentry, Strandberg Construction, Madrona Real Estate, Gary Merlino Construction,** Island Hospital, Anacortes Community Health Council, Anacortes School District, Safeway, and Seattle Yachts. There appears to have been no disclosure as to what, if any, financial interests or clients these stakeholders had in property located in the largely undeveloped R1 zone when they were interviewed and no assurances that these stakeholders would not seek to take financial advantage from securing Comprehensive Plan and zoning regulation changes. There also does not appear to be any equivalent disclosures from the then Planning Commission and City Council members.

On a personal note, I have no objection to cottage housing (if they actually look like cottages) or to ADUs in the R1 zone provided the following facts are recognized in the environmental review that must accompany these proposals:

1. The 297 acre R1 zone has 16 homes that are served by individual wells with wellhead protection areas established as critical areas in the City Critical Area Ordinance totaling 240 acres

2. Partially overlapping this 240 acres is 213 acres of wetlands and wetland buffers and 40-120 acres of streams and stream buffers.

For your November 13 Public Hearing I will be submitting a Best Available Science (BAS) Report that maps and documents these facts. I will later be submitting examples from my neighborhood of how the Planning Department is under resourced to address complex, site specific environmental issues, to

respond to legitimate concerns from neighbors, and to actually administer and enforce the current Critical Area Ordinance. I would add that many other citizens would have submitted BAS Reports for their neighborhoods and associated comments if the City had actually complied with its Public Participation Plan and informed residents through mailings and neighborhood meetings that their neighborhoods and natural setting were under siege from real estate and development interests.

Given that the City has recently asserted in Skagit County Superior Court documents that the City has an absolute right to just waive development regulation standards, including environmental protection standards, assurances to the contrary need to be ignored and the required SEPA analysis, review, and decision be undertaken in such a manner that does not simply assume application of these standards. It is probably not too early to call for an Environmental Impact Statement to be prepared for the most sweeping set of zoning changes since the first City zoning ordinance circa 1970.

My specific comments on the proposed 'Land Use Designation Updates' circulated November 5, 2024

Residential Low Density 1
Please acknowledge that listing ADUs under the 'predominant dwelling type' will not be determinative as to whether or not they are to be permitted in critical areas and their buffers.

Residential Low Density 2 and Old Town
Please retain the reference to "the established character of the area". This really matters to residents and "form and scale" falls far short of "character" as a criterion.

Planning staff has proposed moving away from 'conditional uses' to 'uses but right', but there is no apparent way to ensure that only "organic change over time" occurs.

Thank you for this opportunity to comment.

Ian Munce
1711 Quail Drive

Libby Grage

From: Ian Munce <ianmunce@gmail.com>
Sent: Tuesday, November 5, 2024 8:09 PM
To: Libby Grage
Subject: Munce Comments on Planning Department's Recommendations for the November 6 Planning Commission Meeting (Housing)

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Hi, Libby, will you please forward these Comments to the Planning Commission for their November 6 meeting and add them to the Comment section of your 2025 webpage. Thank you.

Dear Commissioners

Please consider these comments as supplemental to my Comments on the Land Use Designations of November 5, 2024.

1. I do not have time to fully research the Cedar Springs example used in Item 2.1.8, but here are the facts as I recall them: the subdivision was approved through the Planned Unit Development (PUD) process, a process the City Council eliminated in 2016 after a successful 20 years; the Ace of Hearts Creek was day lighted and the Creek and its buffer somewhat restored; the wetland and its buffer were **permanently** protected; the duplex cottages and density credits were a successful incentive to secure developer support; and, the neighbors supported the final design, layout, and environmental protection. The Planning Commission might want the Planning Department to brief this project and explain how these results could be replicated by current rigid subdivision rules. I for one do not understand how this could work.

2. To say that ADU Regulations are "partially completed already; remainder is required by State law" ignores that there are hundreds of discrete question to be answered in the implementation of this concept, e.g. will the City allow ADUs in critical areas and their buffers and if they do what process and conditions will apply?

Thank you for the opportunity to comment.

Ian Munce
1711 Quail Drive

Libby Grage

From: William Turner <bill.h.turner@gmail.com>
Sent: Wednesday, November 6, 2024 11:12 AM
To: Libby Grage
Subject: Fwd: Planning Commission comments

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Libby,
I did not see my letter posted for tonight's meeting of the Planning commission.
Please include in comments for tonight's meeting.
Bill Turner
Sent from my iPad

Begin forwarded message:

> **From:** William Turner <bill.h.turner@gmail.com>
> **Date:** October 29, 2024 at 1:18:07 PM PDT
> **To:** Grage Libby <LibbyB@cityofanacortes.org>
> **Cc:** Doyle John <jdoyle9991@yahoo.com>
> **Subject: Planning Commission comments**
>
> Dear Libby,
>
> Will you please forward this to the Planning Commission, include it in the 2025 webpage Comment Section, and let me know when I can address the Planning Commission on each of these. Thank you.
>
> Dear Planning Commissioners
>
> After reviewing the 2025 Periodic Update record to date, I submit the following proposals for your consideration. In my opinion, the City Council's Housing initiatives focus too much on densification and too little on the direct actions that it needs to take. Accordingly, I submit the following:
>
> 1. By the end of 2025 the City shall have in place a working arrangement with a Community Land Trust.
>
> 2. By the end of 2025 the City shall have in place a tiered system of impact fees, with no impact fees payable for 'affordable' units, 5O% fees for ADUs, and 100% fees otherwise.

3. By the end of 2025 the City shall have established in written report on the feasibility of locating ‘affordable’ housing on City owned land.

4. By the end of 2025 the City will have in place a requirement that any projects with over 50 Multifamily or Condominium units shall have 20% of these units maintained as ‘affordable’.

5. By the end of 2025 the City shall have established a Multifamily Tax Credit program with a 20% ‘affordable housing’ requirement.

6. The City shall take the actions necessary to ensure that 50 ‘affordable’ housing units are built each year, actions that may include a mix of initiatives such as a citywide housing levy and in-lieu fees dedicated to affordable housing.

7. In addition to a SEPA Checklist and most likely a Mitigated Declaration of Non-Significance, a project on ‘Lands Covered By Water’ as defined in the State Environmental Policy Act (SEPA) Rules, WAC 197-11-756(1), must consider adding restoration features appropriate to the projects natural setting and the policies set forth in this Environmental Section.

Somehow this basic SEPA mandate has been overlooked here in recent years. For record purposes I will forward an email that I recently sent to the Mayor and City Council regarding a Public Works project in and around Ace of Hearts Creek. This is not to somehow get you involved in this issue but to provide an example of how Best Available Science/SEPA mandates need to be included in public and private so-called “maintenance projects”. The policy will, of course, fit well into the Climate Element that is currently under development.

Thank you.

Bill Turner

P.S. **WAC 197-11-756(1) states: “Lands Covered by Water means lands underlying the water areas of the State below the ordinary high water mark, including salt-waters, tidal waters, estuarine waters, natural water courses, lakes, ponds, artificially impounded waters, and wetlands. As specified in Part Nine certain categorical exemptions do not apply when a portion or all of a project or proposal is undertaken on lands covered by water.** Sent from my iPad

November 9. 2024

Dear Members of the Planning Commission:

I am writing to express my strong opposition to the proposal in the Draft Anacortes Comprehensive Plan to change the zoning in the current residential neighborhood near the southend of Commercial from Residential Low Density-2 (RLD-2) to Residential Medium Density (RMD). ̲Our neighborhood, which is centered on Longview Ave. and includes N Ave down to 37th, is truly unique in the city of Anacortes. I like to think of it as the "best of Anacortes". It is a wonderful mix of families with children ranging from toddlers to teen-agers, working class families (i.e. fire-fighters, small business owners, teachers, retirees..) and families who have lived in the neighborhood, (often on the same property), for multiple generations. (For example, our next door neighbors have lived on the same piece of property for 3 generations.) It's a place where kids still play on the streets on hot summer nights, neighbors take walks with their dogs while stopping to chat with each other and people check in on elderly neighbors. I love the diversity of the homes and the diversity of the people.

I am struck by how the proposed rezone of my neighborhood is the direct opposite of what was discussed in the most recent publication of *A-Town is Our Town, Fall/Winter 2024.* The article from the planning department talked about how families make decisions on whether and where to raise children based on the availability and location of housing that fits their needs. Families have definitely chosen to raise their children in our eclectic neighborhood. Yet, it appears that this wasn't considered when developing the proposed rezone. A designation of RMD would allow 4-plexes through-out this area, fundamentally changing the character of my beloved neighborhood. Single family homes and duplexes (the current zoning) are very appealing to home-owners while fourplexes are geared toward renters who often stay for a short period of time without putting down roots and becoming long term residents of a neighborhood. But even more concerning is the fact that generally multi-family properties are purchased/developed solely by investors. The Wall Street Journal on Oct. 30, 2024 (see attachment) discussed the trend of institutional investors to buy out multiple homes and properties. (Often paying cash which makes it almost impossible for families to compete.) Indeed, small lots (which are common in this neighborhood) are attractive to investors since they are easier to buy with cash and then combined for multi-family housing. If this rezone is allowed to proceed, Anacortes will have created a gift-wrapped opportunity for out of town developers to the detriment of a family friendly, high quality of life neighborhood.

I, like most other property owners in Anacortes, am concerned about the lack of affordable housing in our town. But the solution of affordable housing is not to rezone our neighborhood. There already exists a zone for high density housing farther north on

Commercial as well as many blocks of already existing medium density housing. Anacortes has plenty of property available for multi-family housing solutions. The Land Capacity Analysis performed by the City quantified the housing units, population and employment growth and concluded that Anacortes has sufficient zoned capacity to accommodate housing needs until the year 2045. We already have the capability of accommodating 2,942 new housing units. Why is this finding being dismissed and the rezone being proposed? It makes no sense if there's no need for it.

I went to the recent Open House and spoke with a City representative about this proposed rezone. He said that the reason for the change is that there is currently a commercial business in this neighborhood (The Store) and so expanding the multi-family housing was appropriate for this area. The Store is a wonderful business that adds to the quality of life of the neighborhood. Many of the families in this area walk down to The Store and enjoy the muffins, breakfast burritos and coffee on the weekend. However, one small store should not drive the decision to increase housing density and overwhelm a community.

Lastly is the concern of what the rezone would mean for the traffic and safety of our residential neighborhood, particularly for families with children. If you drive down Longview Ave. it is quickly apparent that there is almost no available street parking. If the current multi-family developments in the city are any indication of what might be built, almost all developments are filled with small units with one car garages and no other space for parking. It is unrealistic to expect in Skagit County for a home to only need one car which means cars will end up parking on the street.The congestion will definitely impact the quality of life and family centeredness of our neighborhood.I think not seeing kids playing in the streets due to the increase of traffic and density would be a great tragedy.

I urge you to remove the proposed rezoning from the Draft Comprehensive plan since the rezone is not needed nor is it in the best interest of the City of Anacortes.

Best regards,

Jan Auman
360-421-6842

cc: Anacortes City Commissioners

attachment: Wall Street Journal, Oct. 30, 2024

#Save Longview - there are plenty of other places for apartments

Wall Street Home Buying Is Mixed Blessing

ZIP Codes where investors own a bigger share of houses see higher-than-average increases in prices and rents

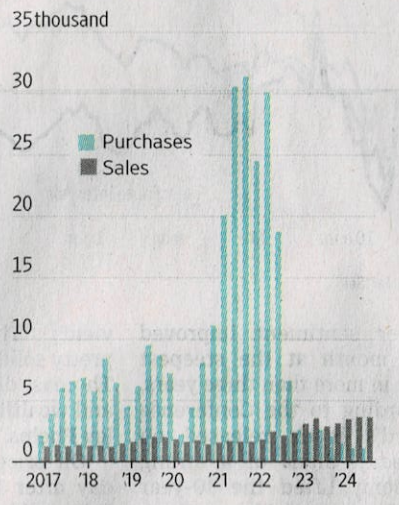
Wall Street landlords don't have a huge foothold in residential property yet, but they want one in the future. A handful of neighborhoods offer a preview of what that could mean for the U.S. housing market.

More than a decade ago, private-equity giant **Blackstone** began spending hundreds of millions of dollars on family homes that went into foreclosure after the 2008-09 financial crisis, creating a new asset class for institutional investors. Since then, corporate landlords including **Invitation Homes** and **Amherst** bought more than 600,000 houses in the U.S.

Big investors aren't always welcomed to the neighborhood. Vice President Kamala Harris said that if she wins the election, she will ask Congress to pass the Stop Predatory Investing Act that would remove tax benefits for corporate landlords buying single-family homes.

JOHNNY SIMON/WSJ; ISTOCK

Institutional investors' sales and purchases of single-family homes, quarterly



Source: John Burns Research & Consulting

Nationally, Wall Street landlords that have more than 1,000 units in their portfolios own 1% of all of America's family homes and 4% of all of the houses that are rented out. In most areas, their presence is too small to have much effect on local housing dynamics. If current trends continue, though, their share of the market for single-family rentals could increase 10-fold by the end of the decade, MetLife Investment Management estimates.

There are a handful of U.S. neighborhoods where investors are densely clustered, particularly in the Sunbelt. They bought more than 1,000 homes in 53 ZIP Codes, putting their ownership of the local housing stock anywhere from 4% to 12%, according to data from real-estate analytics firm Parcl Labs. The data include some houses temporarily owned by builders, as well as foreclosed properties on banks' books, but most are held by institutional landlords.

Wall Street housing investors tend to herd into the same neighborhoods because their algorithms spot the same opportunities. They screen the country for cities and towns with population growth and job openings—places where there is likely to be competition for homes. They prefer to own three-bedroom, suburban properties that are around 1,500 square feet in size and offer a convenient commute downtown. Young parents like these kinds of homes, and landlords like to rent to families because they become sticky tenants once their children enroll in local schools.

Big landlords are able to sift through reams of data to spot bargains. The 53 ZIP Codes where they are most densely clustered offer cheap housing. The median single-family home price in these areas is $345,400, based on Redfin data—around a fifth below the national level. Rents, however, are 3% below the national median.

Investment returns are enticing in these lower-cost neighborhoods because landlords are able to charge tenants high rents relative to what they have paid for the property. The rental income on a home in Converse, Texas, may yield 8%, compared with 6% for a median-price U.S. home.

Regular home buyers find it tough to compete with these deep-pocketed investors. Corporate landlords are willing to pay in cash and to buy homes that aren't in great shape. It is easier and faster to sell to an investor than to a first-time buyer who needs time to arrange financing and might try to negotiate on price if a house needs repairs.

Home prices have risen quickly in these neighborhoods. Values in the 53 ZIP Codes increased 64% on average over the past five years, compared with a 48% rise nationally, based on Redfin data.

Tenants may get squeezed when Wall Street landlords move in. Median rents in the Zip Codes rose 30% over the past five years, compared with 23% gains for the U.S. overall, according to Zillow data. It isn't clear whether big investors led these increases or if they were drawn to neighborhoods where housing costs were already rising fast.

The silver lining is that homeowners get a lift when deep-pocketed investors come knocking. An influx of Wall Street investors creates a new pool of buyers, and they can improve the value of the local housing stock if they fix up dilapidated homes. A University of Texas study found that although corporate landlords extract higher rents, they invest in better street lighting and security measures that can lower neighborhood crime rates.

But homeowners face trade-offs. If corporate landlords decide to cash in—say, if rent growth doesn't meet the expectations plugged into their models—a spike in new for-sale listings can put pressure on asking prices. After a lot of activity during the pandemic, investors flipped from being net buyers of U.S. family homes to selling more than they purchase, data from John Burns Research & Consulting show.

They may be taking advantage of record-high home prices to realize profits, but in some cases, rising interest rates forced them to sell. Last year, landlord VineBrook Homes needed to raise cash to meet its debt obligations and sold a chunk of its portfolio. In one Milwaukee ZIP Code, VineBrook was behind nearly a third of all home listings in the area. To quickly unload properties, the company cut prices by 17% on average from the original asking price, data from Parcl Labs show.

That isn't a big deal when U.S. home prices are still rising. But if investors were to head for the door in a weak housing market, they could undercut regular sellers and put pressure on prices.

The recent performance of multifamily apartments shows what can happen when a large number of residential units are in the hands of investors. U.S. apartment values have fallen 20% since rates first rose in early 2022. Oversupply played a role, but apartment prices have been volatile because institutional investors own a much bigger share of the U.S. apartment inventory than family homes, and they react differently to changes in the cost of debt than regular homeowners, who typically lock in their mortgage rate for 30 years.

First-time buyers don't like to compete with Wall Street investors when they try to get on the property ladder. Existing owners might not like the volatility they bring to home prices either.

—Carol Ryan

Libby Grage

From: Ian Munce <ianmunce@gmail.com>
Sent: Saturday, November 9, 2024 11:53 AM
To: Libby Grage
Cc: Ian Munce
Subject: Munce Land Use Policy Proposals (11) with Supporting Documents
Attachments: 11042024_Reconnaissance Report.pdf; Attachment B.pdf

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Hello, Libby, will you please transmit this submission to the Planning Commission for their November 13 Public Hearing, enter it into the record for the Periodic Update, and include it in the Comment Section of your Periodic Update webpage. Thank you.

Dear Planning Commission

As I have previously pointed out to you, I did not submit any Comprehensive Plan (CP) Policy Amendments for consideration in the 2025 Periodic Update as City leadership wanted a payment of $3,000 for each. This is almost certainly reversible error. I did address my concerns by submitting 11 Development Regulations Amendments (as no appeal fee was required), all of which were summarily rejected by the City Council. I now take this opportunity to set the stage for my 11 DR Proposals by recommending 11 Comprehensive Plan (CP) Policy Amendments. The background for each is set forth in the 11 Proposals in my October 21, 2024 re-submittal.

Munce CP Policy Proposal 1
"*The 297 acre R1 zone has 16 homes that are served by individual wells with wellhead protection areas established as critical areas in the City Critical Area Ordinance totaling 240 acres. Partially overlapping this acreage is 213 acres of wetlands and wetland buffers and 40-120 acres of streams and stream buffers. Attachment A is a November 2024 Best Available Science report commissioned by R1 zone residents and drafted by well qualified professionals at Facet. Given the environmental policies set forward in the City CP and set forth in Attachment B, the entire zone needs to be designated as a 'Habit of Local Importance' under AMC 19.70.315 and a State Fish and Wildlife Habitat of Local Significance under WAC 365-190-030."*

Argument: The City Council's Planning Committee's recommendation that "Cottages are likely to be especially appropriate for the R1 zone" is untethered from GMA's mandate that above all critical areas be protected and from the City's CP environmental policies that call for degraded critical areas to be restored. It also simply ignores the City's substantive mandate that the City's robust set of environmental policies, Attachment B, need to be considered in the SEPA review/determinations that must accompany the Planning Commission's and City Council's 'Periodic Update' deliberations. Finally, with its 'cottage housing' recommendation the Council Planning Committee proposes to: double the two unit per acre density established for decades in the City's Comprehensive Plans as the appropriate density given BAS and environmental protection objectives; require new roads and driveways and multiple utilities to cross streams and wetlands and their buffers; and, with 'landscaping' of critical areas and the increased hard scape, endanger functioning wells.

A Best Available Science Report for the R1 zone, commissioned by R1 residents, has been researched and drafted by Facet, a well regarded environmental firm. This BAS Report is included with this submission as Attachment A. It documents the acreage calculations presented in Munce CP Proposal 1 and sets forth the following analysis and findings.

1.1 Project Description

“The R1-residential low-density zone provides the City of Anacortes with low density residential development in the southern end of the City that is inappropriate for more intensive urban development due to topography, the frequent presence of wetlands, the high cost and difficulty of extending public facilities, and the desire to create a lower intensity transitional area between the City and the surrounding forest and hillsides. Under Anacortes Municipal Code (AMC)19.70, any critical areas within the R1 zone are protected in order to maintain and restore healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, including, but not limited to, ground and surface waters, wetlands, and fish and wildlife and their habitats, and to conserve the biodiversity of plant and animal species.”

2.1 “Key sources of information included the following: Department of Ecology Water Quality Atlas, DNR Department of Natural Resources Natural Heritage Program Mapper, City of Anacortes critical area map, National Wetland Inventory Mapper, Natural Resources Conservation Services Web Soil Survey, Department of Fish and Wildlife’s Priority Habitats and Species Mapper, WDFW Statewide Washington Integrated Fish Distribution Mapper, Stream Buffer Best Available Science Review and Buffer Recommendations Report, and Bachman Environmental 2019 Critical Area Report. The level of development in Anacortes, Washington, reflects a balance between urban growth and the preservation of its natural environment. Specifically, within the R1 zone, homes are on large lots with a maximum density of two units per acre. The R1 zone fosters a sense of an intimate residential sector that preserves the area’s open space for its well-known natural habitats.”

2.2 “There are two streams mapped within the study area that are considered Fish and Wildlife Conservation Areas (FWHCA) per AMC 19.70.330 … Ace of Hearts Creek … Happy Valley Stream … FWHCAs require a fifty-foot buffer on each side of the creek … alternatively … it is reasonable to assume that both streams … [also] require a riparian management zone … of 165 feet or greater … according to the Stream Buffer Best Available Science Review and Buffer Recommendations Report conducted by GeoEngineers for the City of Anacortes in 2019. FWCA’s serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors, and areas with high relative population density or species richness.”

2.3 Table 1 Wetland Overview identifies 12 discrete wetlands in the R1 zone, wetlands that are mapped in Appendix 1 and with their buffers constitute 213 of the 297 acres in the R1 zone.

2.5 “Critical Aquifer Recharge Areas … have a critical recharging effect on aquifers used for potable water … vulnerable to contamination … susceptible to reduced recharge. Per AMC 19.70.520 … wellhead protection areas … include a 1,000 foot radius for individual private drinking water supply wells.” These wellhead protection areas comprise 240 of the 297 acres in the R1 zone and overlap in many cases wetlands and streams and their buffers. “Regulated activities/facilities may be permitted in a critical aquifer recharge area only if the applicant can demonstrate that the proposed activity will not cause contaminants to enter the aquifer and that the proposed activity will not adversely affect the recharging of the aquifer per AMC 19.70.530.”

4. Critical Area Findings: “The study area provides unique and critical area ecological functions [in] the R1-low density residential area, including two streams, 12 wetlands, and 16 well-head protection areas. These areas serve as essential habitats for various species, including fish, birds, and other wildlife. They provide nesting, breeding, and foraging grounds that support local biodiversity and ecosystem health. Wetlands and stream riparian zones act as natural filters, absorbing pollutants and sediment from runoff before it enters the major waterbodies surrounding Anacortes. This helps improve the overall after quality of the area. Buffers should not be encroached upon unless the action is unavoidable or has been determined to have no impact on the function of the critical area. **Based on the analysis in this document, further and more condensed project development within the R1 zone may have a significant impact on the identified critical areas, species, or vegetation. It is recommended that the R1 zone is thoughtfully and carefully developed at the current density of two units per acre.”**

Additional Argument: The City is unequivocally on the record in Superior Court Case No. 24-2-00221-29 that its staff have the unbridled discretion to waive or decline to enforce any conditions in the Critical Area Ordinance that they

choose. Time permitting, examples of the City's position will be submitted as Attachment C. Examples that resonate in my neighborhood are the City's recent conduct in processing a short plat at 4219 H Avenue and their refusal at this site and nearby to enforce the provisions of the recently adopted Critical Area Ordinance that 'landscaping', i.e. ongoing wetland destruction with riding lawnmowers, is no longer to be allowed to occur inside wetlands and their buffers. AMC 19.70.040. Again, time permitting, documentation will be submitted as Attachments D and E.

Conclusion: Establishing the entire R1 zone as a Fish and Wildlife Habitat Conservation Area under both City and State codes will:

1. Highlight the scope and scale of the interconnected and overlapping critical areas in the project review and enforcement process.

2. Set the stage for ground-truthing the Best Available Science findings in the Facet Report.

3. Prevent the loss of this critical, interconnected habitat to 'landscaping' followed by development applications.

Munce CP Policy Proposal 2
"*Densities may only be permitted above the current density of two units per acre once the '1,000 feet aquifer recharge areas for individual wells', streams, wetlands, and their buffers have been delineated and mapped across the entire 297 acre R1 zone."*

Argument: Unregulated, piecemeal development is destroying the entire character and function of 297 acre R1 as a mosaic of overlapping critical areas; details supporting this conclusion will, time permitting, be submitted at a later date as Attachments C and D. Delineation and mapping will facilitate new home building in the R1 zone by locating these homes in a manner that protects and restores the critical areas and addresses stormwater quantity and quality. Again, a Planned Unit Development process would benefit not just the large property owners but the natural environment and the neighbors.

Munce CP Policy Proposal 3:
"Update the City's North Basin Stormwater Plan to address the unique natural features of the R1 zone."

Argument: The City corrected the acreage calculations in response to a DR Amendment Application, but also wrote out any recognition of the role of the low-density R1 zone plays in city stormwater management, e.g. with high water tables stormwater detention is problematic and with protection and enhancement of functioning critical areas stormwater quality can only be enhanced.

Munce CP Policy Proposal 4:
"Reestablish a Planned Unit Development (PUD) process in the Development Regulations in order to allow the property's zoned density to be achieved by clustering units outside critical areas and their buffers and to provide for the permanent protection and restoration of critical areas."

Argument: The unintended consequences of eliminating the City PUD Ordinance in 2016 are that property owners are incentivized to:
1. 'Landscape' as much critical areas and their buffer as they can get away with in order to gain building sites
2. Submit less than adequate critical area reports and hope that the City will not require an independent third party review
3. Submit incomplete applications for a standard short plat or standard long plat and hope that the Planning Department will not receive comments or receive inadequate comments from affected departments and divisions
4. Gamble that overworked City staff will overlook critical area issues

Munce CP Proposal 5:
"*ADUs are prohibited in critical areas and their buffers"*.

Argument: The Washington State Department of Commerce advises that such a prohibition does not violate State law and the City's Environmental Goals and Policies require such a prohibition.

Munce CP Proposal 6:
"*Critical area protection is to be advanced by requiring the Planning Director to issue an appealable written decision if the Planning Director declines to take enforcement action upon written request and by authorizing third party legal actions to enforce compliance with AMC 19.70."*

Argument: The City asserts that it has unbridled discretion to apply or not to apply its critical area protection standards in project review and to enforce or not to enforce the rules set forth in AMC 19.70. Skagit County Superior Case Number 24-2-00221-29. Time permitting, a summary of the City's position in this case will be provided as Attachment C and examples of this unbridled discretion as Attachments D and E.

Munce CP Proposal 7:
"*Yard and Garden activities in critical areas are to be moved from exemption status in AMC 19.70.040 and a robust permit system shall be implemented"*.

Argument: The City CAO was upheld upon appeal to the Growth Management Hearings Board in Case # 21-2-0002c, because going forward Yard and Garden activities were simply prohibited inside Critical Areas and strictly limited in buffers. Yet, in instance after instance these mandates have not been voluntarily complied with and the City has refused to take any enforcement action. A permit system is therefore necessary.

Munce CP Proposal 8
"The City has a special duty to protect individual wells and these may be protected through third party legal actions".

Argument
In the R1 zone there are 16 individual well that each have a 1,000 foot aquifer protection areas. Taken together they comprise 240 of the 297 acres in the R1 zone. There appears to be no evidence that since the adoption of well protection measures in the 2021 Critical Area Ordinance the City has given any consideration to this issue. If the City neglects its duty in this regard individual well owners need to have an explicit right to a third party action.

Munce CP Proposal 9
"The Planning Director must issue written findings of fact on each cottage housing proposal"

Argument:
Such written findings of fact will advance public education, transparency, and accountability.

Munce CP Proposal 10
"This Plan will incorporate by reference a sewer capacity analysis"

Argument:
The Periodic Review needs to establish to an engineering certainty that the existing sewer plant can accommodate the population, housing, and employment targets for the 20 year period.

Munce CP Proposal 11
"*When a critical area or its buffer has been altered in violation of the City's Critical Area Ordinance, all work must stop and the critical area and buffer must be restored."*

Argument:
Somehow the current regulations use the word "may" rather than must and mandatory action is necessary to advance the critical area policies in the Comprehensive Plan, policies set forth in Attachment B.

Thank you for this opportunity to comment.

Ian Munce
1711 Quail Drive
Anacortes

From: Ian Munce ianmunce@gmail.com
Subject: Vision, Goals, and Policies
Date: Jun 20, 2024 at 12:24:57 PM
To: Ian Munce ianmunce@gmail.com

ATTACHMENT A

1. The Comprehensive Plan's (CP) "Vision Statement" includes the following: "... protects our natural environment ... for future generations". CP, p 1-9. The CP "Values Statements" includes the following: "Embrace a conservation ethic ... Adopt innovative and environmentally sensitive development practices ... Utilize residents extensive knowledge and experience ... Preserve our historic places and natural surroundings". CP, p. 1-9.

2. The "Environment and Conservation" element of the CP includes the following: "... natural features as defining features of the City. Preservation of these natural features is identified by the community as an important priority. This policy is expressed through the goals and policies that support environmental stewardship, protection of critical areas, and protection of surface and groundwater quality". CP, p. 1-40.

3. The "Environment and Conservation" Goals and Policies include the following as Goal EC-1: "Serve as a leader in environmental stewardship of the natural environment for current and future generations". CP, p.1-40. The policies to implement this goal include the following as Policy EC-1.2: "Work cooperatively with ... state governments and community organizations to protect and enhance the environment". And, the following under Policy EC-1.3(F): "Publish and make available information about ... cluster development and transferable development rights". CP, p.1-41.

4. This same element includes the following as Policy EC-1.5: "identify and inventory areas of ... biological significance ... regulate development which would cause significant deterioration of these qualities". CP, p.1-41. And, Policies EC-1.7 and EC-1.8: "Work cooperatively with Skagit County in development of land use plans and review development proposals to identify and protect habitat networks and critical areas on an interjurisdictional basis ... use best available science to preserve or enhance the function and values of critical areas through regulations,

programs, and incentives". CP, p.1-41.

5. The "Environment and Conservation" Goals and Policies include the following as Goal EC-4: "Protect and enhance water quality". CP, p.1-43. And,Policy EC-4.8: "Protect and preserve areas that are critical for aquifer recharge , such as wetlands, streams, and water bodies". CP, p.1-43.

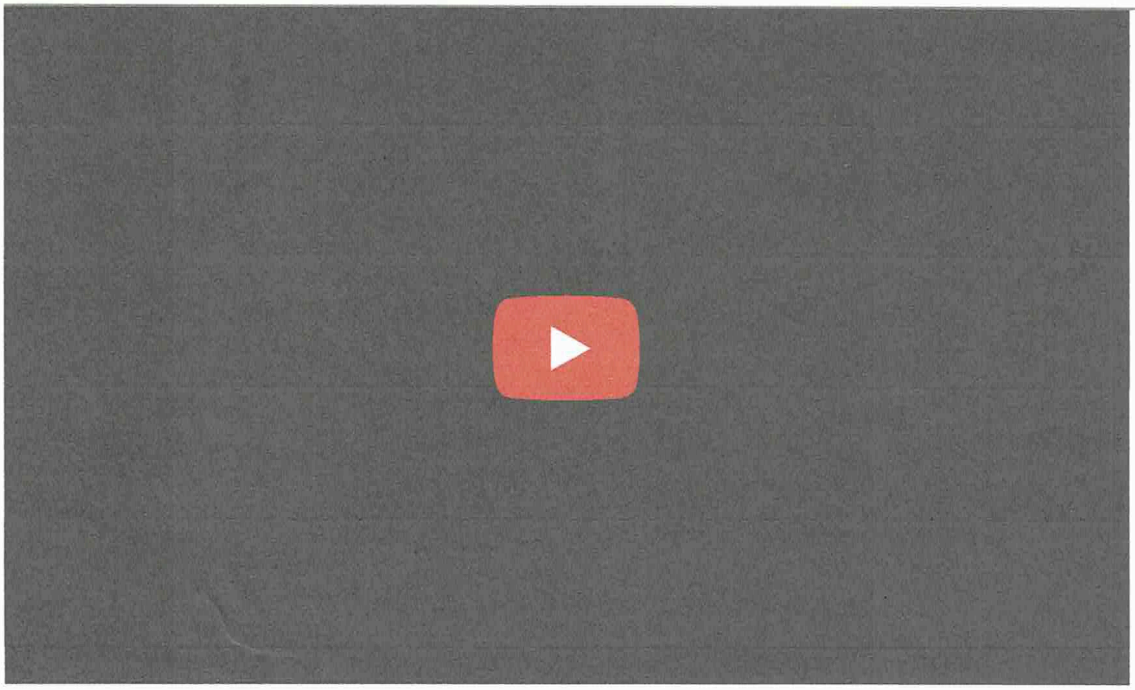
6. The "Environment and Conservation" Goals and Policies include the following as Goal EC-5: "Protect and enhance fish and wildlife habitat". CP, p.1-43. And Policy EC-5.1: " Identify, plan for, and preserve habitat areas, including wildlife corridors and areas with healthy ecosystems through development regulations ...". CP, p.1-43.

7. The "Environment and Conservation " Goals and Policies include the following as Goal EC-6: "maintain or improve the functional integrity of watercourses, wetlands, bodies of water and their shores". CP, p. 1-44.And, Policies EC-6.2 and EC-6.5: "Streams and wetlands should be maintained in their existing natural condition, or restored where appropriate ... place appropriate restrictions on land surface modifications ... hydrology modifications ... including ... clearing". CP, p.1-44.

ATTACHMENT B

City of Tacoma
WASHINGTON

Print Friendly



The intent of the Residential Infill Pilot Program (RIPP) is to promote innovative

residential infill while ensuring that such infill demonstrates high quality building and site design that is responsive to and harmonious with neighborhood patterns and character. The City hopes to see successful and well-regarded examples of these housing types built, as a way to inform future Council decisions on Tacoma's regulatory approach to these housing types, including Home In Tacoma.

RIPP and Home in Tacoma

The Home in Tacoma project consists of a package of zoning code amendments that will allow a range of middle housing development types to be built citywide without special review processes. The project is currently in the public review process and is expected to be completed sometime in 2024. The Home in Tacoma amendments will largely render the RIPP unnecessary, and the program is expected to be retired once they go into effect. However, the date at which applications will no longer be accepted remains to be determined at this time. For more information about the Home in Tacoma project and its current status, please visit the project webpage here.

Program Overview

The RIPP permits four different housing types: Two-Family, Small Multi-Family, Cottage, and Planned Infill. A maximum of six developments for each of the housing types are permitted within each of the City's five Council Districts for a maximum 120 developments possible citywide. A table indicating how many slots remain for each housing type and Council District is provided below.

Development proposals require a Conditional Use Permit (CUP) application and approval.

RIPP applications also require input from an Advisory Review Board, which provides advisory comments to the Director prior to the final decision.

In addition to satisfying general CUP criteria, developments must demonstrate the following specific RIPP criteria:

- Responsiveness to existing neighborhood patterns
- Pedestrian-friendly design
- De-emphasized parking
- Sensitivity to changes in scale
- Provision of usable outdoor space
- Sustainability features (Multi-Family and Cottage only)

More information about these criteria is provided in the RIPP Handbook.

Housing Types Permitted

Below are overviews of the four different types of housing permitted through the RIPP along with some notable development standards for each. See the RIPP Handbook (linked below) for more detailed information.

Two-Family Housing

Two-family Housing allows the development of either a duplex (two dwelling units in a single building) or two townhouses (attached one dwelling buildings) on a single development site – though townhouses are ultimately divided into separate lots.

Development standards include:

- Eligible Zones: R-2
- Minimum Lot Size: 6,000 sq. ft.
- Each unit is directly accessed from the street
- Allowance to convert an existing single-family home

Small Multi-Family Housing

Small Multi-Family Housing allows up to six dwellings to be developed on a single development site. These typically consist of a single building but could be arranged to include multiple buildings so long as the development criteria are met. Development within the R-2 zone are limited to conversions of existing structures.

Development standards include:

- Eligible Zones: R-2, R-3
- Minimum Lot Size: 7,000 sq. ft.
- Buildings are designed to minimize bulk and scale to fit with established neighborhood patterns
- Access to dwellings is provided through a shared primary entrance
- Parking is located at the rear of the site and view from the street is obscured

Cottage Housing

Cottage Housing consists of a grouping of small dwellings clustered around a common open space area. This type of housing provides a number of benefits including: expanded housing choice that responds to changing needs and lifestyles of Tacoma residents, introduces additional density in a manner that is highly compatible with single-family housing neighborhoods, better utilizes existing infrastructure, and

supports nearby community and commercial services.

Development standards include:

- Eligible Zones: All Residential Zones (except HMR-SRD)
- Minimum Lot Size: 7,000 sq. ft.
- Maximum number of units is double the base zone's density (max. 24 units)
- Allows for a variety of housing types from single to three-unit buildings
- Common open space size based on the number of units

Planned Infill Housing

Planned Infill Housing is a flexible, density-based type of development. It allows a wide range of housing types and arrangements so long as it conforms to the site's One Tacoma Comprehensive Plan land use designation density range. It is the most flexible of the housing types and promotes creative approaches to housing development while ensuring the project is responsive to specific site conditions and compatible with the surrounding area.

Development standards include:

- Eligible Zones: All Residential Zones (except HMR-SRD)
- Minimum Lot Size: R-3 - 3,500 sq. ft.; Other Residential Zones – 7,000 sq. ft.
- Determining the maximum number of units uses a weighted calculation that encourages more affordable housing types such as attached units and ADUs
- Allows for a variety of housing types including single unit detached, duplex, townhouses, small multifamily, and ADUs
- Buildings are oriented to the street
- Parking is located at the rear of the site and view from the street is obscured

Available Infill Housing Type Spaces by Council District

Council District	2-Familiy	Multi-Family	Cottage	Planned Infill
1	6	6	6	6
2	5	6	6	5
3	3	6	6	4
4	4	6	6	5
5	3	6	6	3

Updated 04/01/2024

Map of Council Districts

Residential Infill Pilot Program

- Tacoma Infill Pilot Program Handbook
- Affordable Housing (project web page)

Active Applications
Past Applications
Program Background Information

Infill Pilot Program Handbook 2.0

Staff Contacts

For questions regarding the RIPP program and the Conditional Use Permit process, please email Land Use Planning staff or call (253) 591-5030 (option 6).

Carl Metz
Senior Planner, Urban Design Studio
(253) 290-3946
Email

]]>

FACET

Formerly DCG/Watershed

Online Reconnaissance

ANACORTES, WA

NOVEMBER 2024

Prepared for:

Ian Munce
1711 Quail Dr.
Anacortes, Washington 98221
IanMunce@gmail.com
(360) 333-1646

Prepared by

Facet
9706 4th Ave NE, Suite 300
Seattle, Washington 98115
www.facetnw.com

TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS ..... **i**

LIST OF FIGURES ..... **i**

LIST OF TABLES ..... **i**

LIST OF APPENDICES ..... **ii**

ACRONYMS AND ABBREVIATIONS ..... **iii**

1. INTRODUCTION **1**

1.1 Project Description 1

2. CRITICAL AREA REVIEW **2**

2.1 Level of Development 2

2.2 Fish and Wildlife Habitat Conservation Areas 2

2.3 Wetlands 3

2.4 Geologically Hazardous Areas 4

2.5 Critical Aquifer Recharge Areas 4

2.6 Frequently Flooded Areas 5

3. SPECIES INFORMATION **5**

3.1 Puget Sound Chinook and Steelhead Trout 5

3.2 Hood Canal Summer Chum Salmon 6

3.3 Coastal Puget Sound Bull Trout 6

3.4 Marbled Murrelet 7

3.5 Yellow-Billed Cuckoo 7

4. CRITICAL AREA FINDINGS **7**

REFERENCES **8**

LIST OF FIGURES

Figure 1. Site Maps 1

LIST OF TABLES

Table 1. Wetland Overview 3

Table 2. Soil Unit Hydric Ratings 4

LIST OF APPENDICES

Appendix I – Critical Area Map Overlay

Appendix II – Critical Area Review

Appendix III – Author Qualifications

ACRONYMS AND ABBREVIATIONS

AMC	Anacortes Municipal Code
BMP	Best Management Practices
City	Anacortes
DNR	Washington Department of Natural Resources
ESA	Endangered Species Act
FWHCA	Fish and Wildlife Habitat Conservation Area
NHP	Natural Heritage Program
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
PHS	Priority Habitats and Species
PS	Puget Sound
RMZ	Riparian Management Zone
SMP	Shoreline Master Program
SWIFD	Statewide Washington Integrated Fish Distribution
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

1. INTRODUCTION

The purpose of this report is to present the best available science and findings of an online reconnaissance conducted for a study area located in Anacortes, Washington. The study area is located in the southern portion of the city and is approximately 297 acres (Figure 1). The investigation, performed by Facet, was limited to the study area in question and the immediate surrounding area.

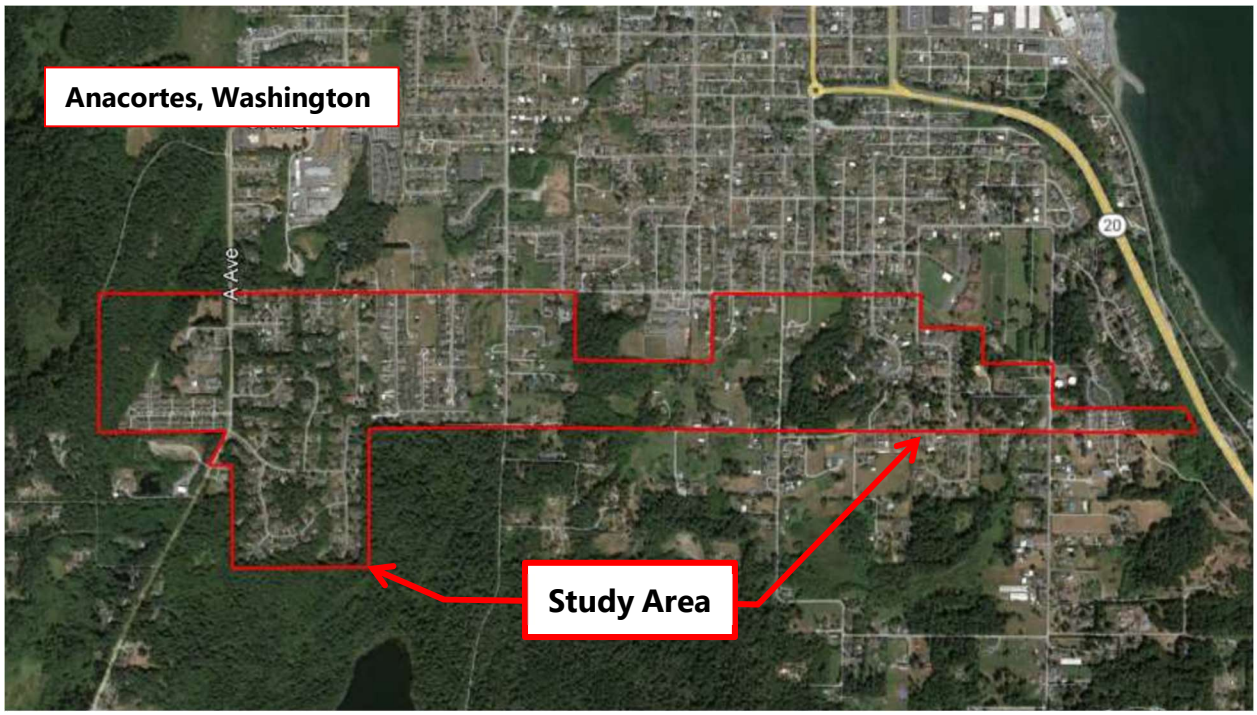


Figure 1. Site Map

1.1 Project Description

The study area consists of approximately 297 acres along the southerly edge of the city of Anacortes urban area located on Fidalgo Island. The entirety of the study area is zoned as R1- residential low density. It is bordered by large lot public use sectors to the south and east that are considered habitats of local importance. To the north of the study area is the R2A- residential low-density zoning.

The R1-residential low-density zone provides the City of Anacortes with low density residential development in the southern end of the city that is inappropriate for more intensive urban development due to topography, the frequent presence of wetlands, the high cost and difficulty in extending public facilities, and the desire to create a lower intensity transitional area between the city and the surrounding forest and hillsides. Under Anacortes Municipal Code (AMC) 19.70, any critical areas within the R1 zone are protected in order to maintain and restore healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, including, but not limited to, ground and surface waters, wetlands, and fish and wildlife and their habitats, and to conserve the biodiversity of plant and animal species.

2. CRITICAL AREA REVIEW

Facet staff conducted background research using a variety of online sources, literature, and maps to identify wetlands, streams, and site characteristics indicative of critical area features in the study area (Appendix II). Key sources of information included the following:

- Department of Ecology Water Quality Atlas
- Department of Natural Resources (DNR) Natural Heritage Program (NHP) Mapper
- City of Anacortes Critical Areas Map
- National Wetlands Inventory (NWI) Mapper
- Natural Resources Conservation Service (NRCS) Web Soil Survey
- Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) Mapper
- WDFW Statewide Washington Integrated Fish Distribution (SWIFD) Mapper
- Stream Buffer Best Available Science Review and Buffer Recommendations Report
- Bachman Environmental 2019 Critical Area Report

2.1 Level of Development

The level of development in Anacortes, Washington, reflects a balance between urban growth and the preservation of its natural environment. Specifically, within the R1 zone, homes are on large lots with a maximum density of two units per acre. The R1 zone fosters a sense of an intimate residential sector that preserves the area's open space for its well-known natural habitats.

2.2 Fish and Wildlife Habitat Conservation Areas

There are two streams mapped within the study area that are considered Fish and Wildlife Conservation Areas (FWHCA) per AMC 19.70.330. Ace of Hearts Creek is mapped as a Type F (fish-bearing) stream. It passes north to south through the center of the R1 zone. The second stream, Happy Valley Stream, is a non-classified stream that also runs north to south through the west side of the study area. Happy Valley Stream is not classified by the City of Anacortes or the DNR. FWHCAs require a fifty-foot buffer, on each side of the creek, measured from the top of the bank per AMC SMP A-5.1(7)(b).

Alternatively, AMC 19.70.330 requires a riparian management zone (RMZ) to be utilized to protect the watercourses and riparian ecosystem function. The RMZ width is to be equivalent to the height of the tallest 200-year-old site-potential tree or 100 feet, whichever is greater, measured horizontally from the ordinary high water mark (OHWM). An existing report (Bachman Environmental, 2024) notes Ace of Hearts Creek as having a RMZ of 165 feet based on the height of the tallest 200-year-old site-potential tree. Therefore, it is reasonable to assume that both streams within the study area may have a required buffer width of 165-feet or greater. A field study would be required to accurately assess the applicable RMZ for each stream channel.

According to the Stream Buffer Best Available Science Review and Buffer Recommendations Report conducted by GeoEngineers for the City of Anacortes in 2019, FWHCA's serve as critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may

include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors, and areas with high relative population density or species richness.

Priority Habitats and Species (PHS) Mapper (2024) depicts the study area to potentially contain freshwater emergent wetlands and the bat species, Yuma myotis. There are no known habitats or species of local importance per AMC 19.70.315(A)(9) within the study area. The DNR Natural Heritage Mapper (2024) does not depict any critical habitats within the study area.

2.3 Wetlands

Wetland maps prepared by NWI (2024), depict the presence of one 0.26-acre freshwater emergent wetland, located in the central region of the study area. Anacortes Critical Area Map (2024) depicts nine wetlands within the study area. Two additional wetlands were identified in the 2019 Bachman Environmental Report. A summary of these wetlands is provided in Table 1 and demonstrated on the map included in Appendix A. Wetland buffers were based on wetland category and a high intensity land use as the study area is residential (AMC 19.70.235).

Table 1. Wetland Overview

#	ID	Location	Category/Type*	Buffer (ft)		
				Habitat Score 8 or 9	Habitat Score 6 or 7	Habitat Score ≤5
1	WET-044	Westwood/Forest Ridge Lowland	III	300	150	80
2	WET-075	41st ST & H Ave SW side	Palustrine Emergent	50 – 300		
3	WET-010	Quail Drive South	III	300	150	80
4	WET-011	Quail Drive North	III	300	150	80
5	WET-012	Quail Drive East	III	300	150	80
6	Wetland A	Quail Drive & H Ave	III	300	N/A	N/A
7	Wetland B	Quail Drive & H Ave	IV	50	50	50
8	WET-014	41st Street	III	300	150	80
9	WET-013	SW Corner of 41st St & O Ave	IV	50	50	50
10	WET-015	West of R Ave. & 41st Place	III	300	150	80
11	WET-042	4820 Whistle Lake Rd	Palustrine Emergent	50 – 300		
12	WET-043	Fir Crest West Wetland	III	300	150	80

*Category or type of wetland is based on data provided by the City.

Buildings, structures, paving, and other hard surfacing must be set back a minimum distance of 10 feet from the edge of the wetland buffer, or edge of the wetland if no buffer is required, per AMC 19.70.235. This setback is to avoid conflicts with tree branches and/or critical root zones of trees that are in the buffer or will be planted in the buffer. Landscaping, uncovered decks, roof eves and overhangs may be allowed in the building setback from the buffer if they do not cause damage to the critical root zone of trees in the buffer. Landscaping can be defined as areas that consist of grade level or elevated planting beds featuring trees, shrubs, flowers, ferns, groundcover, lawn grass, and other vegetation.

2.3.1 Soils

The NRCS soil survey map identifies 17 soil types within the study area. 15 of which are listed as hydric per the Skagit County Hydric Soils List. A summary of the map unit is provided in Table 2. The DNR Washington Natural Heritage Program Data Explorer does identify the center section of the study area as containing hydric soils.

Table 2. Soil Unit Hydric Ratings

Map Unit Symbol	Map Unit Name	Unit Considered Hydric in Skagit County
10	Bellingham silt loam	Yes
11	Bellingham mucky silt loam	Yes
17	Bow gravelly loam, 3 to 8 percent slopes	Yes
18	Bow gravelly loam, dry, 0 to 3 percent slopes	Yes
19	Bow gravelly loam, dry, 3 to 8 percent slopes	Yes
20	Bow-Urban land complex, 0 to 8 percent slopes	Yes
26	Catla gravelly fine sandy loam, 8 to 15 percent slopes	Yes
29	Clallam gravelly loam, 0 to 8 percent slopes	Yes
30	Clallam gravelly loam, 8 to 15 percent slopes	Yes
35	Coveland gravelly loam, 0 to 3 percent slopes	Yes
55	Fidalgo-Lithic Xerochrepts-Rock outcrop complex, 3 to 30 percent slopes	No
78	Keystone loamy sand, 0 to 8 percent slopes	Yes
79	Keystone loamy sand, 8 to 30 percent slopes	Yes
102	Norma silt loam	Yes
106	Pits	No
140	Swinomish-Fidalgo-Rock outcrop complex, 3 to 30 percent slopes	Yes
156	Whistle-Fidalgo-Rock outcrop complex, 30 to 65 percent slopes	Yes

2.4 Geologically Hazardous Areas

The Anacortes Critical Areas Map (2024) does not identify any geologically hazardous areas per AMC 19.70.410. The most easterly portion of the study area is along the shoreline and identified as stable.

2.5 Critical Aquifer Recharge Areas

Per AMC 19.70.535, areas with soils that have moderate to rapid permeability (greater than two inches per hour) and sources for identifying drinking water supply wells identified by agencies such as Washington Department of Ecology and Skagit County Health Department are considered critical aquifer recharge areas.

The Anacortes Critical Areas Map (2024) identifies the easterly half of the study area as containing soils with high permeability. These areas have a critical recharging effect on aquifers used for potable water,

including areas where an aquifer that is a source of drinking water, like a well, is vulnerable to contamination that would affect the potability of the water, or is susceptible to reduced recharge.

Per AMC 19.70.520, areas designated as "wellhead protection areas" are groundwater contribution areas pursuant to WAC 246-291-125(3)(d)(iii). These areas include a 1,000-foot radius for individual private drinking water supply wells. The Anacortes Critical Areas Map (2024) identifies the majority of the study area as being located within 1,000 feet of a well.

Regulated activities/facilities may be permitted in a critical aquifer recharge area only if the applicant can demonstrate that the proposed activity will not cause contaminants to enter the aquifer and that the proposed activity will not adversely affect the recharging of the aquifer per AMC 19.70.530.

2.6 Frequently Flooded Areas

Flood maps prepared by FEMA do not identify any frequently flooded areas within the study area.

3. SPECIES INFORMATION

The following species listed under the federal Endangered Species Act may occur in the vicinity of the study area:

1. Puget Sound Steelhead Trout (*Oncorhynchus mykiss*)
2. Puget Sound Chinook (*Oncorhynchus tshawytscha*)
3. Hood Canal Summer Chum Salmon (*Oncorhynchus keta*)
4. Puget Sound/Georgia Basin Yelloweye Rockfish (*Sebastes ruberrimus*)
5. Puget Sound/Georgia Basin Bocaccio (*Sebastes paucispinis*)
6. Coastal Puget Sound Bull Trout (*Salvelinus confluentus*)
7. Marbled Murrelet (*Brachyramphus marmoratus*)
8. Yellow-billed Cuckoo (*Coccyzus americanus*)
9. Dolly Varden (*Salvelinus malma)*

3.1 Puget Sound Chinook and Steelhead Trout

Most Chinook in the Puget Sound are "ocean-type" and migrate to the marine environment during their first year (Myers et al. 1998). They may enter estuaries immediately after emergence as fry from March to May or they may enter the estuaries as fingerling smolts during May and June of their first year (Healey, 1982). Chinook use estuaries as rearing areas and are the most dependent of all salmon species on estuaries for survival. There are estuaries present in the action areas. As they grow and move into neritic habitats, they feed on decapod larvae, larval and juvenile fish, drift insects, and euphausiids (Simenstad et al., 1982).

Steelhead trout exhibits perhaps the most complex suite of life-history traits of any of the Pacific salmon. Steelhead can be anadromous or freshwater residents and, in some circumstances, yield offspring of the opposite life-history form. The anadromous form can spend up to seven years in freshwater prior to smoltification, although two years is most common, and then spend up to four years in saltwater prior to first spawning. Unlike the Pacific salmon species, steelhead are iteroparous (individuals can spawn more than once). The adult winter steelhead run is generally from December to February, and spawning occurs from March through June (Wydoski and Whitney, 1979). Juvenile steelhead out-migrate from April through June and are not anticipated in the nearshore in large numbers because the majority of steelhead smolts migrate directly to the open ocean (i.e., they are not nearshore dependent) and do not rear extensively in the estuarine or coastal environments (Burgner et al., 1992).

Critical habitat was designated for Puget Sound Chinook salmon on February 16, 2000, and Puget Sound steelhead on March 25, 2016 (Federal Register / Vol. 65, No. 32 / 2000; Federal Register / Vol. 81, No. 36 / 2016). Critical habitat is designated for areas containing the physical and biological habitat features, or PCEs (Primary Constituent Elements) essential for the conservation of the species or which require special management considerations. PCEs include sites that are essential to supporting one or more life stages of the species and that contain physical or biological features essential to the conservation of the species.

3.2 Hood Canal Summer Chum Salmon

Chum Salmon may historically have been the most abundant of all Pacific Salmonids. They are an anadromous fish, which means they can live in both fresh and saltwater. Chum Salmon typically weighs on average 8-15 pounds and are up to 3.6 feet long with a lifespan of about 4 years (NOAA, 2024). Chum salmon have a relatively complex life history that includes spawning and juvenile rearing in rivers followed by migrating to saltwater to feed, grow, and mature before returning to freshwater to spawn (NOAA, 2024). Chum can be found in virtually every small coastal stream. In the fall, large numbers of Chum can often be seen in the lower reaches of these streams. Chum fry do not rear in freshwater for more than a few days. Shortly after they emerge, Chum fry move downstream to the estuary and rear there for several months before heading out to the open ocean (WDFW, 2024).

3.3 Coastal Puget Sound Bull Trout

The Coastal Puget Sound bull trout population is thought to contain the only anadromous forms of bull trout in the contiguous United States (Federal Register / Vol. 64, No. 210 / 1999). Spawning occurs typically from August to November in streams and migration to the open sea (for anadromous populations) takes place in the spring. Following this season, Bull Trout migrate to freshwater river systems to overwinter. Bull trout prefer colder water temperatures than most salmonids, and clean water substrates for spawning and rearing. They require complex habitats such as streams with riffles, deep pools, and undercut banks.

Critical habitat was designated for the bull trout was designated on November 17, 2010 (Federal Register / Vol. 75 No. 200 / 2010). Critical habitat is designated for areas containing the physical and biological habitat features, or PCEs essential for the conservation of the species or which require special management considerations. PCEs include sites that are essential to supporting one or more life stages

of the species and that contain physical or biological features essential to the conservation of the species.

3.4 Marbled Murrelet

Marbled murrelets are small marine birds in the Alcidae family that nest in the coastal old-growth forests of the Pacific Northwest. The breeding season of the marbled murrelet generally begins in April, with most egg laying occurring in late May and early June. By the end of August, chicks have fledged and dispersed from nesting areas Marbled murrelets differ from other seabirds in that their primary nesting habitat is old-growth coniferous forest within 50 to 75 miles of the coast. The nest typically consists of a depression on a moss-covered branch where a single egg is laid. When not nesting, the birds live at sea, spending their days feeding and then moving several miles offshore at night (Marks and Bishop, 1999).

3.5 Yellow-Billed Cuckoo

The yellow-billed cuckoo is a relatively large riparian bird that is distributed throughout the U.S., however, due to reductions in habitat, are very rare in Washington State (WDFW, 2024). Breeding season typically occurs in late spring to early summer. During this period, they tend to move around and have large home ranges but are mostly found in areas with more than 200 acres of deciduous forests (USFWS, 2024). Nesting habitat usually occurs at lower elevation riparian woodlands that contain willow trees, alders, or cottonwoods that are close to streams or rivers. Though there are no recent documents of yellow-billed cuckoo nesting in Washington, it can occur anywhere in the state as much would be considered generally good habitat for nesting.

4. CRITICAL AREA FINDINGS

The study area provides unique and critical area ecological functions the R1 – low density residential area, including two streams, 12 wetlands, and 16 well-head protection areas. These areas serve as essential habitats for various species, including fish, birds, and other wildlife. They provide nesting, breeding, and foraging grounds that support local biodiversity and ecosystem health. Wetlands and stream riparian zones act as natural filters, absorbing pollutants and sediment from runoff before it enters the major water bodies surrounding Anacortes. This helps improve the overall water quality of the area. Buffers should not be encroached on unless the action is unavoidable or has been determined to have no impact on the function of the critical area. Based on the analysis of this document, further and more condensed project development within the R1 zone may have a significant impact on the identified critical areas, species, or vegetation. It is recommended that the R1 zone is thoughtfully and carefully developed at the current density of two units per acre.

Within the limitations of schedule, scope of work, and seasonal constraints, Facet warrants that this study was conducted in accordance with generally accepted investigation practices, including the technical guidelines and criteria in effect at the time this study was performed.

**Disclaimer – Additional critical areas may be present if the area were to be fully delineated by a qualified professional.*

REFERENCES

Alaska Department of Fish and Game (ADFG). Accessed 2024 via https://www.adfg.alaska.gov/index.cfm?adfg=eulachon.main

Bachman Environmental, LLC. (2019). Critical Areas Investigation for Parcels P32306, P32319, and P32320.

Bachman Environmental, LLC. (2024). Critical Area Report for Berschinski Property — 1705 37th Street.

Burgner, R.L., Light, J.T., Margolis, L., Okazaki, T., Tautz, A., and Ito, S. (1992). Distribution and origins of steelhead trout Oncorhynchus-mykiss in offshore waters of the North Pacific Ocean. International North Pacific Fisheries Commission Bulletin 51:1-92.

Cornell Lab of Ornithology. All About Birds. Yellow-billed Cuckoo. Accessed 2024 via https://www.allaboutbirds.org/guide/Yellow-billed_Cuckoo/id

Department of Ecology. Washington State Water Quality Atlas. Accessed 2024 via https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx?CustomMap=y&RT=1&Layers=30&Filters=n,y,n,n&F2.1=0&F2.2=0&BBox=-14338616,5395963,-12562831,6503994

Department of Natural Resources. Natural Heritage Program Mapper. Accessed 2024 via https://wadnr.maps.arcgis.com.

Healey, M.C. (1982). Juvenile pacific salmon in estuaries: The life support system. Estuarine comparisons.

Marks, D. and M.A. Bishop (1999). Interim Report for Field Work Conducted May 1996 to May 1997: Habitat and Biological Assessment Shepard Point Road Project – Status of the Marbled Murrelet Along the Proposed Shepard Point Road Corridor [online report]. U.S. Forest Service, Pacific Northwest Research Station, Copper River Delta Institute, Cordova, Alaska. http://www.pwssc.gen.ak.us/shepard/docs/reports/final/crdi/96mur.html.

Myers, J.M., Kope, R.G., Bryant, G.J. et al. (1998) Status Review of Chinook Salmon from Washington, Idaho, Oregon, and California. Seattle, WA: National Marine Fisheries Service, Report:NOAA-TM-NMFS-NWFSC-35.

NOAA Fisheries Species Information. Accessed 2024 via www.fisheries.noaa.gov/pr/species/index.htm

Simenstad, C.A., Fresh K.L, and Salo, E.O. 1982. The role of Puget Sound and Washington coastal estuaries in the life history of Pacific salmon: an unappreciated function. Estuarine comparisons, p.343-364, Academic Press, New York, NY

U.S. Department of Agriculture. Natural Resources Conservation Service (NRCS) Web Soil Survey. Accessed 2024 via https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

U.S. Fish and Wildlife Service (USFWS). Information for Planning and Consultation. Accessed 2024 via https://ipac.ecosphere.fws.gov/

U.S. Fish and Wildlife Service (USFWS). National Wetlands Inventory (NWI) Surface Waters and Wetlands. Accessed 2024 via www.fws.gov/wetlands/data/mapper.html

U.S. Fish and Wildlife Service (USFWS). Yellow-billed cuckoo. Accessed 2024 via https://www.fws.gov/species/yellow-billed-cuckoo-coccyzus-americanus

Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) mapping tool. Accessed 2024 via http://apps.wdfw.wa.gov/phsontheweb/

Washington Department of Fish and Wildlife (WDFW). Bocaccio Rockfish (*Sebastes paucispinis*). Accessed 2024 via https://wdfw.wa.gov/species-habitats/species/sebastes-paucispinis

Washington Department of Fish and Wildlife (WDFW). Forage Fish Spawning Map. Accessed 2024 via https://wdfw.maps.arcgis.com/home/webmap/viewer

Washington Department of Fish and Wildlife (WDFW) SalmonScape. Accessed 2024 via https://apps.wdfw.wa.gov/salmonscape/map.html

Washington Department of Fish and Wildlife (WDFW). Yellow-billed cuckoo. Accessed 2024 via https://wdfw.wa.gov/species-habitats/species/coccyzus-americanus#desc-range

Washington Department of Fish and Wildlife (WDFW). Yelloweye Rockfish (Puget Sound/Georgia Basin DPS) (*Sebastes ruberrimus*). Accessed 2024 via https://wdfw.wa.gov/species-habitats/species/sebastes-ruberrimus

Washington State Department of Natural Resources. Puget Sound Seagrass Monitoring. Accessed 2024 via https://wadnr.maps.arcgis.com/apps/webappviewer/index.html?id=83b8389234454abc8725827b49272a31

Washington State Department of Natural Resources. WA Wetlands of High Conservation Value Map Viewer. Accessed 2024 via www.dnr.wa.gov/NHPwetlandviewer

Wydoski, R.S. and Whitney, R.R. (1979). Inland fishes of Washington. University of Washington Press. Seattle, Washington

APPENDIX I: Critical Area Map Overlay

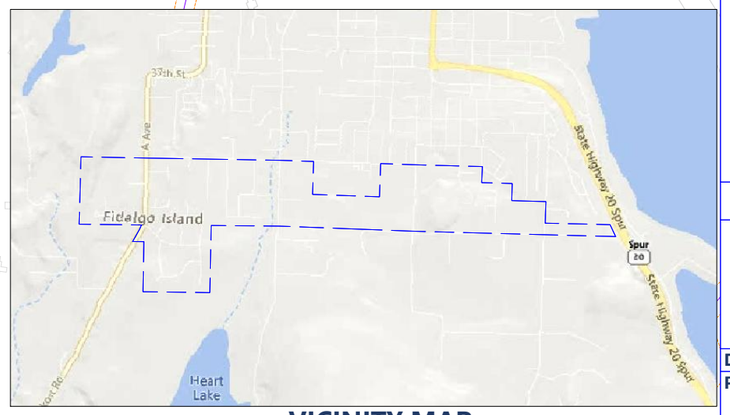
LEGEND/ACREAGE OF CRITICAL AREA WITHIN STUDY AREA:

- STUDY AREA - 300 ACRE
- 300 FT WETLAND BUFFER - 120 ACRE
- WETLANDS - 25.5 ACRE
- 165 FT WETLAND BUFFER - 16 ACRE
- NWI WETLANDS - 11.7 ACRE
- 50 FT STREAM BUFFER - 13 ACRE
- WELLS 1,000 FT RADIUS - 240 ACRE
- STREAM - 1 ACRE
- WELL POINT - 22 (EA) WITHIN STUDY AREA

32 AVE
D AVE
34TH ST
A AVE
H AVE
41ST ST
O AVE
WA-20
WHISTLE LAKE RD
FIDALGO BAY RD
HADDON RD
HEART LAKE RD
WETLAND A
WETLAND A 300' BUFFER
WETLAND B
WETLAND B 50' BUFFER
300' FROM STUDY AREA

CRITICAL AREA SITE MAP

400 200 0 400 800
SCALE IN FEET



VICINITY MAP

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UTILITY LOCATIONS ARE APPROX.)

#	DATE	BY	REVISION

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. FACET CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. ALL CRITICAL AREAS ARE NOT SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN. CONTACT FACET PRIOR TO CONSTRUCTION.

FACET
www.facetnw.com
9706 4th Ave NE, Suite 300
Seattle, WA 98115
P: 206.523.0024
SEATTLE | KIRKLAND | MOUNT VERNON | WHIDBEY ISLAND | FEDERAL WAY | SPOKANE

STEVEN MICHAEL ROBERT
STATE OF WASHINGTON
47721
REGISTERED
PROFESSIONAL ENGINEER

ANACORTES 300 ACRE

CRITICAL AREA SITE PLAN
QUAIL DR
ANACORTES, WA 98221

ISSUED FOR PERMIT

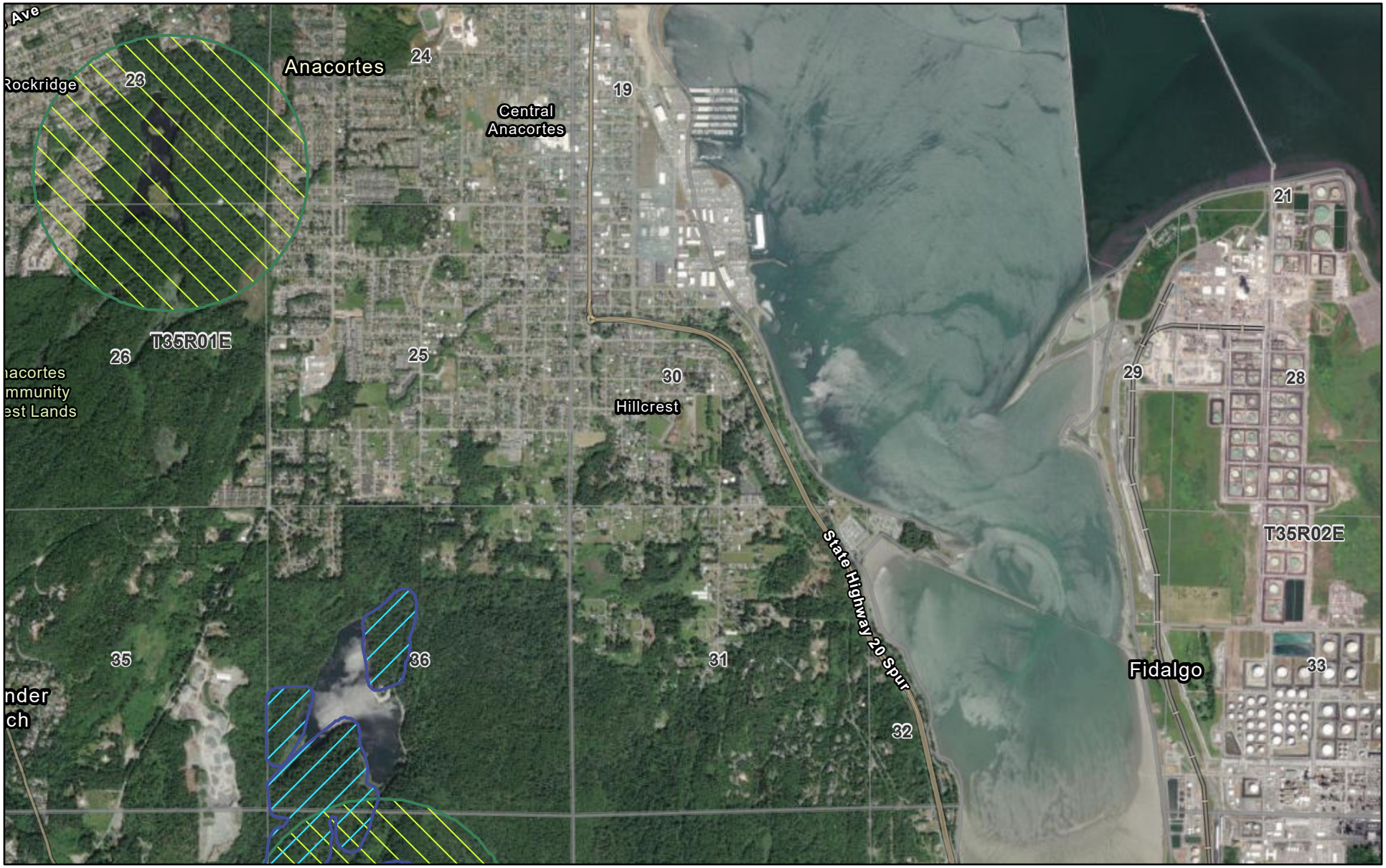
CRITICAL AREA SITE PLAN

DATE: OCT. 2024
PLAN NUMBER: S1.01
SHEET: 2 OF 6

10/10/24 - ISABELLA - Z:\SHARED\PROJECTS\ACTIVE\2024\09\24099.0334.00 - IAN MUNCE - ANACORTES 300 ACRES\DRAWINGS\CAD-REVIT\ACTIVE\IAN MUNCE - ANACORTES 300 ACRE CRITICAL AREA MAP.DWG

APPENDIX II: Critical Area Review

WNHP Rare Plant and Ecosystem Locations



10/1/2024, 1:42:09 PM

1:44,131

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

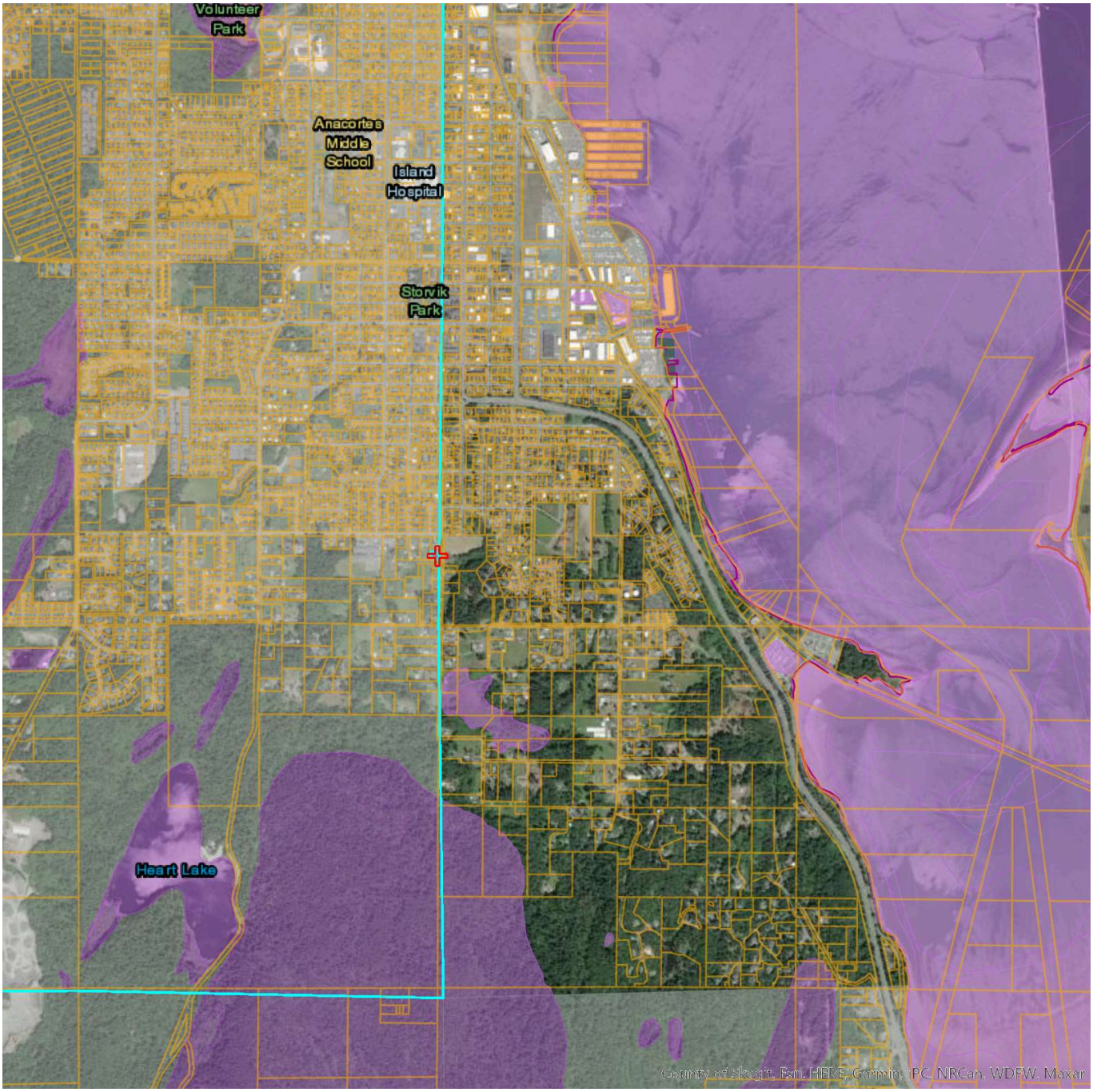
Known Rare Plants and Rare & High-quality Ecosystems

- Rare Plant
- Rare and/or High Quality Ecosystem
- Public Land Survey Sections
- Public Land Survey Townships
- State Boundary
- County Boundaries

County of Skagit, WA State Parks GIS, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land

WNHP Plant & Ecosystem Map Viewer

KNOWN PLANT AND ECOSYSTEM LOCATIONS REFLECT KNOWN OCCURRENCE LOCATIONS BUT MAY NOT REFLECT ALL OCCURRENCES OF RARE PLANTS OR ECOSYSTEMS.



Report Date: 10/01/2024

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Freshwater Emergent Wetland	N/A	N/A	No
Yuma myotis			Yes

PHS Species/Habitats Details:

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1C
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Yuma myotis	
Scientific Name	*Myotis yumanensis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necesssary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

APPENDIX V: Author Qualifications

Statement of Qualifications

ALLISON (MARTIN) LISI, ECOLOGIST

Professional Experience: 9 years

Allison Lisi is an Ecologist for Facet. Allison provides a wide range of consulting experience in environmental compliance, permitting, planning, restoration, and management. She has worked on a variety of habitat restoration projects throughout the Midwest, Tennessee, and Washington.

Allison earned a Bachelor of Science degree in Biology and Environmental Studies from the University of Cincinnati. She holds credentials as an ISA Certified Arborist and a Qualified Hydrologic Professional In-Training. Allison has also completed her certification in wetland delineations and watershed management.

HILARY HAHN, ENVIRONMENTAL COORDINATOR

Hilary Hahn is an Environmental Coordinator for Facet with ten years of experience in the engineering, development, and surveying sector. Hilary is currently pursuing a bachelor's degree in environmental science, where she has demonstrated an understanding of key environmental principles, such as biodiversity conservation, ecological systems, and environmental policy. Her studies have also exposed her to various scientific research techniques and methodologies, further fueling her drive to find innovative solutions to pressing environmental challenges.

Hilary is currently a certified wetland delineator and is looking forward to continuing her education by obtaining advanced credentials and professional certifications in the environmental field.

JAY DALLY, ECOLOGIST

Jay Dally is an Ecologist for Facet who recently graduated from Western Washington University with a Bachelor of Science degree in Environmental Science with a Freshwater and Terrestrial Ecology emphasis. His degree included a wide range of exposure to ecological principles and skills such as Pacific salmon habitat assessment, watershed delineation, soil science, aquatic toxicology, and wetland plant identification. Being in the early stages of his career as an ecologist, Jay is excited to build his skillset by participating in training to gain relevant credentials and by putting his education to use to provide excellent services to the Facet client base.

Libby Grage

From: Bud Anderson <budathome2012@hotmail.com>
Sent: Monday, November 11, 2024 4:25 PM
To: Comp Plan
Cc: Bud Anderson; Jackie Anderson
Subject: 2024 Comp Plan Update

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

1. HAVE THE ANACORTES CITY COUNCIL AND THE MAYOR ISSUE A STATEMENT ACKNOWLEDGING THAT CLIMATE CHANGE IS A CRITICAL ISSUE THAT NEEDS TO BE DELT WITH. ADDITIONALLY, RECOMMEND THE ESTABLISHMENT OF AN ENVIRONMENTAL ADVISORY BOARD

Background - Establish an Environmental Advisory Board. The EAB will be made up of people who have lived experience and those with professional expertise on a variety of environmental issues, including conservation, habitat restoration, climate science, greenhouse gas emissions reduction, climate impacts mitigation, urban planning, open space issues like bike and walking paths, and connected wildlife corridors. This will help the City Council and the Planning Department look at environmental issues holistically and make decisions based on the best available science. In addition to researchers, scientists, and educators, the EAB could include younger people and underserved people so the commissioners could hear from people who do not usually have the opportunity to contribute to environmental policy planning. An EAB would report to and make recommendations to the City on natural resource and environmental plans, policies, and programs. Examples include legislation affecting natural lands, open space, waters and wildlife habitat; land use decisions affecting the long-term sustainability of natural processes like rivers and marine shorelines; natural solutions to improve climate preparedness; environmental justice and environmental stewardship. An EAB could ensure that best available science is consistently included in local planning. It could maintain active outreach to county partners, stakeholder groups, tribal governments, and underserved community members.

2. EXPAND SEA LEVEL RISE POLICY REVISION • Support: Consider climate change, including sea level rise, extreme precipitation, increased winter streamflow, and other impacts, in floodplain management planning by updating flood hazard zones according to most recent climate change projections and modeling." • Recommend: The City should actively plan for sea level rise and climate change by updating the Shoreline Master Program in the next three years. • Recommend: A sea level rise vulnerability assessment and make it public. • Support: Proposed policy revisions for shoreline stabilization demonstrate a need, and require the use of soft shore stabilization methods to the extent practicable to protect sites from wave-driven erosion or flooding exacerbated by sea level rise." • Recommend: Do not classify boulders as soft armoring. • Recommend: Require that new development be situated to avoid needing shoreline stabilization. • Recommend: Add language that avoids construction in tidal and storm surge areas.

3. MAKE CHANGES TO POLICY REVISION FOR RURAL LANDS CONSERVATION AND REDUCTION OF CARBON EMISSIONS • Support: "Protect the rural landscape, character, and lifestyle by defining and identifying rural lands for long-term use, conservation, and resilience." Thank them for adding "resilience" to the Comprehensive Plan draft. • Support: Proposed policy to "Protect and enhance natural ecosystems to support climate change resilience, carbon sequestration, and GHG emissions reduction." • Support: Proposed policy to "Protect and manage natural lands (forests, grasslands, wetlands) to maintain or increase their carbon concentrations and avoid conversion of carbon-rich ecosystems." • Recommend: Recognize the value of conserving rural lands including agricultural lands, grasslands, forests, and wetlands because of their

important role in carbon sequestration. In addition, forest lands without development are easier to manage during wildfires, and grasslands, wetlands, and marginal agricultural land can hold flood waters thus protecting homes and businesses. • The City needs to prohibit more development outside of our city and urban growth areas. Rural development will result in increased greenhouse gas emissions due to frequent travel for schools, shopping, jobs, and essential services.

4. ADD TO ENERGY CONSERVATION, GENERATION, AND STORAGE POLICY REVISIONS • Support: The draft revision emphasizes increased use of clean energy sources and a reduction of burning fossil fuels for energy. • Support: Proposed policy revision to "Identify areas in the City that are appropriate for siting renewable energy generation and storage facilities that prioritize protection of Natural Resource Lands." • Support: Proposed policy to "Consider future climate conditions during siting and design of capital facilities to help ensure they function as intended over their planned life cycle." • Recommend: The City should consider installing community solar arrays, similar to the five large solar systems that was been done in Anacortes previously. These systems were sponsored by Transition Fidalgo and where a great community success. Individuals can invest in solar arrays on public buildings and then receive dividends on investment for a set time. The arrays allow multiple customers such as low-income and other individuals, businesses, nonprofits, and other groups to benefit from solar energy production. • Recommend: The City should plan now for clean energy installations, mapping and developing policy and code concerning the siting of electrical energy generation and storage facilities. The City should indicate where such facilities can be sited with the least conflict, and where they do not belong.

5. EXPAND FOREST RESOURCE LANDS WILDFIRE STRATEGY • Support: "Establish development regulations that support and incorporate best practices for reducing the risks and consequences of wildfire, extreme heat, flooding and other climate-exacerbated hazards." • Support: "Wildfire Resilience Strategy. Develop a comprehensive, city-wide wildfire resilience strategy planning program to increase public safety and awareness regarding forest fire dangers, and establish the means of managing, reducing and suppressing catastrophic wildfires." • Recommend - The City should no longer allow building in forested areas due to increased risk of intense wildfires. The City could achieve this by proactively purchasing development rights so people are not tempted to build homes where they may be impossible to defend from wildfires. Other vulnerable communities are no longer allowing development in fire prone forests and wildlands.

6. EXPAND THE USE OF MULTI-MODAL TRANSPORTATION IN REDUCING GREENHOUSE GAS EMISSIONS (GHG) AND VEHICLE MILES TRAVELED (VMT). • Support: "Participate in the planning and implementation of multi-modal transportation systems to increase mobility of all users, especially in underserved communities, and provide affordable, accessible, and reliable alternatives to the passenger car to reduce vehicle miles traveled and greenhouse gas emissions." • Support: "Support the expansion of employer commute trip reduction (CTR) programs to include both large and small businesses across various jurisdictions." • Recommend: Development of multi use non-motorized trail systems that connect towns, cities, and green spaces around them and also connect rural areas to towns and cities. • Recommend: Identify and map roads and bridges that are dangerous for cyclists and develop plans to make them safer by adding shoulders or bike lanes. • Recommend: Allowing public access on dikes for bicycling and walking by creating incentives and protections for dike districts and adjacent landowners. • Recommend: Develop additional trails to attract recreationists and eco-tourists like birders which would increase the tourism economy without increasing the carbon

Thank you for the opportunity to communicate my thoughts.

regards,
Bud Anderson

11067 Post Drive
Anacortes, WA 98221

360-293-5343

Libby Grage

From: Strich, David <david.strich@wsdot.wa.gov>
Sent: Tuesday, November 12, 2024 9:30 AM
To: Libby Grage
Cc: Shambaugh, John E.; Resnick, Justin
Subject: WSDOT comments about proposed Anacortes FLUM amendments

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Hi Libby,

Thank you for the opportunity to review the proposed draft amendments to the Comprehensive Plan's Land Use Element: Future Land Use Map (FLUM) & Land Use Designations and the Detailed FLUM amendment maps. Please accept this email for the record.

WSDOT supports efforts that jurisdictions take to increase housing options for all Washingtonians. As stewards of the state transportation network, we also share our understandings of how land use and transportation are interconnected.

FLUM Amendment Map #9 indicates adding three parcels to the Urban Growth Area (UGA). These parcels currently have access to SR 20. The Potential Future Land Use Map Amendments indicate that these parcels would be designated as Residential High Density.

The City estimates the properties to have a capacity of 126-327 units, depending on wetland buffers or other requirements. WSDOT is interested in understanding how the need was determined to accommodate this many units and if the city needs to expand. Though transportation impacts are not described, given the assumptions, WSDOT is interested in the estimated traffic generation from changing the zoning. Assumptions about traffic impacts will need to be verified by a traffic impact analysis (TIA).

At this location, SR 20 is designated Class 2 for access – only one access to the site is allowed from the state highway unless no reasonable access to the general street system is available. If this proposal for UGA expansion for these three parcels were approved, WSDOT expects that future projects would utilize Old Brook Lane for access to the local system and SR 20, per WAC 468-52-040. This also maximizes internal circulation and use of existing public roads, which tends to increase economic growth and development in the local area and decrease the costs for required infrastructure improvements.

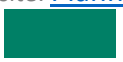
The packet materials from the October 30, 2024, Anacortes Planning Commission meeting include a Comprehensive Plan Amendment Petition entitled Scimitar Ranch UGA Expansion from an applicant named Signal Hill Family Limited Partnership (pp186-195). This would include 132.17 acres comprised of 21 parcels, inclusive of the three parcels on the map of the FLUM #9 Amendment. The application describes that "the adjacent Pioneer Trails RV Resort located on parcel P131687 has independently indicated that they are also interested in being annexed."

While these parcels do not appear to be included in the UGA Expansion, I include WSDOT's expectations were that to move forward. The SEPA Environmental Checklist included with this petition (pp196-216) describes that the site is served by Miller Road to the south. The Signal Hill Subject Area map (p215) shows access to Miller Road, though the map showing potential development of the site (p216) does not appear to use Miller Road. Given that SR 20 is restricted to right-in/right-out in the segment between the Sharpe's Corner and Howard's Corner roundabouts, residents would be better served with an access to Miller Rd instead of or in addition to Old Brook Ln. Again, for applicable access requirements, please refer to WAC 468-52-040.

We look forward to the opportunity to review and comment on the future iterations of the Anacortes Comprehensive Plan as they are developed, with particular attention to land use designations, zoning, and individual projects that are on, adjacent to, or intersect with state facilities.

Thanks again,
David

David Strich, PhD
Senior Multimodal Planner
Northwest Region/Mount Baker Area (MBA) Planning
(360) 757-5996
Él/彼/He/Him
Website: Planning guidance | WSDOT (wa.gov)



November 12, 2024

To: City of Anacortes Planning Department

From: Fidalgo Bay Aquatic Reserve Citizens Stewardship Committee

Re: Comment on Draft Comprehensive Plan

I am writing on behalf of our local Fidalgo Bay Aquatic Reserve Citizens Stewardship Committee. We are asking you to recognize the existence and importance of this Reserve as you update Anacortes Comprehensive Plan. Fidalgo Bay hosts the largest population of spawning surf smelt in the Salish Sea according to surveys conducted over the last 10 years. In addition, it is a dynamic ecosystem providing food and habitat for seals, native Olympia oysters, herons and many migrating birds. There also are recreation opportunities and a transportation corridor over the bay. This Reserve must be protected.

The Comprehensive Plan has impact on Fidalgo Bay in the elements of Land Use and Transportation.

LAND USE

We recommend the Future Land Use map be adjusted so that the Fidalgo Bay Aquatic Reserve shoreline is not designated as LM, Light Manufacturing. The land between Highway 20 and the water is extremely vulnerable. This could be mapped as public since it is mostly owned by Washington State Department of Natural Resources, the Skagit Land Trust or Washington State Department of Transportation. Even better would be to create a new designation of Open Space. Privately held parcels could remain as residential.

Goal LU-8. Fidalgo Bay and Guemes Channel Waterfronts.

Maintain and enhance Anacortes's waterfront as a unique and irreplaceable environmental, economic, and recreational amenity for the city.

There needs to be improvement in this goal. The wording is too vague and does not show how the city would enhance the shoreline. "Maintain" must be replaced with the word "Protect".

Use language that replicates other sections of the Comprehensive Plan such as

> *Goal EC-2. Marine waters and shorelines. Preserve, protect, enhance and restore*
>
> *shoreline natural resources.*
>
> ● *Policy EC-2.1. Ensure that shoreline uses adhere to the goals and policies outlined in*
>
> *the City of Anacortes Shoreline Master Program (ASMP), including achievement of*
>
> ***no net loss of shoreline ecological functions***

Fidalgo Bay Aquatic Reserve should be clearly identified in Policy. Example: "The city will work with Department of Natural Resources to monitor conditions, and to support Fidalgo Bay as a specially designated Reserve."

There needs to be more specifics on how to enhance the shoreline, and planting of trees is certainly a measurable activity that could improve habitat, mitigate climate issues and add variety to recreation.

TRANSPORTATION

Policy T-1.9. The City will continue to work with WSDOT

Add language to address improvements needed near Sharpe's Corner to mitigate sea level rise and flooding which damages Fidalgo Bay and causes emergency closures.

Add a new goal to section T 1.4 regarding the project to replace the trestle on Tommy Thompson Trail. The Fidalgo Bay Aquatic Reserve Citizen Stewardship Committee supports the reconstruction of this transportation corridor for bicycles and pedestrians. It must be clearly stated that the construction will address environmental concerns and will improve the health of the bay by removing creosote timbers and creating better water circulation.

Thank you,

Chair Ryan Mielke

Fidalgo Bay Aquatic Reserve Citizens Stewardship Committee

Libby Grage

From: Bob Coe <ncovecoffee@gmail.com>
Sent: Tuesday, November 12, 2024 5:17 PM
To: Comp Plan
Subject: Save Longview Neighborhood

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

November 12. 2024

Dear Members of the Planning Commission:

I urge you to remove the proposed rezone of the Longview Ave. neighborhood from the 2025 Comprehensive Plan. As it now stands you have proposed changing the zoning from RLD-2 to RMD. Our neighborhood, centered around Longview Ave. and stretching from N Ave down to 37th is a vibrant blend of families with children of all ages—from toddlers to teenagers—alongside working-class families, including firefighters, small business owners, teachers, retirees, and families who have often lived here for generations, sometimes on the same property. This is a place where kids still play in the streets on warm summer evenings, neighbors walk their dogs and stop to chat, and people look out for elderly residents. I love both the variety of the homes and the diversity of the people. It would be heartbreaking to lose the sight of kids playing in the street because of increased traffic and density that a rezone would inevitably bring.

The proposed rezoning of my neighborhood seems to contradict the vision outlined in the Fall/Winter 2024 issue of A-Town is Our Town. In the recent article from the planning department, it was emphasized that families choose where to raise their children based on housing availability and suitability. Many families have chosen to make our unique neighborhood their home, yet this doesn't appear to have been considered in the proposed rezone. Changing the zoning to RMD, which permits fourplexes, would fundamentally alter the character of our neighborhood. The current zoning, allowing single-family homes and duplexes, is appealing to homeowners who want to put down roots and become long-term residents, unlike fourplexes, which tend to attract shorter-term renters. Even more concerning is that multi-family properties are typically bought and developed by investors. As the Wall Street Journal recently noted (Oct. 30, 2024;), institutional investors are increasingly purchasing homes and properties, often with cash, making it difficult for families to compete. Small lots, like those common in our area, are particularly attractive to investors who can easily buy and combine them for multi-family developments. If this rezone goes forward, it will create a ready-made, gift-wrapped opportunity for out-of-town developers, undermining the family-friendly, high-quality of life neighborhood. Over the long-run zoning determines the type of housing that goes into an area, especially if it makes more money for the developer.

As a property owner in Anacortes and active member of the community, I share the concern about the lack of affordable housing in our town. However, rezoning our

neighborhood is not the answer. There is already a designated area for high-density housing further north on Commercial, as well as numerous blocks of existing medium-density housing. Anacortes has ample land available for multi-family housing solutions. The City's Land Capacity Analysis quantified potential housing units, population, and employment growth, concluding that Anacortes has enough zoned capacity to meet housing needs through 2045, with the capability to currently support 2,942 new housing units. So why is this analysis being overlooked, and a rezone still being proposed? It doesn't make sense when the existing capacity is sufficient. There are already many lots with the potential for thousands of apartments to be built along Commercial Ave.

Save the Longview Ave. neighborhood!

I recently attended the Open House and spoke with a City representative about the proposed rezoning. He explained that the change is being considered because there is already a commercial business in the neighborhood—The Store—which makes expanding multi-family housing seem appropriate for the area. The Store is a beloved spot that truly enhances the neighborhood's quality of life; many families enjoy walking there on weekends for muffins, breakfast burritos, and coffee. However, allowing one store to justify a decision that could significantly increase housing density and negatively impact the community is misguided..

Lastly is the concern of what the rezone would mean for the traffic and safety of our residential neighborhood, particularly for families with children. If you drive down Longview Ave. and other side streets, it is quickly apparent that there is almost no available street parking. If the current multi-family developments in the city are any indication of what might be built, almost all developments are filled with small units with one car garages and no other space for parking. It is unrealistic to expect in Skagit County for a home to only need one car which means cars will end up parking on the street.The congestion will definitely impact the quality of life and family centeredness of our neighborhood.

I strongly urge you to remove the proposed rezoning from the Draft Comprehensive Plan, as it is both unnecessary and not in the best interest of the City of Anacortes.
Sincerely,
Robert Coe
1015 Longview Ave.
360-421-6842

#Save Longview - there are plenty of other places for apartments

Libby Grage

From: xuhua.mu2@gmail.com
Sent: Wednesday, November 13, 2024 11:44 AM
To: Comp Plan; pced
Subject: Public Comments
Attachments: Anacortes Comprehensive Growth Plan Methodolgy Comment.pdf

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Attached is my review and comments on ""*Skagit County Population, Housing and Employment Growth Allocations Methodology".*

Thanks!

Xuhua Mu
Citizen of Anacortes since 2018

Evaluation of the Anacortes 2022-2045 Comprehensive Plan's Growth Forecast Methodology

1 Background

Anacortes Comprehensive Growth Plan 2022-2045 is based on a Skagit county allocated population growth and housing demand by area medium income (AMI) bracket as well as an incremental employment forecast for each urban growth area and "Rural" area in Skagit county. *Skagit County Population, Housing and Employment Growth Allocations Methodology* (Methodology) was published on December 12, 2023.

Key conclusions are:

1. Population growth from 2022 to 2045 in Skagit county is 29,580, 17% (4988) of which is allocated to Anacortes urban growth area (UGA). The allocation factor for each UGA is based on trend line from the historical data from 2012 -2022.
2. A housing demand by AMI bracket in each UGA is based on allocated population growth with the following modifications.
    a. Reduce 90% of calculated housing demands of the 0-50% AMI population in "Rural".
    b. To keep the total calculated demand unchanged, same number units are reallocated to 120% AMI UGA's and "Rural" area although the types of housing demand for 0-50% AMI and 120% AMI are significantly different.
3. Employment growth is based on employment compound growth rates from 2002 to 2020 in Skagit county.

2 Flaws and Limitation in the Comprehensive Plan Growth Forecast Methodology

The Comprehensive Growth Plan was generated based on the average from 2012–2022 population history in each UGA and Skagit county. As a result, for this forecast to be sound, it would require 1) the future population growth pattern in each UGA and the entire county match those from 2012 – 2022 period, 2) **None** of the existing residential dwelling in each UGA and "Rural" area will enter the housing supply for the added population from 2023-2045.

2-1 Population

Detailed population data in Anacortes, Skagit county and the US from 2011 to 2022 were collated and analyzed as shown in Table 1 and Charts 1-5. The data sources are US Census Bureau, Anacorteswa.gov, city-data.com, uspopulation.org, Washington State Department of Health, USAfacts.org, federal reserve and Center for Immigration Studies. In addition, birth rates, death rates and net migration are also being examined for the period of 2012 to 2022. The key findings are:

1. 85% of population growth in Skagit county from 2012 to 2021 was driven by **net migration**. 100% of population growth in Skagit county was due to **net migration from 2015-2021**.

2. The net migration in Skagit peaked in 2017 at almost 2000 people. Since 2018, the net migration has been trending down but with over 50% swings year over year since 2019.
3. Similar to the national trends, the death rate has been increasing while birth rate is declining since 2011. In Skagit county, death rate has surpassed birth rate since 2020.
4. More than half of the population growth in the US since 2011 has been driven by net migration.
5. The population in Anacortes is about 13.5% of total population in Skagit, which has been stable since 2012.
6. 15.7% of population growth from 2012 to 2022 in Skagit county was in Anacortes.

	Anacortes			Skagit Co.		Anacortes	Ana. Pop Incr	Skagit Co.				
Year	Population	Year on Year Change	Change in Percent	POP	Year on Year Change	POP as % of Skagit Co	as % of Skagit POP Inc	Births	Deaths	Births less Deaths	Net Migration	POP Increase from Net Migration
2011	15,852	89	0.56%	117,518		13.5%		1452	1100	352	(154)	-78%
2012	15,877	25	0.16%	117,716	198	13.5%	12.6%	1425	1073	352	202	36%
2013	15,955	78	0.49%	118,270	554	13.5%	14.1%	1436	1074	362	1358	79%
2014	16,189	234	1.47%	119,990	1,720	13.5%	13.6%	1425	1140	285	1314	82%
2015	16,392	203	1.25%	121,589	1,599	13.5%	12.7%	1442	1188	254	1818	88%
2016	16,664	272	1.66%	123,661	2,072	13.5%	13.1%	1510	1228	282	1909	87%
2017	16,988	324	1.94%	125,852	2,191	13.5%	14.8%	1430	1277	153	1723	92%
2018	17,231	243	1.43%	127,728	1,876	13.5%	13.0%	1387	1232	155	1298	89%
2019	17,525	294	1.71%	129,181	1,453	13.6%	20.2%	1392	1254	138	565	80%
2020	17,680	155	0.88%	129,884	703	13.6%	22.0%	1350	1363	(13)	1062	101%
2021	17,869	189	1.07%	130,933	1,049	13.6%	18.0%	1393	1534	(141)	387	157%
2022	18,003	134	0.75%	131,179	246	13.7%	54.5%	1411	1481	(70)	----	
	Total	**2151**		**Total**	**13,661**		15.7%		**Total**	**2109**	**11482**	
										15.5%	84.5%	

Table 1 Anacortes and Skagit Population Growth 2012 – 2022

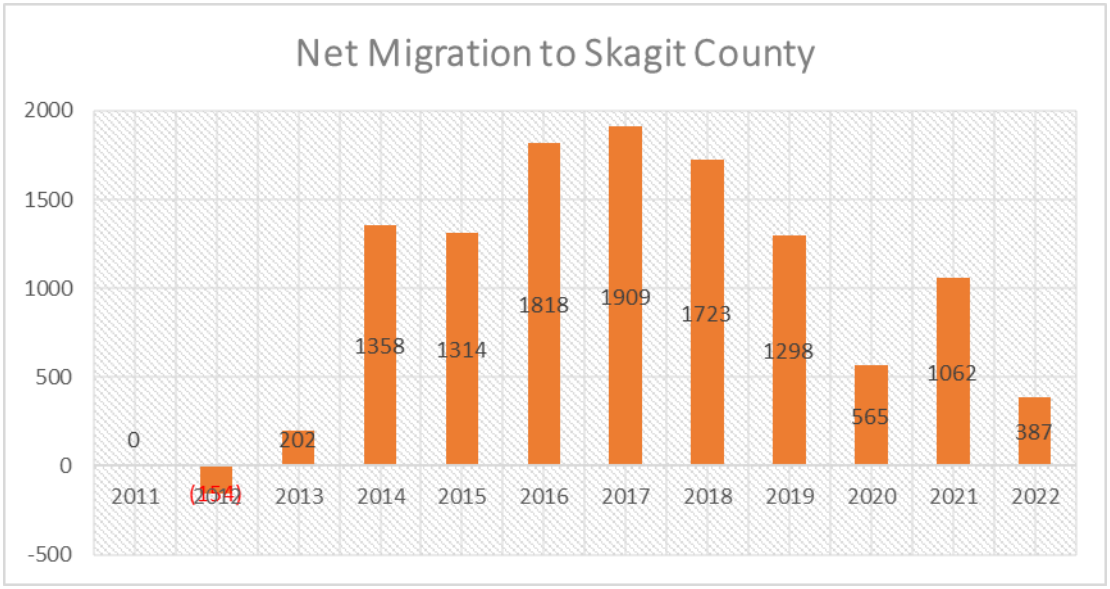


Chart 1 Net Immigration to Skagit County 2011 – 2022

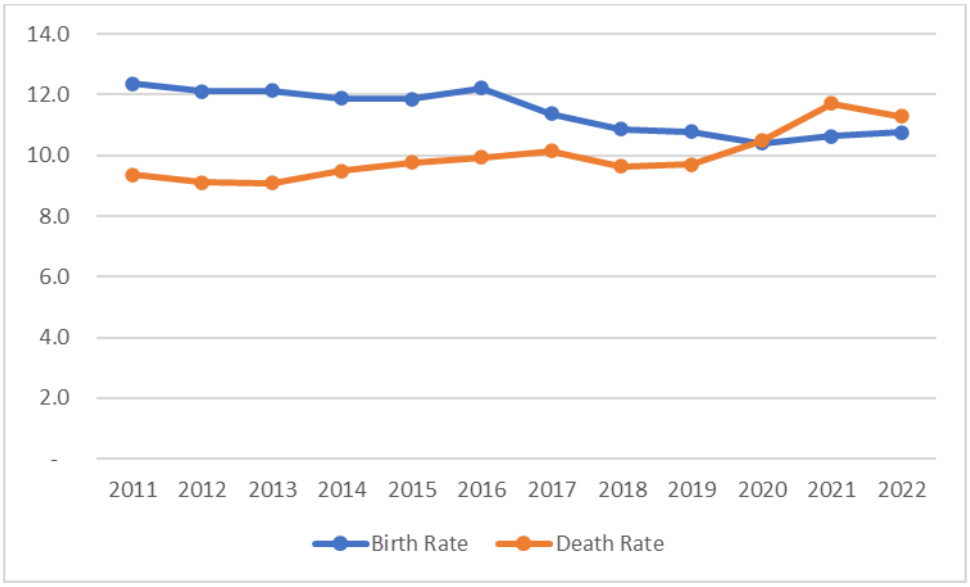


Chart 2 Crude Birth Rate and Death Rate in Skagit County 2011-2022 (per '000 population)

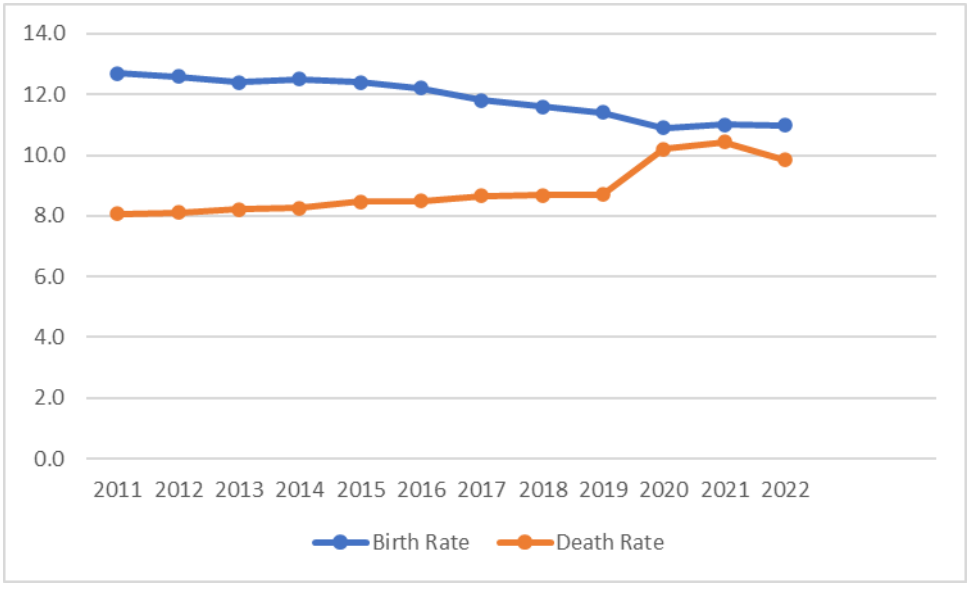


Chart 3 Crude Birth and Death Rates in the US 2011-2022 (per '000 population)

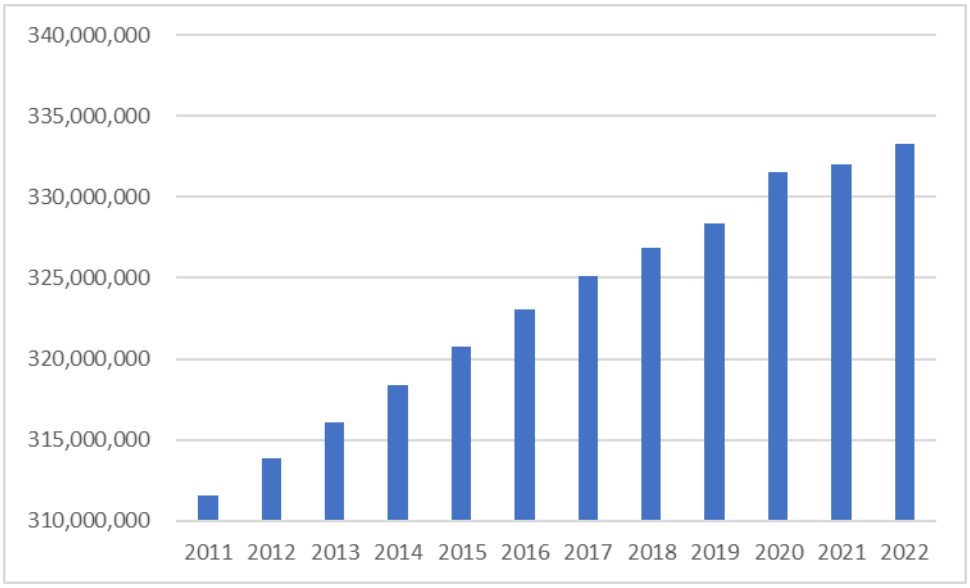


Chart 4 Total US Population

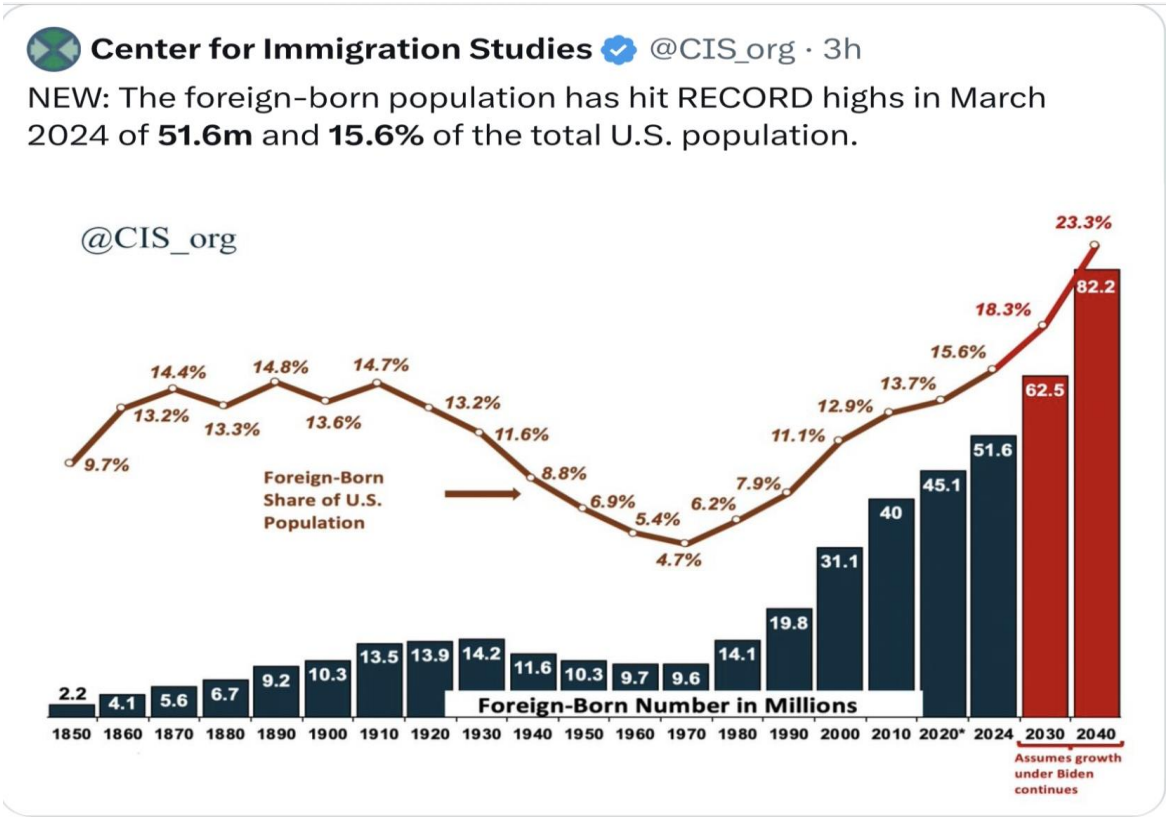


Chart 5 Historical Immigration Trend

Discussions

According to the Census Bureau 2022 stats, the medium age in Anacortes is 48.7, with 36% being older than 60 years of age and 20% older than 70! Excluding Anacortes, the medium age in Skagit county is 41.1, with only 15% of the total population older than 70 (Table 2). Anacortes is unique in Skagit county due to its aging population. The life expectancy is 79.7 years in 2023 (Chart 6), which means a significant percentage of the 70 years and older population in Anacortes today may not be around in 10 years.

In the past couple of years we have seen articles on mainstream news platform on "alarming high death rate in younger Americans" such as,

1. *https://www.sciencealert.com › unexpected-deaths-in-the-us-are-rising-at-an-alarming-rateUnexpected Deaths in The US Are Rising at an Alarming RateJun 14, 2023 Unexpected Deaths in The US Are Rising at an Alarming Rate. People in the US are dying at higher rates than in other similar high-income countries, and that difference is only growing...*

2. *https://www.pbs.org › newshour › show › why-mortality-for-young-americans-is-increasing-at-an-alarming-rate*
   Why mortality for young Americans is increasing at an alarming rate – PBS Apr 16, 2023 Well, it's being driven by an increase in death rates in young and middle-aged adults 25 to 64. And most of those relate to the problems of drug overdoses, suicides, alcohol related causes.

3. *https://www.usatoday.com › story › opinion › 2023 › 08 › 11 › more-americans-dying-than-before-pandemic-covid-deaths › 70542423007*
   More young Americans are dying - USA TODAY Aug 11, 2023Among working people 35 to 44 years old, a stunning 34% more died than expected in the last quarter of 2022, with above-average rates in other working-age groups, too. " COVID-19 claims do not ...

4. *Youth death rate still higher in US than similar countries, with pandemic bump in older teens (cidrap.umn 7/2/2024)*

5. *Symptoms of condition that has seen death rates soar in young people (The Mirror, 6/26/2024)*

6. *Red flags of condition which has seen youth death rates surge (msn.com 6/26/2024)*

7. *https://www.nationalacademies.org › news › 2021 › 03 › death-rates-rising-among-middle-aged-and-younger-americans-report-recommends-urgent-national-response*
   Death Rates Rising Among Middle-Aged and Younger Americans - Young and middle-aged adults (25-64 years old) in the U.S. have been dying at higher rates since 2010, according to a new report from the National Academies of Sciences, ... death rates in working-age Black people are now increasing, effectively erasing that progress. Drugs, Alcohol, and Suicide ...

8. *https://time.com › 6279956 › americans-dying-young*

Why Americans Are Dying So Young | TIME May 16, 2023 Another seminal report released in 2021, called "High and Rising Mortality Rates Among Working-Age Adults," showed that U.S. mortality rates have been increasing in mid-life (ages 25-64), the ...

9. *https://www.usnews.com › news › health-news › articles › 2023-06-15 › cdc-study-shows-rise-in-violent-death-rates-among-u-s-youth CDC Study: Rates of Violent Death Up Among U.S. Youth Jun 15, 2023 Among young people 15 to 19 years old, the suicide rate increased 57% from 7.5 deaths per 100,000 in 2009 to 11.8 per 100,000 in 2017, remaining relatively stable afterward.*

10. *https://www.nbcnews.com › health › kids-health › us-kids-dying-higher-rates-wealthy-countries-why-rcna159757 Why U.S. kids are dying at higher rates than in other wealthy countries*

11. *https://www.npr.org › sections › goatsandsoda › 2021 › 11 › 19 › 1055129130 › research-sheds-light-on-whats-killing-young-people-especially-boys-and-young-men New study sheds light on what's killing young people, especially young ...Nov 19, 2021 First, the good news: The death rate among young people around the world has been declining, a new study shows. But boys and young men are not doing as well as girls and young women. Since 1950 ...*

12. *https://www.prb.org › resources › dying-young-in-the-united-states Dying Young in The United States: What's Driving High Death Rates Among ...*

13. *Young Americans face lower life expectancies and higher death rates than their peers in other affluent countries. (Population Bulletin vol. 76, no. Project Details. Date. January 19, 2022)*

The increased mortality rate in younger Americans, age 20 to 64, has been increasing since 2021. The population forecast must incorporate this impact on younger American population.

Given the trend of declining birth rate and inclining death rate, the population growth in Anacortes and Skagit county is expected to be from **NET MIGRATION**. To forecast population, housing and employment growth in Skagit county and each UGA in the county, we have to understand the quantity and the profiles of the future migrants entering the county in terms of age, gender, education, training, family status, culture and religious background. Unfortunately, Anacortes and Skagit's Comprehensive Growth Plan failed to address the demographics of future migrants who would make up the "growth".

In the past 3-4 years, there have been millions of immigrants across the southern border and the northern border entering the United States. Many of them are young and without families, which means they are quite mobile. The Center for Immigration Studies forecasted 82 million foreign born immigrants in the US in 2040. It is unlikely the profile of future migrants would be similar to those of entering Skagit and Anacortes in the past. The jobs and types of home that an IT professional with

means from California would seek in Skagit county, are totally different from those sought by a young immigrant from South America with little education and training.

US Federal Government's current and future immigration policy and its immigration stats offer guidance on the quantity and profile of immigrants entering the US and an estimated impact on each state in future years. State and federal government stats can also provide historical population movements within the US for the past years. These should be factored in for growth assessment in Skagit county and Anacortes which relies on net migration for growth.

	Anacortes	Skagit Co (Excl Anacortes)	Skagit County
Medium age	48.7	41.1	42.1
% of POP >60 yo	36%	17%	20%
% of POP >70 yo	20%	15%	16%

Table 2 Age Profile in Anacortes and Skagit County

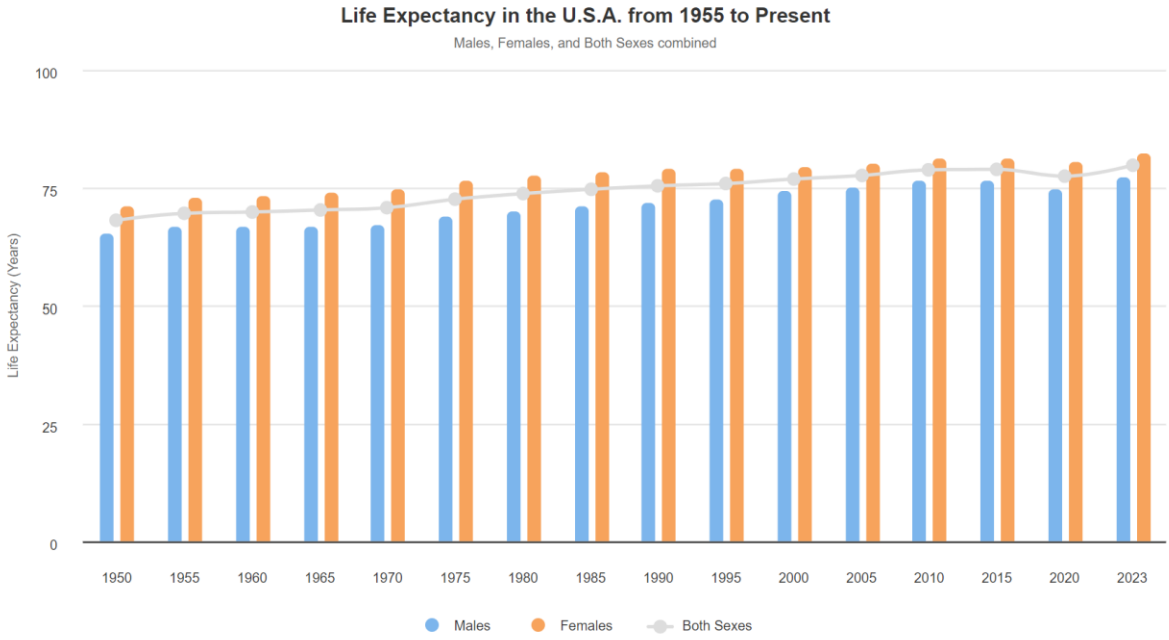


Chart 6 US Life Expectancy (worldometers.info)

2-2-1 Low Income Housing Demand in "Rural" Area Replaced with High Income Housing Demand Allocated Across ALL UGAs

In developing the housing needs by AMI bracket, 90% of lower than 50% AMI demands are removed from "Rural" category. To keep the total number housing units unchanged, the same number housing units is reallocated to120% AMI bracket in each UGA and "Rural" area.

Less than 50% AMI residents are likely seek government or charity subsidized housing, while 120% AMI residents are likely consumers of single family homes. This "SWAP" between two extreme end of the income brackets presents two fundamental logic issues.

- 5916 individuals are forecasted to be the growth from 2022 to 2045 in "Rural" area by Skagit county. A **1314 housing units** are removed from the less than 50% AMI residents in "Rural" area. The housing demand for 120% AMI is instead artificially inflated by **1314 housing units**. Where would the lower income population live in "Rural" or how would they afford the types of housing intended for 120% AMI consumers?

- The housing demand by 120% AMI bracket is artificially inflated for each UGA. It is 11% impact for Anacortes (Table 3 and 4). When UGAs plan their supporting infra-structure beyond the actual demands, it can overburden the taxpayers and the local governments can quickly find themselves run in RED. Ghost towns in China are results of government's supplying phantom future growth demand. (Pic 1)

	Net New Housing Needed by AMI 2020-2045 by AMI Bracket						
UGA	**Total**	0-30%	30-50%	50-80%	80-100%	100-120%	120%+
Anacorte	**2793**	924	592	422	226	201	428
Burlington	**2699**	893	572	408	218	194	414
Concrete	**102**	34	22	15	8	7	16
Hamilton	**0**	0	0	0	0	0	0
La Conner	**118**	39	25	18	10	8	18
Lyman	**0**	0	0	0	0	0	0
Mt Vernon	**4917**	1627	1043	743	398	353	753
Sedro Wooley	**2512**	831	533	380	203	180	385
Bayview	**0**	0	0	0	0	0	0
Swinomish	**112**	37	24	17	9	8	17
Rural	**4199**	890	570	501	268	238	1732
Total	**17450**	**5275**	**3381**	**2504**	**1340**	**1189**	**3761**

Table 3 Allocated Housing Demand Without "SWAP"

	Net New Housing Needed by AMI 2020-2045 by AMI Bracket							
UGA	Total	0-30%	30-50%	50-80%	80-100%	100-120%	120%+	Allocation Factor
Anacorte	**2942**	924	592	422	226	201	577	11%
Burlington	**2843**	893	572	408	218	194	558	11%
Concrete	**107**	34	22	15	8	7	21	0%
Hamilton	**0**	0	0	0	0	0	0	0%
La Conner	**124**	39	25	18	10	8	24	0%
Lyman	**0**	0	0	0	0	0	0	0%
Mt Vernon	**5180**	1627	1043	743	398	353	1016	20%
Sedro Wooley	**2646**	831	533	380	203	180	519	10%
Bayview	**0**	0	0	0	0	0	0	0%
Swinomish	**118**	37	24	17	9	8	23	0%
Rural	**3490**	89	57	501	268	238	2337	46%
Total	**17450**	**4474**	**2868**	**2504**	**1340**	**1189**	**5075**	

Table 4 Adopted Housing Demand for 2020-2045 Comprehensive Growth Plan After "SWAP"

Pic 1 A Ghost City in Southeast of China

2-2-2 Existing houses in the county will not enter the supply and demand in the housing market. If the owner(s) of a house died, the property is likely to be on the market. The death rate was 9.6 (deaths per '000 population) or 1174 per year from 2011 to 2019. The death rate increased to 11.2 (deaths per '000 population) or 1459 per year from 2020 to 2022. What happens to the residential units after the owners passed away? What happens to the homes when owners move out of the county?

2-3 Employment Growth

Future demographic profile and technological advancements can drastically change the historical pattern of employment demand by industry sectors in the US. Elon Musk's robots can now fold clothes faster and better than humans and it costs $3/day! Will Macy's, Nordstrom and Costco replace their clothes folding employees in their stores with robots for higher profit margins? Of course! Private capital always goes after the highest return!

With the entry of artificial intelligence (AI) in industrial and commercial applications, there is no surprise that the integration of AI will take place across multiple industries in the period of our city's comprehensive plan. The key players in the AI space already announced that it would greatly reduce human resource demand in all types of data processing and analysis, computing, coding, education, finance and healthcare jobs.

Historical employment trends predict the future well when there is **none** disruptive, emerging technology on the horizon. As we shift from a resource based economy to an information based economy, we can't ignore the impact on our economic and employment landscape in the next twenty years from this technological advancement . In Anacortes, the major employment growth sectors are manufacturing, retail, financial services and healthcare, which are targeted market segments for AI. Inputs and hypothesis from the technology space should be incorporated in forecasting the future employment growth by sector.

Libby Grage

From: xuhua.mu2@gmail.com
Sent: Wednesday, November 13, 2024 11:51 AM
To: Comp Plan; pced
Subject: Public Comments on CP Transportation Section
Attachments: Public Comment - Anacortes Transporation CP.pdf

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

Please note my comments are typed in ***GREEN*** in the very last column of the attached policy tracker table.

Thanks!

Xuhua Mu
253 906 7979
Anacortes

Anacortes Comprehensive Plan Update
Transportation Goals and Policies Tracker

DRAFT October 1, 2024

10/9/24 Planning Commission Discussion Version

The Planning Commission reviewed the 1st draft proposed amendments at the October 9, 2024 meeting.

Introduction

This goal and policy tracker reviews the **Transportation Element** of the 2016 Anacortes Comprehensive Plan in support of the 2025 periodic update. **Transpo Group** is providing comments, considerations, and recommendations for updating goals and policies. Further updates and additions will be added to the **Transportation Element** to meet climate element requirements and better connect policies that are both land use and climate related.

Some frequent abbreviations used in this audit:

AMC = Anacortes Municipal Code
GMA = Growth Management Act

RCW = Revised Code of Washington

Transportation Element

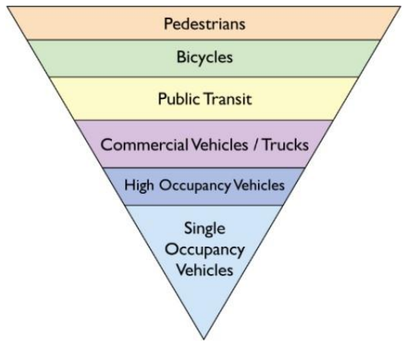
Goals and Policies

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change *COMMENTS*
Goal T-1	**56**	**Operations, Maintenance, Management and Safety.** As a high priority, maintain, preserve, and operate the city's transportation system in a safe and functional state.	Prioritize Safety, **Operations, Maintenance,** and **Management**~~, and Safety.~~ ~~As a high priority, m~~ Maintain, preserve, and operate the city's transportation system in a safe and functional state for all travelers.	Prioritizing implies highest importance. Safety is paramount in transportation. GMA emphasizes all travelers, all modes.
Category		**Maintenance and Preservation**		
Policy T-1.1	56	Maintain and operate the city's transportation systems working to minimize impacts to mobility from maintenance activities and provide continuous safe, efficient, and reliable movement of people, goods, and services.	~~Maintain and operate the city's transportation systems working to m~~ Minimize impacts to mobility from maintenance activities and provide continuous safe, efficient, and reliable movement of people, goods, and services.	Simplicity, clear direction. *Please state "clear direction".*
Policy T-1.2	56	Protect the investment in the existing system and lower overall life-cycle costs through effective maintenance and preservation programs.	Protect the investment in the existing transportation system and lower overall life-cycle costs through effective maintenance and preservation programs.	Specificity
Policy T-1.3	56	Using Asset Management methodology, prioritize essential maintenance, preservation, and safety improvements of the existing transportation system to protect mobility and avoid more costly replacement projects.	No change	
Category		**Transportation Systems Management for the System as a Whole**		
Policy T-1.4	57	Develop a citywide traffic monitoring system to collect AM, PM and daily traffic volume data on a regular basis to determine how transportation investments are performing over time.	No change	*Why waste money for integrated monitoring system which requires data collection, data analysis, system maintenance and trend analysis?*
Policy T 1.5	57	Strive to increase the efficiency of the current transportation system to move goods, services, and people to and within the city before adding additional capacity.	No change	*YES!*
Policy T-1.6	57	Work with the Washington State Ferry system to encourage ferry walk-on and transit service and additional passenger-only service centered in Anacortes.	Move to and consolidate into Policy 1.7	Consolidate all WSDOT ferry policies *Buses to transport people to the island and ferry landing!*
Policy T-1.7	57	Encourage the replacement and modernization of the Washington State Ferry Terminal which is the gateway to the world famous San Juan Islands; continued maintenance of the facility; and continued use of the reservation system to prevent the ferry lines from backing up onto Oakes Avenue.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies
Policy T-1.8	57	Consistently work with Washington State Ferries to continue making the international ferry service to Sidney, B.C., and Canada successful.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies
Policy T-1.9	57	Reserve undeveloped city right-of-way for future use and do not vacate city right-of-way unless overwhelmingly beneficial to the city.	Renumber to 1.6	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
			Policy T-1.7. Work with the Washington State Ferry system to encourage: a. Additional transit service, walk-on ridership, and passenger-only ferry service centered in Anacortes. b. Replacement, modernization, and continued maintenance of the Washington State Ferry Terminal which is the gateway to the world-famous San Juan Islands. c. Restore international ferry service from Anacortes to Sidney, B.C., Canada. d. Continued use of the reservation system to prevent the ferry lines from backing up onto Oakes Avenue. e. An Intelligent Transportation System (ITS) improvement (electronic information collection and display for highway users) to reduce impacts of ferry traffic.	Consolidate all WSDOT ferry policies
Policy T-1.10	57	Encourage Guemes Island Ferry facilities that are compatible with the surrounding neighborhood and mitigate for ferry traffic impacts; this should include bus service during the Guemes Island Ferry maintenance shutdown.	Delete; Rewrite as Policy T-1.8	
			Policy T-1.8. Encourage Skagit County to provide Guemes Island Ferry facilities that: • Are compatible with the surrounding neighborhood • Mitigate for daily ferry vehicle traffic impacts; and • Include bus service during the annual ferry maintenance shutdown.	Bullets provides 3 clear requests
Category	57	**Coordination of the State Highways (SR 20 and SR 20 Spur) going through Anacortes**	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies ***Why consider HWY 20 to still exist in the City? Should not it be covered by state funding?***
Policy T-1.11	57	Work with Washington State Department of Transportation to give a high priority to safety and mobility projects at Sharpe's Corner.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies. Sharpe's corner roundabout completed since this was written.
Policy T-1.12	57	Plan and budget for a safety plan and project follow through for the SR 20 Spur/R Avenue intersection and other high accident locations in Anacortes.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.13	57	Encourage, and partner with Washington State Department of Transportation in the long-term (20 plus years) to pursue reduction of signals by creation of grade separated intersections along SR 20 at Christiansen Road, Thompson Road, and/or Reservation Road using as a basis the WSDOT Route Development Plan titled "SR 20 to Sharpes Corner to SR 536 Safety Improvement Project" (Nov. 2003).	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.14	57	Plan for and develop a more robust and usable frontage road system in the SR 20 corridor using existing roadways.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.15	57	Consider an Intelligent Transportation System (ITS) improvement (electronic information collection and display for highway users) to reduce impacts of Washington State Ferry traffic.	Delete; Consolidate into Policy 1.7	Consolidate all WSDOT ferry policies

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-1.16	57	Partner with Washington State Department of Transportation to provide adequate shoulders, safe bicycle lanes, sidewalks, and street lighting from Commercial Avenue to the Ferry Terminal.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.17	58	Provide an alternate route, or routes, for local and emergency traffic between the west end of town (Skyline area) and downtown Anacortes (Island Hospital), such as West 2nd Street.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.18	58	Work to improve, and increase the number of, pedestrian crossings along the SR 20 and SR 20 Spur corridors; such as the proposed crossing at Christiansen Road and SR 20 intersection as proposed as part of the Sharpe's Corner project.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
Policy T-1.19	58	Coordinate on road maintenance issues and continue the close relationship with Washington State Department of Transportation to keep lines of communication open and increase the chances of successful collaboration in the future.	Delete; Consolidate into Policy 1.9	Consolidate all WSDOT highway policies
			Policy T-1.9. The City will continue to work with WSDOT to: a. Provide adequate shoulders, safe bicycle lanes, sidewalks, and street lighting on SR 20 Spur from Commercial Avenue to the Ferry Terminal, consistent with RCW 47.04.035 Complete Streets Principles and the 2020 WSDOT Active Transportation Plan. b. Complete a safety plan for the SR 20 Spur/R Avenue intersection and other high accident locations in Anacortes. c. Pursue reduction of signals by creation of grade separated intersections along SR 20 at Christiansen Road, Thompson Road, and/or Reservation Road based on the WSDOT Route Development Plan titled "SR 20 to Sharpes Corner to SR 536 Safety Improvement Project" (Nov. 2003). d. Plan for and develop a more robust and usable frontage road system in the SR 20 corridor using existing roadways. e. Provide an alternate route, or routes, for local and emergency traffic between the west end of town (Skyline area) and downtown Anacortes (Island Hospital), such as West 2nd Street. f. Improve, and increase the number of, pedestrian crossings along the SR 20 and SR 20 Spur corridors. g. Coordinate on road maintenance issues, maintain a close relationship, and keep lines of communication open to increase the chances of successful collaboration in the future.	Rewritten to consolidate all WSDOT highway policies, but if any obsolete statements or completed projects should be deleted.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Category		**Financial**		
Policy T-1.20	58	Emphasize transportation investments that provide and encourage alternatives to single occupancy vehicle travel and increase travel options, especially to and within commercial and mixed-use areas and along corridors served by transit to reduce infrastructure costs associated with system expansion.	No change	
Policy T-1.21	58	Focus on investments that produce significant net benefits to people and businesses and aim to minimize the environmental impacts of transportation.	No change	
Policy T-1.22	58	Encourage public and private sector partnerships to identify and implement improvements to personal mobility.	No change	
Policy T-1.23	58	In coordination with other agencies and organizations, participate in planning for and funding of the expansion of multi-modal transportation capital facilities.	No change	
Policy T-1.24	58	Update transportation impact fees on an annual basis using the Engineering News-Record Construction Cost Index (ENR CCI) to reflect current inflation, policies, and needs and discuss a method of updating the impact fees on an annual or biannual basis.	~~Update~~ Adjust transportation impact fee (TIF) base rates on an annual basis using the Engineering News-Record Construction Cost Index (ENR CCI) to reflect current inflation, policies, and needs. ~~and discuss a method of updating the impact fees on an annual or biannual basis.~~	Adjustment using index does not require a complete update of the TIF program, but simply an adjustment to the base rate. This can be built into the new 2025 TIF program so the intended TIF base rate will be known for each year going forward, but actual rate will need to be adjusted for index.
Policy T-1.25	58	Consider city financing methods that create, sustain and/or expand local transit service. This service could be city provided, SKAGIT TRANSIT provided, or privately provided.	No change	
Policy T-1.26	58	Strive to create and maintain a balance between available revenue and needed capital facilities. If projected funding is inadequate to finance needed capital facilities adjust the level of service, the planned growth, and/or the sources of revenue. The City should first consider identifying additional funding, then adjusting LOS standards, before considering reassessment of land use assumptions.	Strive to create and maintain a balance between available revenue and needed capital facilities. If projected funding is inadequate to finance needed capital facilities adjust the level of service (LOS), the planned growth, and/or the sources of revenue. The City should first consider identifying additional funding, then adjusting LOS standards, before considering reassessment of land use assumptions.	Abbreviate before using acronym in next sentence.
Goal T-2	58	**Greater Safety, Options and Mobility.** Invest in transportation systems that offer greater options, mobility, and access in support of the city's growth strategy.	~~Greater~~ Multimodal Transportation **Safety, Options, and Mobility.** Invest in multimodal transportation systems that offer ~~greater~~ increased safety, options, mobility, and access in support of the city's growth strategy.	Multimodal is more inclusive ***Why focus on "City Growth"? Sustainability is more critical for a citywide functional transportation system!***
Category		**Safety**		
Policy T-2.1	58	Policy T-2.1. Continue to improve the safety of the transportation system to work towards the state's goal of zero deaths and disabling injuries by the year 2030.	~~Continue to~~ Improve the safety of the multimodal transportation system ~~to work~~ by continually working towards the City, state, ~~'s~~ and federal goal of zero deaths and ~~disabling~~ serious injuries ~~by the year 2030~~.	Zero fatalities is the goal and while WSDOT has established 2030 as the goal in Target Zero, the state and national trend has been increasing, especially for pedestrian/bicycle deaths and injuries. Remove the date so that it is a continual effort with no end. ***Educate citizens for safe driving. Establish an age limits for driving and encourage community transit systems.***

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-2.2	59	In our concern for safety for all travelers; while making planning and budget decisions the City will utilize the following prioritization for different travel modes: A. Pedestrian B. Bicycle C. Motorcycle D. Transit E. Freight F. Carpool G. Single Occupant Vehicle	~~In our concern for safety for all travelers; while making~~ City planning and budget decisions ~~the City~~ will be based on ~~utilize~~ the following prioritization for different travel modes, with an emphasis on safety for the most vulnerable roadway users: A. Pedestrian B. Bicycle C. ~~Motorcycle~~ D. Transit E. Freight F. Carpool G. Single Occupant Vehicle  	More directive that City budget decision will be based on …. Motorcycles included by default in motor vehicle categories below Add graphic to illustrate priorities Staff Note: During their 10/9 review, Planning Commission recommended re-inserting motorcycles as a separate category in the graphic to the right. ***Please add the volume consideration for each category!*** *Volume* *A. Pedestrian — Minor* *B. Bicycle — More but still minor* *C. ~~Motorcycle~~ — More but still minor* *D. Transit — Small* *E. Freight — Medium* *F. Carpool — Medium* *G. Single Occupant Vehicle — Large*
Policy T-2.3	59	Provide facilities for, and education on, safe and non-threatening travel throughout the city on all modes of transportation using the prioritization list in T-2.2	Provide facilities for, and education on, safe and non-threatening travel throughout the city on all modes of transportation using the investment prioritization list in policy T-2.2. and the equity analysis and prioritization in the City Safety Action Plan.	Current effort to complete Safety Action Plan requires an equity analysis that can be used going forward
Policy T-2.4	59	Keep an emphasis on the enforcement of motorized and nonmotorized safety	~~Keep~~ Maintain an emphasis on the enforcement of ~~motorized and nonmotorized~~ traffic safety laws for all roadway users.	All-inclusive
Policy T-2.5	59	Consider roundabouts and traffic calming devices to reduce excessive speeding and other unsafe driving choices.	No change	***Strongly disagree! Traffic bumps are much cheaper solutions!***
Policy T-2.6	59	Utilize a non-motorized travel awareness campaign so drivers expect pedestrians and bicycles on the roadway.	~~Utilize a non-motorized~~ Fund and promote a citywide travel awareness campaign so drivers expect ~~pedestrians and bicycles on~~ to see people walking, biking, and rolling along and across the roadway.	Direction to provide funding; people-oriented; more inclusive
Category		**Mobility Options**		
		New policy	Policy T-2.7 Establish a citywide Active Transportation Network (ATN) of existing and planned safe and comfortable ADA-compliant walking, biking, and rolling facilities coordinated and connected to regional pedestrian and bicycle routes.	ATN is based primarily on Anacortes Walks and Bikes maps in existing Transportation Element
Policy T-2.7	59	Decrease the proportion of trips made by single occupant vehicles by increasing alternative transportation choices.	**Policy T-2.8.** Work to decrease the proportion of trips made by single occupant vehicles by increasing ~~alternative~~ active transportation ~~choices~~ facilities and opportunities.	Adding “work” acknowledges that this will take effort; Not easy ***Worth considering bus line stops to match pedestrian density locations.***

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-2.8	59	Address the needs of non-driving populations in the coordination, development, and management of local and regional transportation systems (e.g., electric bike rentals)	**Policy T-2.9.** Address the needs of non-driving populations in the coordination, development, and management of local and regional transportation systems (e.g., ADA accessibility, adequate transit service, and affordable electric bike rentals).	ADA now required in GMA Transportation Element
Policy T-2.9	59	Locate and design transit facilities to simplify access for pedestrian and bicycle patrons.	**Policy T-2.10.** Locate and design transit facilities to simplify access for ~~pedestrian and bicycle patrons~~ people walking, biking, and rolling.	People-oriented ***This is very important for SAFETY! Good policy!***
Policy T-2.10	59	Encourage local street connections and walkways between existing neighborhoods and new developments to provide an efficient network of travel route options for pedestrians and bicycles.	**Policy T-2.11.** Encourage local street connections and walkways between existing neighborhoods and new developments to provide an efficient network of travel route options for pedestrians and bicycles.	***Check the European systems. They do very well in this.***
Policy T-2.11	59	Encourage development of safe and easy-to-use bike paths and pedestrian walkways in and around Anacortes and coordinate with regional pedestrian and bicycle routes. Separate grade crossing facilities in certain locations should be considered.	Delete; Replaced by new Policy T-2.7	***Check the European systems. They do very well in this.***
Policy T-2.12	59	Encourage identification and pedestrian scale signing of shopping and public use facilities (e.g. wayfinding signs).	No change	***Opposed objective to T-2.13.***
Policy T-2.13	59	Revise development policies to reduce city sign clutter.	No change	***Opposed objective to T-2.12.***
Policy T-2.14	59	Develop improved signing for public transportation-related facilities, e.g. airport, ferry systems, etc. Develop improved signing for public transportation-related facilities, e.g. airport, ferry systems, etc.	No change	
Policy T-2.15	59	Encourage pedestrian movement to and from gathering spaces, public facilities, and parks, particularly in downtown Anacortes, the Skyline area, and appropriate locations on the Fidalgo Bay waterfront.	No change	
Policy T-2.16	59	Improve pedestrian crossing opportunities not only across the state highway (SR 20 Spur) but on other highly traveled corridors in the city such as Commercial Avenue, R Avenue, D Avenue, etc).	No change	
Policy T-2.17	60	Provide safe bicycle and pedestrian travel to and from schools throughout the community.	No change	
Policy T-2.18	60	Prepare, and implement, a master plan for pedestrian and bicycle safety, beautification, and economic stimulus to South Commercial Avenue from 12th to 34th Streets.	Delete; Replaced by new Policy T-2.7	***Should also include "fixing the roads/streets!"***
Policy T-2.19	60	Implement "high value" bicycle corridor improvements as identified in the "2012 Anacortes Bike and Walks" report.	Delete; Replaced by new Policy T-2.7	
Policy T-2.20	60	Incorporate pedestrian and bicycle accommodations into all new construction (complete streets) as appropriate.	Policy T-2.~~20~~ 18.	
Policy T-2.21	60	Use bump outs, curb extensions, and/or pedestrian refuge islands in the design and construction of pedestrian crossings when appropriate and feasible.	Policy T-2.~~21~~ 19.	
Policy T-2.22	60	Fill in gaps in the bicycle and pedestrian network whenever possible (example: West 2nd Street between Alaska and Florida Avenues).	Delete; Replaced by new Policy T-2.7	
		New policy	**Policy T-2.20.** Strive to elevate the League of American Bicyclists certification of Anacortes as a Bronze-level Bicycle Friendly Community to a Silver- or Gold-level Bicycle Friendly Community.	City should apply for promotion by LAB as progress is made to complete the ATN.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Category		**Transportation Demand Management (TDM)**		
Policy T-2.23	60	Support local transportation demand management programs to reduce the impacts of high traffic generators such as city offices, hospitals, schools, and large employers. The City of Anacortes should serve as a model to the community by voluntarily complying with the requirements of the State Commute Trip Reduction Act (CTR) possibly using the City of Seattle Commute Trip Reduction program as an example with programs including: bike and pedestrian safety demonstrations; hosted lunch where employees can learn about building a routine around being a bike or walk commuter; route planning and advice from other city employees; hold regular no cost bike tuneups; and giving out free lights so commuters are more visible at night.	Rewrite. **Policy T-2.~~23~~ 21.** Support local transportation demand management programs to reduce the impacts of high traffic generators such as city offices, hospitals, schools, and large employers. To ~~he City of Anacortes should serve as a model to the community by voluntarily~~ comply~~ing~~ with the requirements of the State Commute Trip Reduction (CTR) Act ~~(CTR) possibly using~~ the City ~~of Seattle Commute Trip Reduction program as an example with~~ could sponsor and fund programs including: • bike and pedestrian safety demonstrations; • hosted lunch where employees and residents can learn about building a routine around being a bike or walk commuter; • route planning and advice from ~~other~~ city employees and bike commute advocates; • hold regular no cost bike tuneups; and • giving out free lights so commuters are more visible at night.	Remove reference/identification of City staff needing to model this behavior. Many reasons why people may choose, or need, to drive vehicles and doing so does not imply that they do not care or have a "Do as I say and not as I do" attitude. Needs to apply to all. ***Why spending money on "free bike tuneups" and "giving out lights"? Free bike tune up and lights WILL NOT result in biking replacing motor vehicles on the roads.***
		New Policy	**Policy T-2.22** Create educational content on the City web site and materials distributed in the community to promote ADA accessibility, walking, biking, and riding Skagit Transit to reduce traffic congestion, vehicle miles traveled, and greenhouse gas emissions.	TDM requires continual community education
		New Policy	**Policy T-2.23** Continue to promote the Anacortes Open Streets event and similar community events to highlight accessibility, walkability, bicycle advocacy, safe routes to school, and Skagit Transit bus routes.	TDM requires continual community education
Policy T-2.24	60	Support the reduction of vehicle dependence in the city by supporting "ride share" and on-demand car/bike services.	No change	***Should Add "BUSES".***
Category		**Design**	**Retitle as "Street Design"**	
Policy T-2.25	61	Continue to focus on context sensitive complete streets by designing, constructing, operating and maintaining transportation facilities to serve all users safely and conveniently, including motorists, pedestrians, bicyclists, people with disabilities, and transit users.	Continue to focus on context sensitive complete streets by designing, constructing, operating and maintaining transportation facilities to serve all users safely and conveniently, ~~including motorists, pedestrians, bicyclists, people with disabilities, and transit users~~ according to the investment priorities in Policy T-2.2.	Reference back to Policy 2.2 priorities and inverted triangle graphic
Policy T-2.26	61	Improve local street design for walking, bicycling, and transit use to enhance communities, connectivity, and physical activity.	No Change	***Please consider the volume for each transportation method in street designs. Using R AVE as an example, the roundabout is lousy for car traffic and so few people walk on R AVE. Do we know it is good for pedestrians?***
Policy T-2.27	61	Design or redesign roads and streets to accommodate a range of motorized and non-motorized modes in order to reduce injuries, further reduce the risk of fatalities and to encourage non-motorized travel. The design should include well defined, safe, and appealing spaces for pedestrians and bicyclists with a goal of all users feeling safe and comfortable using the facility.	Design or redesign roads and streets to accommodate a range of ~~motorized and non-motorized~~ transportation modes ~~in order~~ to reduce injuries, further reduce the risk of fatalities and to encourage non-auto ~~motorized~~ travel. The design should include well defined, safe, and appealing spaces for ~~pedestrians and bicyclists~~ people walking, biking, and rolling with a goal of all users feeling safe and comfortable using the facility.	More inclusive and people-oriented.
Policy T-2.28	61	Be flexible with development standards to promote infill by allowing alternate ways, such as narrower streets, modified parking requirements, one-way	No Change	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
		streets, and/or low-speed design streets to meet those standards where full compliance with standards is not feasible or desirable.		
Category		**Transit**		
Policy T-2.29		Work to expand local transit service and connections to adjacent jurisdictions.	No change	
Policy T-2.30		New development and redevelopment in the city should be designed to provide and encourage non-motorized access to transit. The location of bus stops and shelters should be incorporated into both larger residential and non-residential project development design.	New development and redevelopment in the city should be designed to provide and encourage ~~non-motorized~~ walking, biking, and rolling access to transit. The location of bus stops and shelters should be incorporated into both larger residential and non-residential project development design.	More inclusive and people-oriented.
Policy T-2.31		Adopt road design standards, site-access guidelines, and land use regulations that support transit. This could include "pullouts" so buses can stop and pickup/dropoff outside of the traffic flow.	No change	***GOOD!***
Policy T-2.32		SKAGIT TRANSIT Work to provide a citywide transit service that is dependable, affordable, maintains regular schedules with frequent service to all destinations in the City, connects neighborhoods to downtown and other frequented destinations, and provides an adequate level of service throughout the day, including weekends, and holidays.	~~SKAGIT TRANSIT~~ Work with Skagit Transit to provide a citywide transit service that is dependable, affordable, maintains regular schedules with frequent service to all destinations in the City, connects neighborhoods to downtown and other frequented destinations, and provides an adequate level of service throughout the day, including weekends, and holidays.	City partnership with Skagit Transit ***Sounds perfect! Cost?***
Policy T-2.33		Consider, for a reasonable fee, a dial-a-ride type of transit service with door-to-door service for the entire Fidalgo Island similar to paratransit but not requiring a disability to qualify for service, so that people who cannot drive or choose not to drive can access services even if they are not near a regular bus route.	~~Consider, for a reasonable fee,~~ Work with Skagit Transit to determine the financial feasibility of providing a dial-a-ride type of transit service with door to door service for the entire Fidalgo Island similar to paratransit but not requiring a disability to qualify for service, so that people who cannot drive or choose not to drive can access services even if they are not near a regular bus route.	City partnership with Skagit Transit ***Very low priority! Would not a cab/uber ride more cost effective?***
Goal T-3	62	**Support Growth.** Support the city's and region's growth strategy by focusing on moving people and goods within the city and beyond with a highly efficient multimodal transportation network for now and into the future.	**Support Growth.** Support the ~~city's and region's~~ City and regional growth strategy by focusing on moving people and goods ~~within~~ throughout the city and beyond with a ~~highly~~ safe and efficient multimodal transportation network for now and into the future.	"Highly efficient" in transportation realm implies free-flow and speed; emphasize safety above all else.
Category		**Concurrency**	**Transportation Concurrency and Multimodal LOS Standards**	
Policy T-3.1	62	Maintain a concurrency management system that monitors the impacts of growth and development on the transportation system and aims to ensure that LOS standards are met within required timeframes.	Maintain a transportation concurrency management system that monitors the impacts of growth and development on the transportation system and aims to ensure that roadway corridor and intersection LOS standards are met within required timeframes.	Specificity.
Policy T-3.2	62	Assess, and adopt per ordinance, new impact fees pursuant to all concurrency improvements mentioned in the 2016 Transportation Element Background Information document.	~~Assess, and adopt per ordinance,~~ Adopt a new multimodal transportation impact fee~~s~~ program ~~pursuant to all concurrency improvements mentioned in the 2016 Transportation Element Background Information document~~ to include vehicle capacity, active transportation network completeness, and ADA accessibility to transit service.	SB 5452 explicitly allows ped-bike facilities to be included on TIF program project lists ***NO FEES! Should be self supporting pay for use!***

<table>
<tr><th>Goal or Policy</th><th>Existing Page Number</th><th>Existing Goal or Policy Text</th><th>First Draft Proposed Policy Revision
The policies will undergo at least another round of revisions before their estimated final adoption in 2025</th><th>Reasoning for Proposed Policy Change</th></tr>
<tr><td>Policy T-3.3</td><td>62</td><td>Address non-motorized, pedestrian, transit and other multimodal types of transportation options in the city's concurrency program – both in assessment and mitigation of transportation impacts.</td><td>Address ~~non-motorized, pedestrian, transit and other~~ all multimodal types of transportation options in the city's annual concurrency ~~program~~ report to document both in assessment and mitigation of transportation impacts compliance with corridor and intersection LOS standards and progress made on completion of active transportation and transit networks.</td><td>More inclusive; References new Annual Concurrency Report; More specificity.</td></tr>
<tr><td>Policy T-3.4</td><td>62</td><td>Revise the Traffic Impact Analysis process for development to streamline the process and remove ambiguities from the system.</td><td>Delete. ~~Revise the Traffic Impact Analysis process for development to streamline the process and remove ambiguities from the system.~~</td><td>Vague policy; No specificity. If a policy on TIAs is desired, then write a new policy with specific direction.</td></tr>
<tr><td>Category</td><td></td><td>Corridor Level of Service</td><td></td><td></td></tr>
<tr><td>Policy T-3.5</td><td>62</td><td>All corridors must pass the Corridor LOS standard for the transportation system to be considered adequate. The Corridor LOS is designed to account for the impact of non-motorized facilities on an urban street network.</td><td>Policy T-3.4 All corridors must pass the Corridor LOS standard for the transportation system to be considered adequate. The Corridor LOS is designed to account for the ~~impact~~ presence and availability of ~~non-motorized facilities~~ sidewalks, bikeways, or multiuse trails or pathways on an urban street ~~network~~ corridor. The presence of active transportation facilities and/or safety features increases traffic flow and the people-moving capacity of a roadway corridor while the lack of these facilities decreases the corridor capacity.</td><td>Adds specificity. Advise re-examining this LOS approach. Have any City street corridors ever not passed this concurrency test? If so, what type of mitigation is conceived? Road widening is not consistent with goals and policies promoting active transportation and safety.</td></tr>
<tr><td></td><td>62</td><td>Table T-1. Capacity for Various Roadway Classifications and Modifications
<table>
<tr><th>Functional Classification</th><th>Base Peak Hour Capacity (vphpl)</th><th>Left-Turn Lane (vph)</th><th>Access Management (vph)</th><th>No Bike Lane (vph)</th><th>No Sidewalk (vph)</th></tr>
<tr><td>State Highway (55mph;SR20 and SR 20 Spur)</td><td>1,100</td><td>550</td><td>770</td><td>0</td><td>0</td></tr>
<tr><td>Principal Arterial (30/40mph; SR 20 Spur)</td><td>800</td><td>400</td><td>560</td><td>-120</td><td>-280</td></tr>
<tr><td>Minor Arterial</td><td>550</td><td>275</td><td>385</td><td>-55</td><td>-165</td></tr>
<tr><td>Urban Collector</td><td>550</td><td>275</td><td>385</td><td>-55</td><td>-140</td></tr>
</table></td><td>Retain Table T-1</td><td></td></tr>
<tr><td>Category</td><td>62</td><td>Intersection Level of Service (LOS)</td><td></td><td></td></tr>
<tr><td>Policy T-3.6</td><td>62</td><td>Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures for the PM peak hour. Calculation of the AM peak hour for areas near, or affected by, the Washington State Ferry traffic may be required. The adopted standard is LOS D for intersections that include Principal Arterials and LOS C for intersections that include Minor Arterial or collector roadways.</td><td>Policy T-3.5 Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures for the PM peak hour. Calculation of the AM peak hour for areas near, or affected by, the Washington State Ferry traffic may be required. The adopted standard is LOS D for intersections that include Principal Arterials and LOS C for intersections that include Minor Arterial or collector roadways. Intersection LOS is limited to measuring the average seconds of delay per vehicle for drivers on the roadway network.</td><td>More specificity.

YES! "AM peak hour for…" - major impediment to traffic flow.</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th>Goal or Policy</th><th>Existing Page Number</th><th>Existing Goal or Policy Text</th><th>First Draft Proposed Policy Revision
The policies will undergo at least another round of revisions before their estimated final adoption in 2025</th><th>Reasoning for Proposed Policy Change</th></tr>
<tr><td></td><td></td><td>New Policy</td><td><u>Policy T-3.6.</u> <u>Pedestrian and Bicycle LOS Standards are based on degree of completeness of sidewalk and bikeway connections as measured on the citywide Active Transportation Network. The LOS standards shown in green, orange, and red emphasize system completion of sidewalks, bikeways, or multi-use trails on arterial and collector roadways.</u>

• <u>A GREEN LOS indicates that a primary facility meets adopted roadway standards and has active mode facilities on both sides of the street, while a secondary facility may only have facilities on one side of the street.</u>
• <u>An ORANGE LOS indicates a primary facility has facilities only on one side of the roadway, when both sides would be preferred.</u>
• <u>A RED LOS indicates that there are no designated active mode facilities provided and is considered inadequate.</u></td><td>New MMLOS standard to comply with GMA requirements. Colors similar to traffic signal messaging; graphically intuitive. Applies to ATN map (presentation slides); Registered to City street standards.

Please note unlike pedestrians, bikes use roads.</td></tr>
<tr><td></td><td></td><td></td><td><table><tr><th>LOS</th><th>Primary Route</th><th>Secondary Route</th></tr><tr><td></td><td>Meets City standards, facilities on both sides</td><td>Meets City standards, facilities on one or both sides</td></tr><tr><td></td><td>Facilities exist, but only on one side</td><td>N/A</td></tr><tr><td></td><td>No facilities exist, does not meet standards</td><td>No facilities exist, does not meet standards</td></tr></table><u>Active Transportation Levels of Service (LOS) Standards</u></td><td></td></tr>
<tr><td></td><td></td><td>New Policy</td><td><u>Policy T-3.7.</u> <u>The Transit LOS Standard is based on ADA accessibility of Skagit Transit bus stops within the public road right-of-way. The prioritization and completion of ADA upgrades at all bus stops provides mutual benefit to the City of Anacortes and Skagit Transit.</u></td><td>New Transit LOS standard to comply with GMA requirements. Mutually beneficial for City and Skagit Transit. City builds out ADA Transition Plan and Skagit Transit is more accessible, safe, and convenient to use.</td></tr>
<tr><td>Category</td><td></td><td>Rail</td><td>Rail <u>Transport</u></td><td></td></tr>
<tr><td>Policy T-3.7</td><td>62</td><td>The City of Anacortes supports legislation to address freight rail safety and congestion issues, funding for hazardous materials first responder training, and funding for analysis of inland spill response planning and capability.</td><td></td><td></td></tr>
<tr><td>Category</td><td></td><td>Freight</td><td>Freight <u>Transport</u></td><td></td></tr>
<tr><td>Policy T-3.8</td><td>63</td><td>Provide a freight system infrastructure that, for all types of freight, meets the needs for local distribution, including truck routes.</td><td>Renumber as Policy T-3.9</td><td></td></tr>
<tr><td>Policy T-3.9</td><td>63</td><td>Actively encourage truck use of truck routes. Signs will be placed along the truck route and the City will identify and work with the major shippers to make their drivers aware of the truck routes.</td><td><u>Policy T-3.10.</u> Actively encourage truck <u>drivers to</u> use <u><s>of</s></u> <u>designated</u> truck routes <u>with signs installed by the City</u> <u><s>Signs will be placed along the truck route</s></u> and <u><s>the City will identify and</s></u> work with the major shippers to make their drivers aware of the truck routes.</td><td>Provides clear direction that truck routes are designated and signed and City expects trucking companies to train drivers to use them.</td></tr>
</table>

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-3.10	63	The shipment or movement of hazardous and nuisance materials within or through the City should be managed by the City.	Renumber as Policy T-3.11	"Should" is a problematic word. Does City have legal oversight of this or is this an opinion?
Category		**Air**	**Air Transport**	
Policy T-3.11	63	Explore options for float plane landing and service areas in the skyline marina and in Fidalgo Bay.	Renumber as Policy T-3.12	
Policy T-3.12	63	Any changes to the Anacortes Airport shall be in accordance with the 2005 Sub-Area Plan, Development Agreement, and City Comprehensive Plan, considering the goals as set for in those documents.	Renumber as Policy T-3.13	
Policy T-3.13	63	Skagit Regional Airport should support air transportation growth needs of Anacortes and the Islands that are not compatible with the intent of the 2005 Sub-Area Plan and Development Agreement.	Renumber as Policy T-3.14	
Policy T-3.14	63	Encourage increases in scheduled commuter air traffic to utilize the facilities at Skagit Regional Airport	Renumber as Policy T-3.15	
Policy T-3.15	63	Cumulative Impact shall be considered for all airport related development.	Renumber as Policy T-3.16	
Policy T-3.16	63	Support the Port of Anacortes strategic plan, goal #5 for the airport that states the airport should be recognized as a community oriented facility.	Renumber as Policy T-3.17	*Does that define as "non-community"?*
Policy T-3.17	63	Support the Port's 1994 Master plan and current Airport Layout Plan (ALP) dated May 2012, with future development to be implemented in accordance with the 2005 Sub-Area Plan and Development Agreement.	Renumber as Policy T-3.18	*1994 is 30 years ago. 2012 is 12 years ago. 2005 is almost 20 years ago! We need to have CURRENT guidelines and objectives!*
Category		**Marine**	**Marine Transport**	
Policy T-3.18	63	Encourage the Port of Anacortes to provide more transient boat moorage. The City is willing to partner on this effort, and in reducing existing moorage vacancy rates, as it benefits the economy of the downtown area.	Renumber as Policy T-3.19	*Will the City manage this? Need cost and benefit analysis.*
Policy T-3.19	63	Require sufficient space for parking of boat trailers and vehicles at existing and future boat launch sites, marinas and boat storage facilities.	Renumber as Policy T-3.20	*PLANNING/traffic issues.*
Policy T-3.20	63	The City should request that Washington State Department of Transportation and Washington State Ferries include the City in all communications and meetings concerning the operation of the ferry terminal in Anacortes. The City shall invite Washington State Department of Transportation and Washington State Ferries to participate and cooperate in all traffic management and any associated improvements necessary for the operation of this ferry.	**Policy T-3.21.** The City should request that ~~Washington State Department of Transportation~~ WSDOT and Washington State Ferries include the City in all communications and meetings concerning the operation of the ferry terminal in Anacortes. The City shall invite ~~Washington State Department of Transportation~~ WSDOT and Washington State Ferries to participate and cooperate in all traffic management and any associated improvements necessary for the operation of this ferry.	No need to write full name, WSDOT is commonly understood acronym.
Policy T-3.21	63	The City supports commercial and industrial development along the waterfront within the City that meets City requirements and maintains public access.	Renumber as Policy T-3.22	
Policy T-3.22	63	The City supports public, commercial and private marinas within the City that meet City requirements and maintain public access.	Renumber as Policy T-3.23	
Category		**Parking**		
Policy T-3.23	64	Provide adequate parking space in high demand areas by: A. Developing a comprehensive parking plan which designates immediate and future parking lot sites and shuttle parking lots, B. Investigating opportunities to reduce parking requirements, C. Identifying minimum and maximum parking standards, D. Creating an action plan to implement a comprehensive parking plan over time,	Renumber as Policy T-3.24	

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
		E. Periodically surveying parking space availability and occupancy to determine any emerging needs for additional space, F. Considering funding the purchase of land for developing public parking lots, G. Considering a parking availability study as a means of parking mitigation by businesses and developers to avoid overdesigning parking facilities around town, H. Developing a 'fee-in-lieu-of' parking space fee program for projects which are unable to meet on-site parking requirements and use these funds to provide parking or save for a larger parking project.		*Do you mean funding land purchase with future parking lot income?*
Policy T-3.24	64	Develop an investment program to obtain land and construct public parking areas.	Renumber as Policy T-3.25	*Only if NEEDED - facts and data are required!*
Policy T-3.25	64	Encourage public/private partnerships for developing public parking lots.	Renumber as Policy T-3.26	
Policy T-3.26	64	Encourage Washington State Ferry system to provide adequate parking for State Ferry patrons. Overflow parking and appropriate signage should be provided out of town and a shuttle provided to the State Ferry Terminal.	Renumber as Policy T-3.27	*From where? Site development for transportation hubs.*
Policy T-3.27	64	Encourage Skagit County to provide adequate parking and pedestrian access for Guemes Island ferry patrons.	Renumber as Policy T-3.28	*Facts and data are needed to justify the investment.*
Goal T-4	64	**Sustainability.** Design and manage the city's transportation system to minimize the negative impacts of transportation on the natural environment, promote public health and safety, and achieve optimum efficiency.	**Sustainability.** Design and manage the citywide multimodal transportation system to minimize the negative impacts of transportation on the natural environment, promote public health and safety, and achieve optimum efficiency.	Inclusive of all modes *Very nebulous concept.*
Category		**Sustainability and the Natural Environment**		*Where is the measurement for this section?*
Policy T-4.1	64	Foster a less polluting system that reduces the negative effects of transportation infrastructure and operation on air quality, the climate, and also the natural environment including the use of techniques to reduce pollutants in storm drains.	Foster a less polluting system that reduces the negative effects of transportation infrastructure and operation on air quality, the climate, and ~~also~~ the natural environment including the use of techniques to reduce pollutants in storm drains.	
Policy T-4.2	64	Seek the development and implementation of transportation modes and technologies that are energy efficient and improve system performance.	Seek the development and implementation of multimodal transportation modes and technologies that are energy efficient and improve system performance.	Inclusive of all modes
Policy T-4.3	64	When feasible, design and operate transportation facilities in a manner that emphasizes community character and is compatible with and integrated into the natural and built environment including features, such as street trees, natural drainage, native plantings, and local design themes.	When feasible, design and operate multimodal transportation facilities in a manner that emphasizes community character and is compatible with and integrated into the natural and built environment including features, such as street trees, natural drainage, native plantings, and local design themes.	Inclusive of all modes
Policy T-4.4	64	Promote the expanded use of alternative fuels by acquiring and converting public vehicles using advanced technologies and providing for electric vehicle charging stations throughout the city.	No Change	*No! Not realistic to provide electricity for all public Transportation! Just like gasoline vehicles, electric usage should be paid for by customers.*
Policy T-4.5	64	Plan and develop a citywide transportation system that reduces greenhouse gas emissions by shortening trip length and replacing vehicle trips with other modes of transportation by implementing higher density and mixed-use development, and encouraging ride-sharing, public transit, and nonmotorized transportation, to decrease vehicle miles traveled.	Plan and develop a citywide multimodal transportation system that reduces greenhouse gas emissions by shortening trip length and replacing vehicle trips with other modes of transportation by implementing higher density and mixed-use development, and encouraging ridesharing, public transit, and ~~nonmotorized~~ active transportation, to decrease vehicle miles traveled.	Inclusive of all modes *How measured and attributed to what and which vehicles?*
Category		**Human Health and Safety**		

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change
Policy T-4.6	64	Develop a transportation system that aims to minimize negative impacts to human health, including exposure to environmental toxins generated by vehicle emissions, noise, or a lack of non-motorized options.	Develop a multimodal transportation system that aims to minimize negative impacts to human health, including exposure to environmental toxins generated by vehicle emissions, noise, or a lack of ~~non-motorized~~ active transportation and transit options.	Inclusive of all modes
Policy T-4.7	64	Provide opportunities for an active, healthy lifestyle by integrating the needs of pedestrians and bicyclists in the local and regional transportation plans and systems.	Provide opportunities for an active, healthy lifestyle by integrating the needs of pedestrians and bicyclists in the local and regional multimodal transportation plans and systems.	Inclusive of all modes
Policy T-4.8	64	Oakes Avenue and 12th Street are a major bicycle and pedestrian route, make a separated facility along this route a priority in future transportation planning efforts.	Oakes Avenue and 12th Street between downtown and the WSDOT ferry terminal is ~~are~~ a major bicycle and pedestrian route~~, make~~ and a separated or protected walking and biking facility ~~along this route~~ should be a priority in future transportation planning efforts.	More specificity, but this could also be deleted with adoption of ATN, RCW for Complete Streets on State highways, and WSDOT Active Transportation Plan requirement for LTS Type 1 or 2 ped and bike facilities on State highways. ***Two corridors - bicycle and pedestrian.***
Policy T-4.9	64	Work to secure right-of-way and to develop a pedestrian and bike trail along the Guemes Channel from the state ferry terminal to connect with the Fidalgo Bay Trail (Tommy Thompson Trail).	Work to secure right-of-way and to develop a pedestrian and bike trail along the Guemes Channel from the ~~state~~ WSDOT ferry terminal to connect with the Fidalgo Bay Trail (Tommy Thompson Trail).	All public engagement included strong support for this trail connection. ***Along the water front.***
Policy T-4.10	64	Review options for, and consider the installation of, city owned electric car charging stations.	Interview other cities in northwest Washington to learn about successes, review options for, and consider the installation of, city-owned electric car charging stations.	Learn from success stories ***NO!***
Policy T-4.11	64	Encourage private charging station installations as part of parking requirements for larger projects.	No change	***OK if managed actively.***
Category		**Transportation Equity**		
Policy T-4.12	64	Implement transportation programs and projects in ways that aim to prevent or minimize negative impacts to low income, minority, and special needs populations.	Implement multimodal transportation programs and projects in ways that aim to prevent or minimize negative impacts to low income, minority, and special needs populations.	
Policy T-4.13	64	Work to improve mobility choices for people with special transportation needs, including persons with disabilities, the elderly, the young, and low income populations.	No change	***Delete "low income". Disability, elderly, young are all physical needs based category. "Low income" does not fit in this classification. "Low income" population can be mid-aged or elderly or young, healthy or disabled.***
Policy T-4.14	64	Plan transportation and street improvements to consider the existing and desired character of the area and cost of future maintenance.	Plan multimodal transportation and street improvements to consider the existing and desired character of the area and cost of future maintenance.	Inclusive of all modes
Policy T-4.15	64	Complete the 2016 Americans with Disabilities Act (ADA) Transition Plan including a financial plan for constructing and replacing ADA compliant ramps and sidewalks. Develop a prioritized list of ADA compliant routes throughout town, which provide access to key city amenities and services for people with disabilities and implement facilities improvements based on these priorities.	No change	
Policy T-4.16	64	Budget for, and provide, the construction and repair of sidewalks and ramps to meet ADA standards according to priorities established in the 2016 ADA Transition Plan.	Budget for, and provide, the ~~construction~~ maintenance and repair of existing, as well as the construction of new, sidewalks and ramps to meet ADA standards according to priorities established in the 2016 ADA Transition Plan.	Consider removing the 2016 date and replacing with "citywide." The date reference is 8-years old. At very least reference newest plan. ***Good policy! Budget for repair is very important. We currently have lots of repair work needed to fix our roads/streets!***

Libby Grage

From: xuhua.mu2@gmail.com
Sent: Wednesday, November 13, 2024 12:31 PM
To: Comp Plan; pced
Subject: Public Comment to Anacortes CP Housing Section.
Attachments: 20241113-PCRec-Housing Goal-Policies - Comment.pdf

***** This email is from outside the City of Anacortes network. Please use caution when clicking on links, opening attachments, or replying. *****

*Detailed comments are typed in **GREEN** in the very last column of the attached policy tracker table.*

I. **Policy revision to ensure diverse housing types to keep up with the population projection for all income groups.** Skagit County published "*Skagit County Population, Housing and Employment Growth Allocations Methodology"* (Methodology) on December 12, 2023 to forecast population growth and housing demand by average medium income (AMI) by "urban growth area" (UGA) and "rural area". **The methodology appears to be flawed and it requires additional facts and data to support its forecast. See my comment on the methodology which was already emailed to the City's planning/Comp Plan.**

II. **Housing Affordability – Plan to produce opportunities for a full range of housing affordability city wide for at all income groups.** We need to have answers to the following questions to understand the financial and regulatory implications to achieve this goal.

1. What are the income groups and the number of people in each group that would qualify for the various types of subsidized housing units?
2. What are the estimated funding requirements for each subsidized unit by housing type?
3. What are the amount of funding by source for all subsidized housing in Skagit county?
4. When introducing new types of housing to well developed neighborhoods, public opinions must be considered at the design phase.
5. Incentives have been offered to developers and builders for a variety of affordable housing types. What measures in place to ensure those incentives translate to affordable prices to targeted income bands rather than increased profit margin for builders and developers? For example, the cottages in Anacortes are on 37th and Commercial are priced at $629K, $604 per sq ft (listed on Zillow). A newly constructed single family house on West 3rd St. in Anacortes was sold at $1,292K or $470 per sq ft. Is $604/sq ft affordable?

The public needs facts and data for the above questions to understand how this policy impacts the City financially and regulatorily. In addition, we need policies in place to ensure the private public partnership affordable housing projects would not result in higher prices for the home buyers/renters and increased profit for the builders and developers.

III. **Develop design guidelines, standards or other measures to achieve the following benefits:**

A. Allow growth without sacrificing Anacortes's unique small town character.
B. Facilitate compatibility between existing and new housing.
C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods.
D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.

1. Housing quality is a function of architectural and structural design for the environment and load requirements, quality of building materials and craftmanship of construction and installation. To achieve above goals, all components have to be well defined and measurable.

2. Who from the city would be developing, maintaining and assessing the new housing " design standards"? what happens if the "standards" are not being met?

Please provide measurable and enforceable measures for this policy revision so the public understands the definition "design standards", how it is "evaluated" and "enforced".

IV. Permit manufactured homes on individual lots in residential zones in accordance with the provisions of state and federal law.

1. There are three distinctive segments in Manufactured Housing. The city needs to provide clear definition on the type of manufactured housing in the policy.
    a. Modular – factory built components, assembled at job site with permanent foundation. It uses same building codes as a site built home. There are a handful of high quality and reputable modular builders in the US and Canada. Modular homes are being treated the same as single family homes and it should be allowed in all residential zones.
    b. Mobile homes – factory built single wide, double wide homes. The manufacturers build mobile homes according to HUD code, which is different to site built homes. Unlike the site built homes, the interior walls of mobile homes are not load bearing. Additionally, the attachment to foundation includes both permanent and non-permanent types. To obtain financing, permanent foundation is normally required. Even with a permanent foundation, mobile home can not achieve the same structural integrity and performance as a site built homes. They are vulnerable under strong lateral loads (wind or earthquake) and susceptible to water damage.
    c. Campers – factory built unit, transportable and can be parked on hard surface. This type of dwellings can only be registered as a vehicle. **We oppose that campers be allowed in residential zones.**

2. Mobile home is a type of affordable housing because it is built to a different code and is normally set up in a mobile home park with affordable rent. Now let us look at putting a mobile home on a residential lot. Average single family residential lot costs $80K in the US. A realtor in Anacortes have lots suitable for setting up mobile homes with good soil drainage and relatively flat surface. However, the price tag is at least $250K per lot. With covid surcharge a small single wide is at least $50K or more. Shipping, site preparation and setting up cost is another $20K. This would cost $150K to put a small single wide on a residential lot for $80K, the US average price. We know residential lots are a lot more expensive in Anacortes. A lot rental at a mobile home park is about $300-$1300/month in the US. The bottom line is what is truly affordable for the mobile home buyers?

3. Property values of site built homes next to mobile homes are likely to decline.

4. This new policy is to provide affordable housing solutions to burdened income groups. Often times, personal loans are the only option for mobile home buyers. Government's assistance to find ways to reduce the interest on financing, would be very helpful. Additionally, investors have been purchasing mobile home parks and hiking up the rents since 2020 across the country. The most complaints to WA Attorney General's office this year is rent increase at mobile home parks. Government policy should look into limiting investors' market share in housing and mobile home park markets, especially institutional investors. Otherwise, "affordable housing" will be a losing battle!

I request that the city study the economics and issues in placing mobile homes in traditional single family residential zones. Additional work needs to be done at state legislatures to look into investors' share in mobile home parks and

residential housing market. When housing and land space become a tool in Wall Street for return on capital, the public loses.

Xuhua Mu
253 906 7979
Anacortes

Anacortes Comprehensive Plan Update

Housing Goals and Policies Tracker

DRAFT September 18, 2024

11/6/24 Planning Commission Recommended Changes Version

The Planning Commission reviewed the 1st draft proposed amendments at their September 25, October 2, October 9, and November 6 meetings. The Planning Commission's recommended changes to the 1st draft, if any, are shown in the last column.

Introduction

This goals and policies tracker reviews the Housing Element of the 2016 Anacortes Comprehensive Plan in support of the 2025 periodic update. MAKERS is providing comments, considerations, and recommendations for updating goals and policies. Further updates and additions will be added to the Housing Element to meet climate element requirements and better connect policies that are both housing and climate related.

Some frequent abbreviations used in this audit:

HAP = Housing Action Plan
AMC = Anacortes Municipal Code
RDI = Racially disparate impacts

Housing Element

Some comments reference the Racially Disparate Impact (RDI) analysis, which is available on the project webpage. See also the 2023 Anacortes Housing Action Plan (HAP).

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft Comment
Goal H-1	**31**	**Housing Supply and Variety. Provide for a sufficient quantity and variety of housing to meet community needs.**			No PC comments.
Policy H-1.1	31	Provide for an adequate supply of appropriately zoned land to accommodate the city's housing growth targets.			No PC comments. ***The City's growth targets must be reevaluated periodically (annually) to ensure that the supply closely matches the demand. Otherwise, it will result in unnecessary expenses.***
Policy H-1.2	31	Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.	Per the Racially Disparate Impacts (RDI) analysis, amend this policy (or add a similar policy) that that specifically addresses the housing needs and preferences of people of color.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. ~~For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.~~ [*The examples seem unnecessary*]
Policy H-1.3	31	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into residential neighborhoods.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into low and medium density residential zones. ~~residential neighborhoods.~~	Replace "residential" with a more general reference to zones to avoid implying existing neighborhoods only consist of single-family residences. Note the city has been making progress on this with updated development regulations and is already seeing construction of more diverse housing types in recent years.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into ~~low and medium density residential zones.~~ ~~residential~~ neighborhoods. ***Provided that traffic safety, parking and quality of life are not compromised when mixing a variety of smaller housing types in neighborhoods.***
Policy H-1.4	31	Consider the potential for development of tiny houses in selected areas of the city.	Consider the potential for development of tiny houses in selected areas throughout ~~of~~ the city.	The RDI analysis cautions that the "selected areas" not be restricted to segregated or higher-density areas of the city. The Housing Action Plan recommendation is consistent with the RDI analysis, as it recommends considering permanent tiny home clusters only in low- and medium density residential zones such as R2, R2A, and R3 in order to preserve the limited land available for denser housing.	No PC comments. ***Public inputs should be sought after prior to the development of tiny houses in low and medium density neighborhoods to ensure parking, traffic safety and quality of life are not compromised.***
Policy H-1.5	31	Encourage infill development on vacant or under-utilized land.			No PC comments. ***Where?***

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Policy H-1.6.	31	Evaluate barriers to achieving increased density in multifamily residential and mixed use zones and revise regulations if appropriate.			No PC comments. ***Public hearing must be scheduled and broadcasted in advance for any proposed change of regulations regarding zoning and building codes.***
Policy H-1.7	31	Provide for development of multifamily housing in areas close to shopping, employment, services and public transportation.	Provide for development of multifamily housing in high-opportunity areas and areas close to shopping, employment, services and public transportation.	The RDI analysis recommends referring to "high opportunity" areas and avoiding the suggestion that new multifamily use must be concentrated in areas that typically have higher exposure to noise and pollution (e.g. arterial streets).	Provide for development of multifamily housing in high-opportunity areas and areas close to shopping, employment, services and public transportation. High-opportunity areas have attributes that have a positive effect on the economic mobility, health, and well-being of residents. These are often characterized by access to quality jobs, education, healthcare, healthy food, recreation, transit/transportation options, and lower exposure to environmental and health hazards. ***The infrastructure must be able to handle the increased population in these high-opportunity areas.***
Policy H-1.8	31	Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, enhance neighborhood character, employ low impact development techniques, and other similar goals.	Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, ~~enhance neighborhood character,~~ employ low impact development techniques, and other similar goals.	Updated to avoid the use of "neighborhood character," as it is a vague term that can often be employed to the effect of excluding new types of development. Recommendation from the RDI analysis.	10/2/24 – PC comments: Change to "enhance neighborhoods". Take out "character". Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, enhance neighborhoods ~~character,~~ employ low impact development techniques, and other similar goals.
Policy H-1.9	32	Encourage demonstration projects of innovative housing types or programs, such as co-housing, tiny houses, or others.	Encourage more development of innovative housing~~demonstration~~ projects ~~of innovative housing types or programs~~ and strategies, such as co-housing, co-living, land trusts, sweat equity, co-location of housing with public facilities, l~~tiny houses,~~ or others.	The City has already implemented or seen development of demonstration projects, which the Skagit Co-Housing project is a great example of. Suggesting updating policy language to move towards development of more of these projects, rather than referring to them as demonstration projects. Tiny houses are already mentioned specifically in policy H-1.4. Co-living (single room occupancies) is required to be addressed by cities under new state law RCW 36.70A.535.	Encourage more development of innovative housing~~demonstration~~ projects ~~of innovative housing types or programs~~ and strategies, such as co-housing, co-living, land trusts, sweat equity, co-location of housing with public facilities, tiny houses, or others. [*Retain tiny houses.*]

Policy H-1.10	32	Permit manufactured homes on individual lots in residential zones in accordance with the provisions of state and federal law.			No PC comments. ***What is the definition of "manufactured housing" in this new policy? Extensive research and public inputs are necessary for this policy. We are seeking an economic solution for truly affordable housing. See more detailed comments.***
			New Policy Maintain development regulations that permit allowed residential uses by right and avoid conditional uses.	City Council expressed interest in such a policy. This policy will help reduce confusion from applicants on what residential uses are allowed and help speed up aspects of the permitting process. (2025 Docket Item - LEG-2024-07).	No PC comments. ***NO!*** ***Conditional uses may take longer however conflicts and issues can be greatly reduced or completely avoided.***
Goal H-2	**32**	**Neighborhood Character. Promote the stability and vitality of residential and mixed use neighborhoods.**	**Neighborhood ~~Character~~Form. ~~Promote the stability and vitality of residential and mixed use neighborhoods~~Allow organic change of neighborhoods over time to meet community needs, while preventing neighborhoods from experiencing extreme changes in a short period of time.**	A goal centered on the phrase "neighborhood character," is vague, and can be used to justify leaving higher-income neighborhoods unchanged, based on the RDI analysis recommendations and Department of Commerce guidelines. Instead a new housing goal can be focused on allowing change of housing types over time but in a manner that is more incremental and doesn't have major jumps in housing types for a given neighborhood. City Council expressed interest in this. (2025 Docket Item – LEG-2024-06)	***Again, this would work hand in hand with "conditional uses" rather than abrupt "residential uses by right" for forcing changes in a short period of time.***
Policy H-2.1	32	Encourage housing types and design that reinforce and enhance the character and scale of established neighborhood development patterns.	~~Encourage housing types and design that reinforce and enhance the character and scale of established neighborhood development patterns.~~ When necessary to meet housing needs over time, provide zoning changes that allow the next increment of housing throughout any neighborhood in Anacortes.	Replace the current policy with a new policy that better aligns to the new goal suggested above. (2025- Docket Item – LEG-2024-06)	Zoning should allow the next increment of housing in all neighborhoods and should disallow sudden, radical change in all neighborhoods. ***No! Again the pop growth is 25% over the next 20 years according to the allocated forecast by the county and the city. Existing residents would be about 80% of the total pop with the additional 5000 people. There should not be disruptive changes to the 80% of the people. Again, "conditional permit" would help.***

Policy H-2.2	32	Develop design guidelines, standards or other measures to achieve the following benefits: A. Allow growth without sacrificing Anacortes's unique small town character. B. Facilitate compatibility between existing and new housing. C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods. D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.	Maintain~~Develop~~ design ~~guidelines,~~ standards or other measures to achieve the following benefits: A. Allow growth without sacrificing Anacortes's unique small town character. B. Facilitate compatibility between existing and new housing. C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods. D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.	Updated language to emphasizes the maintenance of design standards, since such standards have already been adopted.	10/9/24 – No PC comments. ***Beautiful goal with ideal benefits! However design standards, type and grade of building material for the application and construction quality are all required to achieve these set up benefits. It must be measured and enforced. Otherwise, it is just a "feel good goal".***
for Policy H-2.3	32	Encourage rehabilitation and improvement programs to preserve the character and condition of existing housing.	Encourage rehabilitation and improvement programs to preserve the ~~character and c~~ondition of existing housing, especially for homes owned by seniors, low-income people, and people of color who may face mobility and/or financial barriers to home maintenance.	Updated to avoid the use of "character". The RDI analysis notes that rehabilitation programs can help people stay in their homes, but it mostly benefits existing homeowners and does not help reduce racial disparities in homeownership. RDI analysis suggests the City work with organizations representing seniors and communities of color to prioritize any potential program funding.	10/9/24 – No PC comments. ***Delete "people of color".*** ***"People of color" is classification by race. Seniors and low-income people are physical needs and financial means based classification. Physical needs and financial means determine the types of housing desired by consumers not skin color.***
Goal H-3	**32**	**Housing Affordability. Provide for a range of housing opportunities to address the needs of all economic segments of the community.**			***What are the current funding for all subsidized housing units by housing type and income group? Is the current supply of subsidized housing meeting the demand? If not what is the shortfall? What is the amount of funding requirement for the new subsidized housing units forecasted in the 2025-2045 Comprehensive Plan by housing type and income group? Sources of funding?***
Policy H-3.1	32	Encourage preservation, maintenance, and improvements to existing affordable housing.			No PC comments. ***Change to "Preserve, maintain and improve existing affordable housing.***

Policy H-3.2	32	Develop meaningful, measurable goals and strategies that promote the development of affordable workforce housing to meet local needs and monitor progress toward meeting those goals.	Develop meaningful~~ ,~~ measurable ~~goals~~ metrics and strategies that promote the development of affordable ~~workforce~~ housing to meet local needs and monitor progress toward achieving those strategies. ~~meeting those goals.~~ Metrics should include homeownership rates and housing cost burden for people of color, and other statistics recommended by the Housing Action Plan.	It is a misnomer to have a policy require new goals that are not already listed in the Housing Element, so it is suggested to replace that term. Refer to the HAP Section 6.4 for recommendations on how to monitor housing progress. This updated Housing Element policy also suggests an additional layer of metrics that include a focus on racial equity and addressing historic patterns of segregation, as recommended by the RDI analysis. With the edits, this policy may now fit better under Goal H-6, which relates to implementation and monitoring.	No PC comments. ***Metrics should be for housing cost burdened people in Anacortes, including people of color.***
Policy H-3.3	32	Support non-profit agencies and public/private partnerships to preserve or develop additional housing for very low, low and moderate income households.			No PC comments. ***The cottages in Anacortes are on 37th and Commercial are priced at $629K, over $600 per sq ft. A newly constructed single family house on West 3rd St. was sold at $1,292K or $470 per sq ft. Incentives to builders and developers are intended to provide affordable housing to certain income bands. Checks and balances must be in place to prevent the incentives are merely increased profitability for builders and developers or any other form of public private partnership.***
Policy H-3.4	32	Support both rental and ownership forms of affordable housing in a variety of types and sizes.			No PC comments. ***The government subsidized rental housing is different from privately owned and managed affordable rental housing. For privately owned affordable rental housing, how does the City influence rental and other fees increase overtime?***
Policy H-3.5	32	Locate affordable housing throughout the city and especially in areas with good access to transit, employment, education, and shopping.	Locate affordable housing throughout the city and especially in high opportunity areas ~~with good access to transit, employment, education, and shopping~~.	The RDI analysis recommends referring to "high opportunity" areas and avoiding concentrating new housing in a single area or areas with higher exposure to noise and pollution (e.g. arterial streets). The use of "high opportunity" areas, widens the scope of appropriate areas for affordable housing while still including transit, employment education, and shopping areas.	Add a glossary to the Comp Plan.

Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Policy H-3.6	32	Consider a housing levy to provide ongoing funding for affordable housing.	~~Consider~~ Explore a housing levy to provide ~~ongoing~~ funding for construction and preservation of affordable housing.	More forward language suggested. The RDI analysis finds a levy has the potential to improve racially disparate impacts.	Consider ~~Explore a~~ housing levy to provide ~~ongoing~~ funding for construction and preservation of affordable housing. ***Facts and data are required to understand the financial requirements for "affordable housing" goal and the current funding status before "considering" additional taxes on all residents.***
Policy H-3.7	32	Consider developing an inclusionary zoning program as a means of increasing the City's affordable housing supply.	~~Consider developing~~Explore the establishment of a Multifamily Tax Exemption (MFTE) program~~n inclusionary zoning program~~ as a means of increasing the City's affordable housing supply. Consider the provisions recommended by the Housing Action Plan on the residential target area, eligible properties, duration, duration, and other standards.	Recommend this policy be removed and replaced with support for implementing a Multifamily Tax Exemption (MFTE) program. Inclusionary zoning (IZ) was considered in the Housing Action Plan (fulfilling this 2016 policy) and it was found that IZ likely would reduce or not significantly increase housing production due the lack of significant multifamily development occurring in the city. Instead, direct subsidies such as Housing Choice (known as "Section 8") vouchers and bonus programs such as the MFTE program will likely be more effective at producing affordable housing in Anacortes.	~~Consider developing~~Explore the establishment of incentives for the development of affordable housing, such as a Multifamily Tax Exemption (MFTE) program~~n inclusionary zoning program~~ as a means of increasing the City's affordable housing supply. ~~Consider the provisions recommended by the Housing Action Plan on the residential target area, eligible properties, duration, duration, and other standards.~~ ***Inclusionary zoning is like segregation of certain class of people. Section 8 vouchers and credits are much nicer.***
Policy H-3.8	32	Require that affordable housing achieved through public incentives or assistance remains affordable for the longest possible term.			No PC comments. ***"Remains affordable" and "the longest possible term" are meaningless unless they are well defined as % of income of the renter or owner for a certain number of years that would provide some stability and opportunity for the affordable home renters/owners to improve their job/economic situation.***
Policy H-3.9	32	Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust,-or similar, -type model.	~~Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust, or similar, type model.~~ Disposition of City-owned surplus land will prioritize affordable housing developers (especially those serving communities of color) or other community-determined uses, consistent with the allowances of state law.	Recommended by HAP Section 4.4.1 and allowed under new state law, RCW 39.33.015. RDI analysis says city should prioritize working with groups that directly serve communities of color when seeking development partners for projects on public land.	~~Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust, or similar, type model.~~ ~~Disposition of City-owned surplus land will p~~Prioritize affordable housing developers (especially those serving communities of color) or other community-determined uses, when disposing of city-owned surplus land, consistent with the allowances of state law.

			New Policy Explore opportunities for affordable housing on City-owned and other public land in downtown, including redevelopment of parking lots, co-location of affordable housing with public facilities, and new land acquired by the City for the purpose of developing housing.	Recommended by several strategies in HAP Section 4.4.	No PC comments. ***Need facts and data to justify this investment.***
Policy H-3.10	33	Develop and implement a detailed affordable housing program that identifies specific actions to increase the supply of housing that is affordable to low to middle-income individuals and families.	~~Develop and implement a~~Maintain and update the Anacortes Housing Action Plan, with a focus on ~~detailed affordable housing program that identifies specific actions to increase~~ increasing the supply of housing that is affordable to low to middle-income individuals and families and addressing racial disparities and past patterns of segregation and exclusion.	The spirit of this policy was achieved with the Housing Action Plan. However, this policy can be worked to encourage updating the HAP over time. The RDI also recommends the HAP have more information and strategies to address past patterns of segregation and exclusion.	~~Develop and implement a~~Maintain and update the Anacortes Housing Action Plan, with a focus on ~~detailed affordable housing program that identifies specific actions to increase~~ increasing the supply of housing that is affordable to low to middle-income individuals and families. ~~and addressing racial disparities and past patterns of segregation and exclusion.~~ End the sentence without the last phrase regarding addressing racial disparities…. Especially in light of the RDI report findings.
Goal H-4	**33**	**Special Needs. Provide housing options for special needs populations, including independent living for seniors, assisted living, memory care, drug & alcohol rehab and mental health facilities.**			No PC **comments**. ***Needs to be affordable. Now all three senior homes in Anacortes (including memory care facility) are owned by the same company, prices are no longer affordable and residents complain that half of the food are not edible. Maintaining affordability for the special needs senior group is very important for our city since a large % of our population are retired.***
Policy H-4.1	33	Provide accommodation throughout the city for housing for people with special needs and avoid concentrations of such housing.			No PC comments. ***Define "concentration".***
Policy H-4.2	33	Encourage the development of senior-friendly housing opportunities, particularly in areas near services and amenities.			No PC comments. ***Can also use buses and bus stops to address this.***
Policy H-4.3	33	Promote a range of housing types for seniors; e.g., adult family homes, skilled nursing facilities, assisted living, and independent living communities.			No PC comments. ***See comment for Goal H-4.***
Policy H-4.4	33	Support ways for older adults and people with disabilities to remain in the community as their housing needs change by encouraging universal design or retrofitting homes for lifetime use.			No PC comments. ***Yes! A real good policy that will help many residents in this situation!***

Policy H-4.5	33	Promote the provision of support services, including transportation options, to allow seniors and those with special needs to remain in their own homes or non-institutional settings.			No PC comments. ***YES!***
Policy H-4.6	33	Support public and private housing and services for people who are homeless.	Support public and private housing and services for people who are homeless and transitioning out of homelessness. Allow the development of emergency shelters, transitional housing, emergency housing, and permanent supportive housing throughout Anacortes and consistent with state law.	Added policy that shows consistency with requirements in HB 1220.	Support public and private housing and services for people who are homeless and transitioning out of homelessness. Allow the development of emergency shelters, transitional housing, emergency housing, and permanent supportive housing ~~throughout Anacortes and~~ consistent with state law.
Goal H-5.	**33**	**Regional Collaboration. Actively participate and coordinate with other agencies in efforts to meet regional housing needs**			No PC comments.
Policy H-5.1	33	Encourage local and regional affiliations and alliances to provide affordable housing.			No PC comments.
Policy H-5.2	33	Explore local and regional funding options to support development of housing for low- and moderate-income households.			No PC comments.
Policy H-5.3	33	Work with other jurisdictions and health and social service organizations to develop a coordinated, regional approach to homelessness.			No PC comments.
Goal H-6	**33**	**Monitoring. Implement Housing Element goals in a manner that is efficient and transparent.**			No PC comments. ***Communicate the results to the public!***
Policy H-6.1	33	Evaluate and report on how the goals and policies of this Housing Element are being achieved.	Evaluate and report on how the goals and policies of this Housing Element and the Housing Action Plan are being achieved.	More specificity recommended.	Evaluate and report on how the goals and policies of this Housing Element ~~and the Housing Action Plan~~ are being achieved.
Policy H-6.2	33	Monitor housing supply, type and affordability, including progress toward meeting a proportionate share of the countywide need for affordable housing for very low-, low-, and moderate-income households.			No PC comments. ***Communicate the data and findings to the public!***
Policy H-6.3	33	Monitor local data and routinely reassess and adjust policies, strategies and regulations to improve effectiveness of programs to meet local housing needs.			No PC comments. ***Communicate the data and findings to the public!***
	New subheading: Climate focused goals and policies				
TBD	TBD	TBD	TBD	TBD	

State of Washington
Department of Fish and Wildlife, Region 4
Region 4 information: 16018 Mill Creek Blvd, Mill Creek, WA 98012 | phone: (425)-775-1311

November 13, 2024

City of Anacortes
Libby Grage, Planning Manager
904 6th Street
Anacortes, WA 98221

RE: Case ID: 2022-C-308, WDFW comments for Anacortes' draft Land Use, Housing, and Transportation Comprehensive Plan elements

Dear Ms. Grage,

On behalf of the Washington Department of Fish and Wildlife (WDFW), thank you for the opportunity to comment on the Anacortes draft Comprehensive Plan elements as part of the current periodic update. Within the State of Washington's land use decision-making framework, WDFW is considered a technical advisor for the habitat needs of fish and wildlife and routinely provides input into the implications of land use decisions. We provide these comments and recommendations in keeping with our legislative mandate to preserve, protect, and perpetuate fish and wildlife and their habitats for the benefit of future generations – a mission we can only accomplish in partnership with local jurisdictions.

Table 1. Recommended changes to proposed policy language.

Policy Number	Policy Language (with WDFW suggestions in red)	WDFW Comment
Land Use		
Policy LU-1.2	Establish land use designations, densities and intensities as shown in Table LU-1.	We recommend incorporating critical areas, including WDFW's Priority Habitats and Species (PHS) mapping information, within this mapping effort in order to assess suitable areas for accommodating growth. For example, our mapping data shows many priority habitats, such as wetlands and fish bearing streams, encumbering the area zoned RLD-1 in Figure LU-1: 2016 Future Land Use Map. Displaying this information may better inform land use decisions.

Policy LU-4.6	Explore the feasibility of an incentive zoning/development credit program. For example, under such program, developers could have an option to purchase additional density credits or other zoning code flexibility. Funds from this purchase could go towards purchasing land or the development rights from historic properties, environmentally sensitive areas, rural resource lands, or toward some other public benefit.	We greatly appreciate this policy. See resources below: • Whatcom County open space tax incentive program • King County's Public Benefit Rating System Program (tax incentive program) • Snohomish County TDR Program • Issaquah TDR Program (map) • Redmond TDR Program • Redmond Open Space Preservation • Seattle Green Spaces and TDR
Goal LU-4	Suggested Policy: Identify, preserve, and connect the community's natural features by promoting the permanent dedication of open spaces and the conservation of significant trees and native vegetation. Protect these natural assets in perpetuity to enhance ecological connectivity, support biodiversity, and contribute to community resilience against climate change.	Preserving and connecting natural features, such as open spaces, significant trees, and native vegetation, plays a vital role in supporting biodiversity, providing essential ecosystem services, and strengthening resilience against climate impacts. These areas not only serve as habitats for local wildlife but also act as natural buffers, improving air and water quality, reducing urban heat, and managing stormwater naturally. By safeguarding these natural assets in perpetuity, the community can build a sustainable foundation for environmental health and resilience. See resources in above comment.
Goal LU-4	Suggested Policy: Adopt and maintain policies, codes, design guidelines, and land use patterns that promote climate resiliency through sustainable building practices.	We encourage the city to participate in the effort to address environmentally sustainable development by utilizing incentives to help address climate resiliency goals. See Shoreline's deep green incentive program which outlines how green development can participate in expedited review as well as fee waivers and/or reductions. The Sustainable Development Code website is also a great resource in outlining how to remove code barriers, create incentives, and fill regulatory gaps in pursuit of this policy's goals. See also the city of Issaquah and Bellevue's clean building incentive programs that aim to assist applicants in reaching energy efficiency standards.
Policy LU-5.2	Maintain development regulations that encourage the integration of usable public open space in commercial and mixed-use areas. Require open space set-asides for	We strongly encourage Anacortes to prioritize the strategic placement and retention of natural open spaces to support both ecological integrity and recreational opportunities. Regulations should emphasize the importance of positioning these

	new development. Additionally, require site plans for new development to show how new open spaces connect with existing adjacent open spaces. Additionally, efforts must be made to maintain connectivity between blocks of critical habitat areas when unavoidable impacts occur.	spaces to promote connectivity for both recreational uses and habitat corridors. Site plans should clearly demonstrate this intent to the greatest extent feasible. This could also be incorporated into LU-5.4. Resources include The Washington Wildlife Habitat Connectivity Working Group, WSDOT's Reducing the risk of wildlife collisions website as well as Wildlife Habitat Connectivity Consideration in Fish Barrier Removal Projects, Montana Fish, Wildlife, and Parks' How to Build Fence with Wildlife in Mind, and WDFW's website.
Policy LU-6.3 and Policy LU-6.4	Provide usable and connected open space...	Including "and connected" to these policies emphasizes the importance of creating linkages between open spaces to support both recreational use and wildlife movement. Connected natural areas provide continuous corridors that allow wildlife to move safely between habitats, supporting biodiversity and reducing human-wildlife conflicts. For residents, these connections offer integrated trail networks and greenways, enhancing outdoor recreational opportunities and creating seamless access to nature throughout the community. This interconnected approach maximizes the value of open spaces, ensuring they serve as both thriving habitats and accessible areas for community enjoyment. See resources in the comment above.
Policy LU-7.1	C. Craft and apply form-based design standards for downtown: Key concepts to emphasize in the design standards: - Incorporate green infrastructure, such as rain gardens and permeable pavements, into all downtown projects to naturally filter runoff and support local salmon recovery efforts.	Anacortes's unique location, entirely surrounded by Puget Sound, gives it a vital role within the Skagit Watershed (WRIA 3). This watershed is home to all five species of Pacific salmon, including the threatened Chinook and steelhead. The Skagit Chinook Recovery Plan emphasizes the importance of estuarine and nearshore habitats for salmon survival. Implementing green infrastructure, such as Low Impact Development (LID) and rain gardens in downtown Anacortes can significantly reduce stormwater runoff and pollutants entering these critical habitats. This approach aligns with regional salmon recovery goals by enhancing water quality and supporting the health of salmon populations. Resources include Olympia Rain Garden Incentive Program, Puget Sound Green Stormwater Infrastructure Incentives Programs, Green Stormwater Infrastructure Assistance Programs Guidebook, the Rain Garden Handbook for

		Western Washington and GreenPlan-IT's green infrastructure planning, optimizing, and tracking resources.
Policy LU-8.4	Addition to Policy: Promote the use of soft shore armoring techniques, such as native vegetation planting and large woody debris, over hard armoring methods. These techniques enhance natural shoreline processes and preserve the waterfront's scenic and ecological character.	Soft shoreline armoring supports Anacortes's commitment to preserving its marine character by using natural techniques that protect fish habitats, improve water quality, and reduce erosion. This approach aligns with WRIA 3 salmon recovery goals by enhancing essential shoreline habitats needed for salmon survival, creating a resilient waterfront that benefits both the community and local ecosystems. See the DOE Soft Shoreline Stabilization guidence document.
Policy LU-8.5	Plans and regulations should take into account Best Available Science that addresses sea-level rise, tsunamis and other natural hazards.	As FEMA's Flood Insurance Rate Map (FIRM) modeling does not consider climate change projections, we suggest Anacortes supplement FIRM maps with BAS. For example, King County regulations place 'Flood Protection Elevations' three feet above base flood elevation for development within flood-prone areas. For assessing future conditions, see Climate Mapping for a Resilient Washington, as well as FEMA's Resilience Analysis and Planning Tool (RAPT).
Policy LU-9.2	In shoreline areas with deep water access encourage and support water dependent and water related uses while avoiding any loss of ecological values and functions. Such activities include ~~such as~~ manufacturing, shipping, moorage, navigation, cargo handling and storage, fish processing, and ship/boat construction and repair.	WAC 365-190-080 states, "(1) Counties and cities must protect critical areas. Counties and cities required or opting to plan under the act must consider the definitions and guidelines in this chapter when designating critical areas and when preparing development regulations that protect all functions and values of critical areas to ensure no net loss of ecological functions and values." As the Anacortes shoreline is considered critical habitat for salmon, we encourage clear guidance for ensuring no net loss standards are met.
Policy LU-10.1	Adopt development regulations and design provisions that facilitate a complementary mix of uses within neighborhoods and provide for safe and attractive non-motorized connectivity between uses and amenities.~~, to~~ This will encourage more walking	Please see comments in relation to LU-5.2 and LU-6.3 above.

	and bicycling between uses and wildlife habitat connectivity.	
New subheading Climate focused goals and policies	Suggested Goal: **Enhance and Maintain Urban Tree Canopy for Climate Resilience and Community Health** Suggested Policy: The city will conduct an urban tree canopy assessment to develop a plan with measurable goals and benchmarks for increasing vegetation retention within all areas of Anacortes. This plan aims to reduce heat island effects, improve stormwater filtration, enhance air quality, and support biodiversity, with regular updates to track progress and adapt as needed, ensuring that tree canopy targets are met and are aligned with climate resilience goals.	The city of Woodinville's new Comprehensive Plan has a great Climate element for reference. See also their Climate Action Plan. As a climate section has not yet been completed, we recommend the adjacent goal and policy in addition to the requirements of House Bill 1181. We understand that Anacortes has a robust forest monitoring program for the area known as the Anacortes Community Forest Lands, but we suggest extending this monitoring to all parts of Anacortes, especially in areas where vegetation-related ecosystem service, such as pollution filtration, are needed the most. **It may not be enough to rely on ordinances if there is not a system in place to track cumulative impacts over time.** Resources: • City of Tacoma is a great resource for exploring how tree canopy plans can become a community effort, how data can be presented, and how to track canopy loss/gain. • Data resources include the USDA website, WDFW's change detection tree canopy data, the Puget Sound Washington Urban Canopy Project, and the WA DNR website. • Example ordinances and plans can be found on the MRSC website. • Funding resources can be found on the DNR website (*Commissioner Franz Announces $8 Million in Urban Forestry Grants*). • Discover the value of the benefits provided by individual trees around your home and in your community with the National Tree Benefit Calculator. • see Lake Forest Park's i-Tree Ecosystem Analysis • See also the city of Everett's Tree Keeper website.

		• See also WDFW's Habitat at Home program, which encourages the protection of wildlife through purposeful vegetation planning.
Land Use Designation Map		
General comment	Public Use	To reinforce Anacortes's commitment to sustainable land management, we recommend protecting 'Public Use' lands into perpetuity if not already done so. Key areas that would benefit from inclusion within this protection are: • **A connecting corridor between the Anacortes Community Forest Lands and the Mt Erie habitat blocks**: Establishing a habitat link and protecting existing wildlife habitat through the RLD-1 area could help promote safe wildlife movement—with the goal of avoiding current and future human-wildlife conflicts and vehicle collisions. • **Shoreline areas, including the two 'P' blocks adjacent to the shoreline in the northwestern corner of Anacortes and the similar 'P' block in the northeastern corner**: These areas are integral to the city's coastal identity, providing shoreline integrity and valuable coastal habitat.
Housing		
Policy H-1.8	Provide for flexibility in subdivision development in order to promote environmental protection, encourage infill development, employ low impact development techniques, and other similar goals.	We encourage the city to participate in the effort to address environmentally sustainable development by utilizing incentives to help address climate resiliency goals. See Shoreline's deep green incentive program which outlines how green development can participate in expedited review as well as fee waivers and/or reductions. The Sustainable Development Code website is also a great resource in outlining how to remove code barriers, create incentives, and fill regulatory gaps in pursuit of this policy's goals. See also the city of Issaquah and Bellevue's clean building incentive programs that aim to assist applicants in reaching energy efficiency standards.
Transportation		

Policy T-1.12	Plan and budget for a safety plan and project follow through for the SR 20 Spur/R Avenue intersection and other high accident locations in Anacortes. High accident locations should also account for areas of high wildlife-vehicle collision.	We highly encourage establishing a prioritization list for high wildlife-related collision areas to be modified/corrected. See resources associated with comments for Policy LU-6.3 above.
Policy T-1.18	Work to improve, and increase the number of, pedestrian and wildlife crossings along or underneath the SR 20 and SR 20 Spur corridors; such as the proposed crossing at Christiansen Road and SR 20 intersection as proposed as part of the Sharpe's Corner project.	Integrating wildlife habitat corridors with pedestrian trail linkages can create connected pathways that benefit both ecological health and community access, providing seamless movement for wildlife and recreational opportunities for residents. Planning for wildlife movement also helps address wildlife-vehicle collision concerns. For resources, see Policy LU-6.3 above. Similar language should be added to Policy T-1.19.
Policy T-1.21	Focus on investments that produce significant net benefits to people and businesses and aim to minimize the environmental impacts of transportation by requiring low impact development or similar green infrastructure techniques.	See comments associated with Policy LU-7.1 above.
Policy T-2.18	Prepare, and implement, a master plan for pedestrian and bicycle safety, beautification, and economic stimulus...	When applicable, these plans should incorporate wildlife conflict and collision data. See comments above within this section and Policy LU-6.3 above.
Category Parking	Suggested Policy: Develop parking design standards, such as low impact development techniques, that account for environmental impacts such as stormwater runoff and heat island mitigation.	Anacortes's impervious surfaces contribute significantly to stormwater runoff, which carries pollutants directly into Puget Sound, adversely affecting salmon habitats. By incorporating stormwater runoff and heat island mitigation into parking infrastructure, Anacortes can reduce these negative effects. Implementing strategies like permeable pavements and green infrastructure in parking areas will not only manage runoff but also support the city's commitment to salmon recovery and climate resiliency.
Policy T-4.3	When feasible, design and operate multimodal transportation facilities in a manner that emphasizes community character	See comments above within this section and Policy LU-6.3 above.

	and is compatible with and integrated into the natural and built environment including features, such as street trees, natural drainage, native plantings, culverts replaced with large underpasses, and local design themes.	
Goal T-4	Suggested Policy: Coordinate with WSDOT, Skagit County, and neighboring jurisdictions to plan and prioritize culvert upgrades to ensure consistent fish passage barrier removal, adequate projected stormwater passage, and continued climate-related adaptations to handle water passage into the future throughout the city, especially where terrestrial species connectivity can be restored simultaneously (i.e., with wider bridges).	Current fish passage barriers within Anacortes can be found through WDFW's interactive mapping tool. See also NOAA's grant opportunity that addresses this, Restoring Fish Passage through Barrier Removal Grants. The adjacent suggested policy's goals can be addressed in tandem with transportation projects, recreational trail linkage projects, redevelopment projects, and more, opening these projects up for diverse funding opportunities. For resources, see WDFW's Incorporating Climate Change into the Design of Water Crossing Structures: Final Project Report and WDOT's Wildlife Habitat Connectivity Considerations in Fish Barrier Removal Projects.

Additionally, we suggest utilizing the Sound Choices Checklist in further review of all Comprehensive Plan elements. This checklist utilized broad priorities that are applicable to all jurisdictions.

Thank you for taking the time to consider our recommendations to better reflect the best available science for fish and wildlife habitats and ecosystems. We value the relationship we have with your jurisdiction and the opportunity to work collaboratively with you throughout this periodic update cycle. If you have any questions or need our technical assistance or resources at any time during this process, please don't hesitate to contact me or the Regional Land Use Lead, Morgan Krueger (morgan.krueger@dfw.wa.gov).

Sincerely,

Timothy Stapleton
Washington Department of Fish and Wildlife
Region 4, Habitat Program Manager

CC:
Morgan Krueger, Regional Land Use Lead (Morgan.Krueger@dfw.wa.gov)
Kara Whittaker, Land Use Conservation and Policy Section Manager (Kara.Whittaker@dfw.wa.gov)
Marian Berejikian, Land Use Conservation and Policy Planner (Marian.Berejikian@dfw.wa.gov)
Marcus Reaves, Assistant Regional Habitat Program Manager (Marcus.Reaves@dfw.wa.gov)
Jess Pyle, Habitat Biologist (Jessica.Pyle@dfw.wa.gov)
Region 4 Northern District planning inbox (R4NPlanning@dfw.wa.gov)
Lexine Long, WA Department of Commerce (Lexine.Long@commerce.wa.gov)

November 12, 2024

To: Planning, Community, and Economic Development Department
City of Anacortes, Anacortes, WA 98221

Attached are my comments on the Land Use Element of the draft Comprehensive Plan. It is clear that significant work has been done by both the Planning Department and Planning Commission to meet expectations of the Growth Management Act. The goal of increased housing density has certainly been addressed. I especially appreciate the format which makes changes/rationale/comments by the consultants (MAKERS)), the department and commission easy to follow. Thank you!

LU-1.5 I do not see where this was incorporated into Goal LU-8 (where I agree it may be more appropriate). Perhaps the move is pending the updated Shoreline Master Program. In any case, there are 2 issues that would best be treated separately: 1. zoning inconsistencies and 2. Re-use of historic overwater structures minimizing impacts on upland residential areas.

LU-1.6 (assuming this is the new designation). While I agree that an annual review of zoning regulations might be appropriate, is it really feasible? Seems like a big 'ask'.

LU-3.3 I am unaware of a "local Historic Preservation Board", but if one exists do they support removal of this policy? Before the policy is deleted, can it be rewritten to at least reference the "Wash. State Dept. of Archeology….."

LU-3.8 (assuming this is the new designation). Strongly support "prohibit demolition by neglect."

LU-4.7 Recommend a change from "Establish a monitoring and adaptive management program to increase fairness, transparency, and ~~improved ecological outcomes for critical areas protection.~~" compliance with critical area protections." Since ecological outcomes are not defined, compliance with the protections set forth in critical area documents is more objective.

LU-5.1 Replace the word "Require" with "Where feasible, encourage…." What might "fee-in-lieu" mean?

LU-6.5 Is it to be presumed these will be "permitted" uses, vs. "conditional" uses? Some seem particularly appropriate for the latter.

LU-8.1 (A) Key words here: consistent with the goals and policies of the Shoreline Master Program.

LU-8.1 (B) When exploring options for pedestrian connections between the Marina/waterfront and commercial areas, consider not only 12th (Safeway), but also "The Market". The 'official'

crosswalk at 13th and the signal at 17th are certainly options but pedestrians are often seen jaywalking at multiple places between the two.

LU-8.4 (C) "character for the district." Use of the word 'character' is quite consistently discouraged elsewhere. For consistency, should different wording be used here?

(E) After the furor over the building west of Starbuck's, I thought incentives allowed for five, not six story buildings! This is disappointing to read, especially in regards to (A) of this section about providing visual access to the water.

LU-8.5 Such a simple, single sentence is likely to have a major impact on zoning.

LU-9.4 Since the existing goal under Industrial and Manufacturing Areas states "Limit non-industrial uses to those that are complementary to **industrial** activities" there seems little reason to include LEG 2024-18 (which pertains to the Marine Supply Building) in the "Reasoning for Proposed Policy Change. I do not believe the building is in the Industrial Zone. Additionally, while I understand the value of having daycare in proximity to workers, having a daycare **IN** the industrial zone seems counter to the purpose of that zone where noise, odors, smoke, and other hazards are likely to be present. Things are put in the industrial zone to protect people in surrounding zones against those hazards; putting children in the middle of it makes no sense! (nor for that matter does putting retail there).

LU-9.7 As the shift from fossil fuels is encouraged, one specifically considers the refineries at March's Point and adaptations/new directions for them. That said, the list of criteria for new or additional industrial development should be expanded to include things like protections for Fidalgo Bay, Tribal consultation, incorporation of climate change elements, protection of clean water and air, consideration of the impacts of increased vessel traffic on marine life and consideration of limits on vessel capacity.

LU-10.4 Recommend: Increase access to *public* recreational amenities and activities for all Anacortes residents, workers, and visitors. ~~including at public facilities which are located to serve the general public.~~ ("public facilities…to serve the general public" is redundant.)

Respectfully submitted,
Kathleen Lorence-Flanagan
2005 10th St.
Anacortes, WA

ANACORTES
2025 Comprehensive Plan Update

Planning Commission

Public Hearing

November 13, 2024

BACKGROUND – THE BASICS

- Anacortes has a Comprehensive Plan and development regulations (required under the GMA)
- Comprehensive Plan = primary policy document that guides growth and development consistent with community's vision
- Development Regulations = specific laws governing how and where development occurs (they implement the Comp Plan)
- Periodic review & update (every 10 years)
- Deadline for completion – December 31, 2025

BACKGROUND - WHAT'S BEING UPDATED…..

Comprehensive Plan Elements:

- Land Use
- Housing
- Transportation
- Economic Development
- Parks, Recreation & Open Space
- Utilities
- Capital Facilities
- Environment & Conservation
- *Climate Change

AMC Title 19

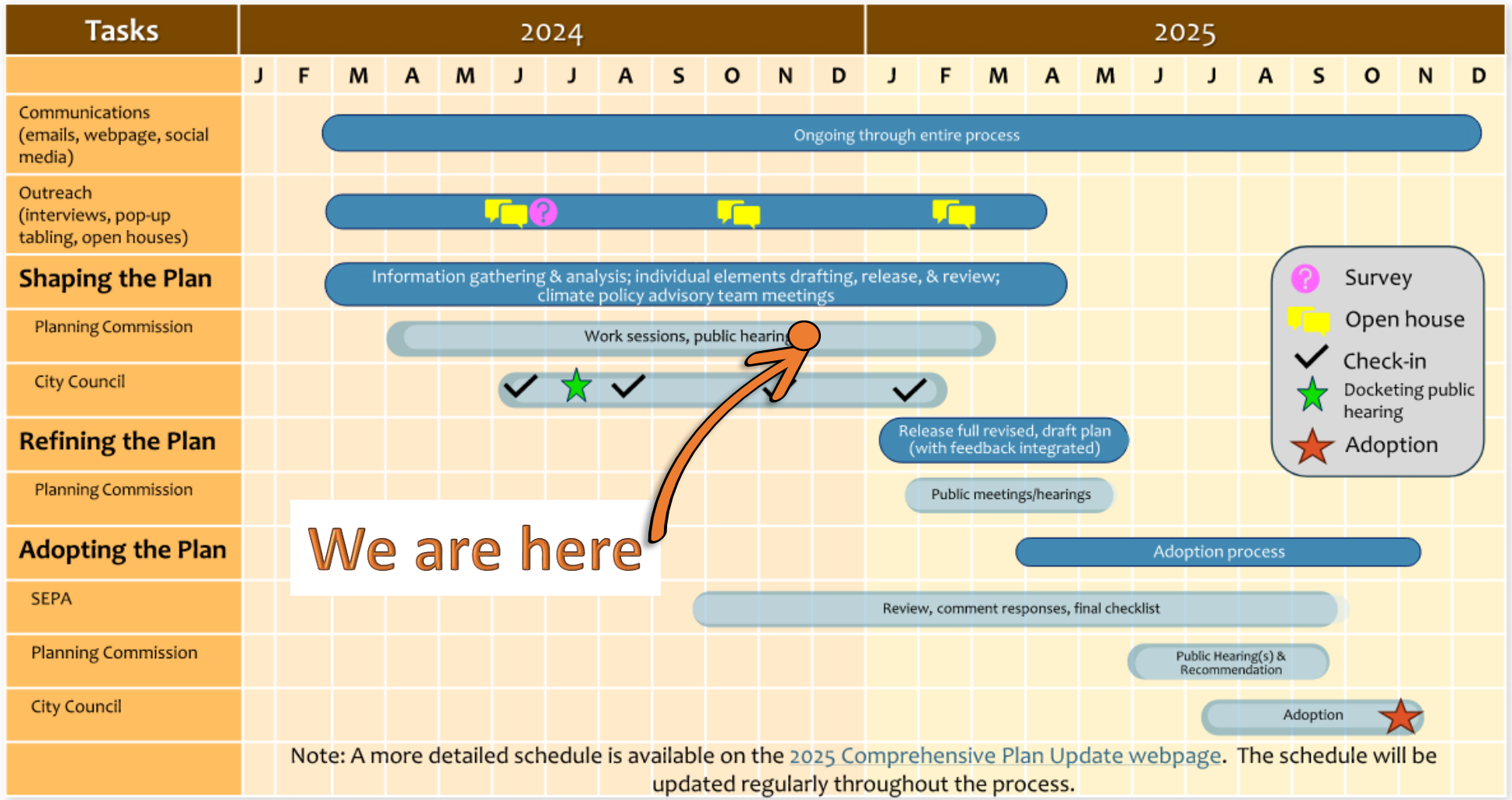
- Development Regulations
- Critical area regulations

WHERE WE'VE BEEN

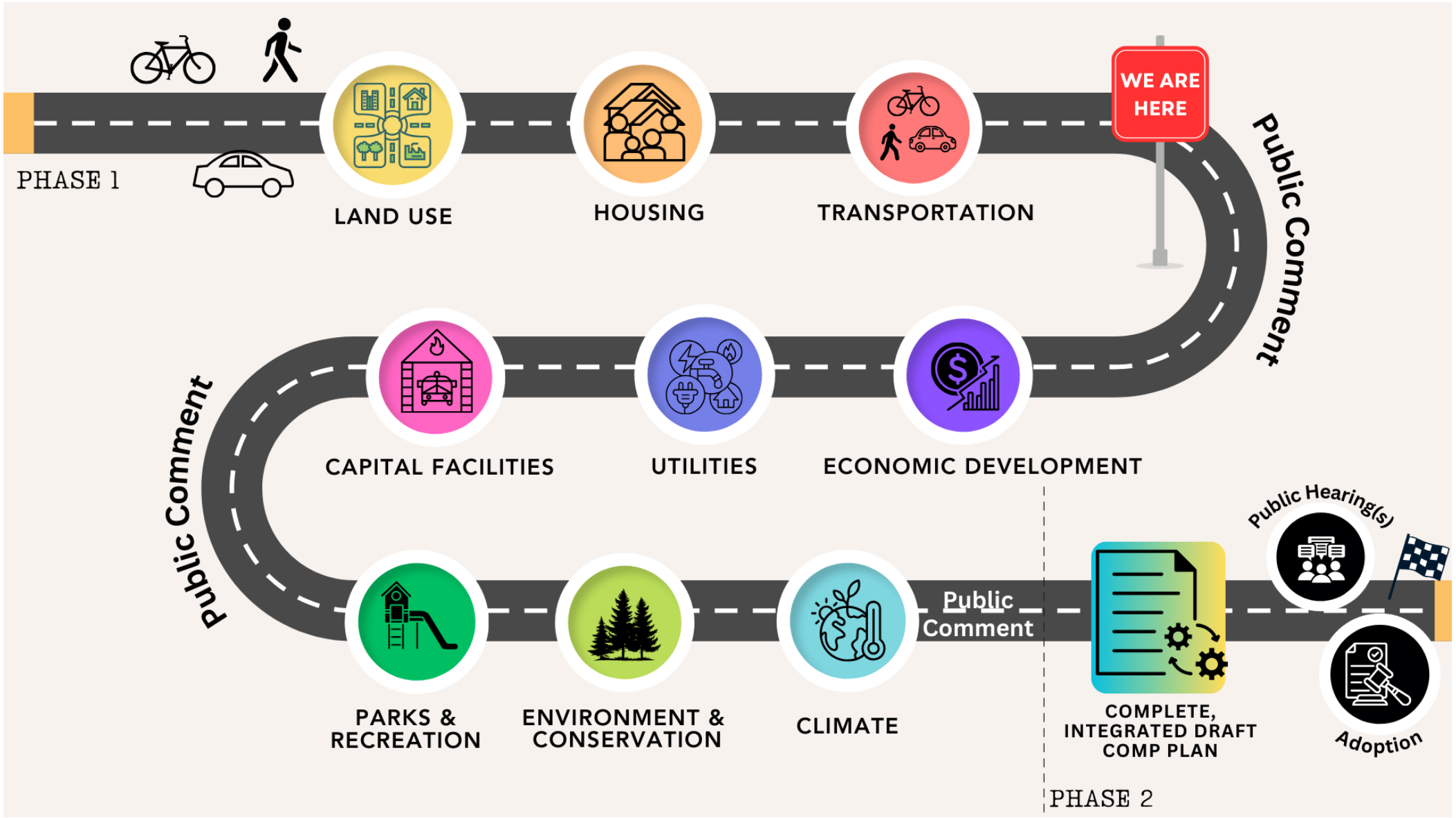
- Process began in late 2023
- Data collection, analysis, audits
- Public Participation Plan adopted
- 2025 Docket established
- Public outreach and communication - ongoing
- Climate Team established
- Draft revisions to goals and policies for Land Use, Housing, Transportation elements released

WHERE WE'VE BEEN – PROJECT STATUS

2025 Comprehensive Plan Update Preliminary Timeline



UPDATE APPROACH….2 PHASES:



WHAT'S HAPPENING TONIGHT?

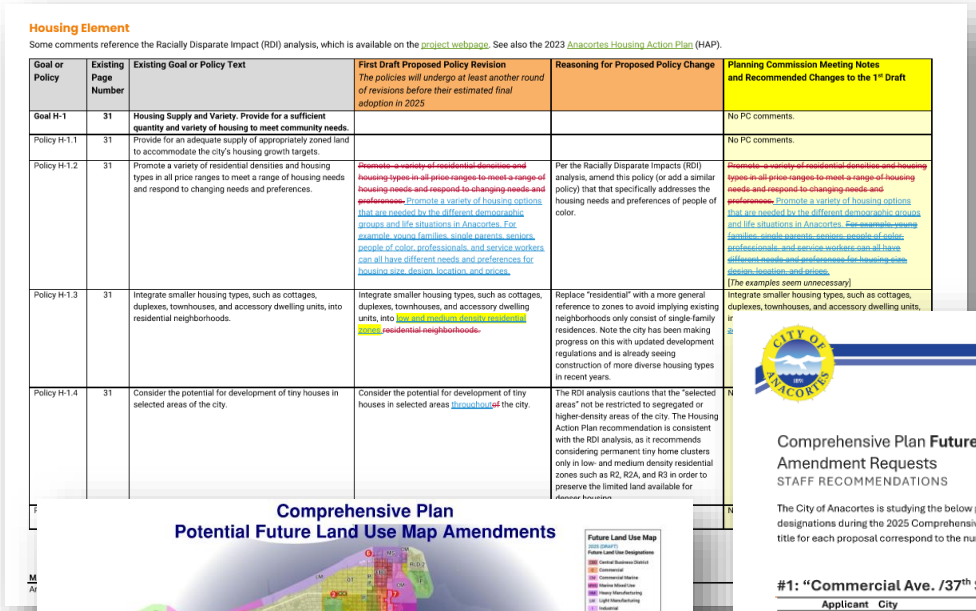
Public hearing topics

- Land Use Element
  - Future Land Use Map Amendment (FLUM) Requests, including UGA boundary changes
  - Land Use Designation text amendments
  - Goals and policies
- Housing Element
  - Goals and policies
- Transportation Element
  - Goals and policies

- PC recommendation to CC on UGA boundary changes

DOCUMENTS AVAILABLE FOR COMMENT

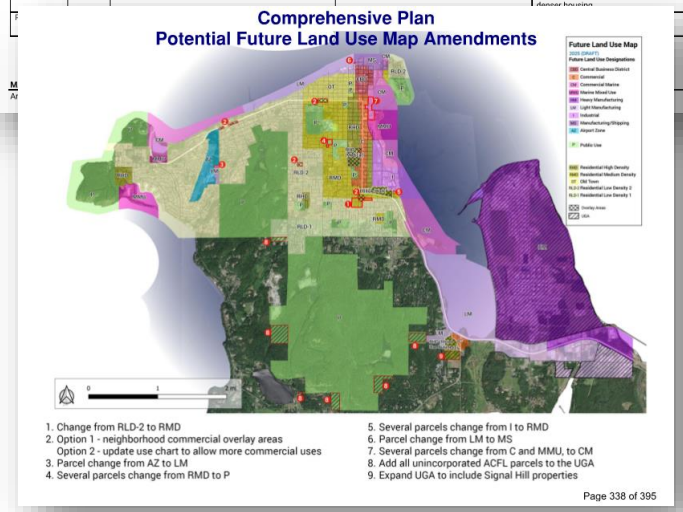
www.planacortes.org



Housing Element

Some comments reference the Racially Disparate Impact (RDI) analysis, which is available on the project webpage. See also the 2023 Anacortes Housing Action Plan (HAP).

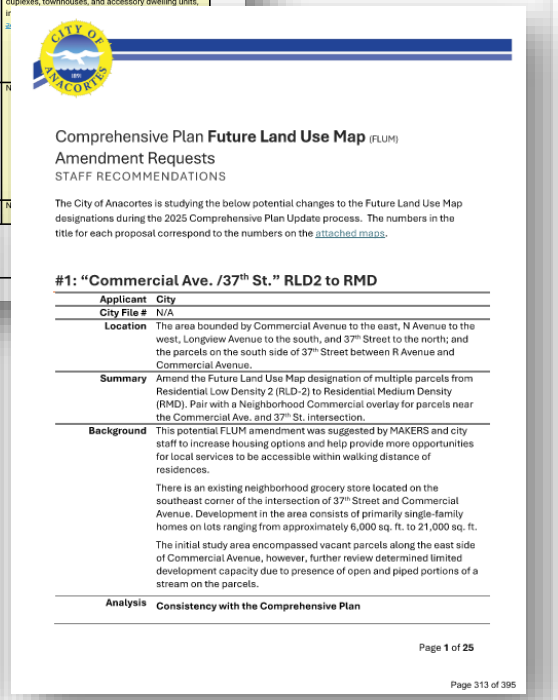
Goal or Policy	Existing Page Number	Existing Goal or Policy Text	First Draft Proposed Policy Revision *The policies will undergo at least another round of revisions before their estimated final adoption in 2025*	Reasoning for Proposed Policy Change	Planning Commission Meeting Notes and Recommended Changes to the 1st Draft
Goal H-1	**31**	**Housing Supply and Variety. Provide for a sufficient quantity and variety of housing to meet community needs.**			No PC comments.
Policy H-1.1	31	Provide for an adequate supply of appropriately zoned land to accommodate the city's housing growth targets.			No PC comments.
Policy H-1.2	31	Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.	Per the Racially Disparate Impacts (RDI) analysis, amend this policy (or add a similar policy) that that specifically addresses the housing needs and preferences of people of color.	~~Promote a variety of residential densities and housing types in all price ranges to meet a range of housing needs and respond to changing needs and preferences.~~ Promote a variety of housing options that are needed by the different demographic groups and life situations in Anacortes. ~~For example, young families, single parents, seniors, people of color, professionals, and service workers can all have different needs and preferences for housing size, design, location, and prices.~~ [*The examples seem unnecessary*]
Policy H-1.3	31	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into residential neighborhoods.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into low and medium density residential zones residential neighborhoods.	Replace "residential" with a more general reference to zones to avoid implying existing neighborhoods only consist of single-family residences. Note the city has been making progress on this with updated development regulations and is already seeing construction of more diverse housing types in recent years.	Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, ir
Policy H-1.4	31	Consider the potential for development of tiny houses in selected areas of the city.	Consider the potential for development of tiny houses in selected areas throughout the city.	The RDI analysis cautions that the "selected areas" not be restricted to segregated or higher-density areas of the city. The Housing Action Plan recommendation is consistent with the RDI analysis, as it recommends considering permanent tiny home clusters only in low- and medium density residential zones such as R2, R2A, and R3 in order to preserve the limited land available for	



Comprehensive Plan
Potential Future Land Use Map Amendments

1. Change from RLD-2 to RMD
2. Option 1 - neighborhood commercial overlay areas
   Option 2 - update use chart to allow more commercial uses
3. Parcel change from AZ to LM
4. Several parcels change from RMD to P
5. Several parcels change from I to RMD
6. Parcel change from LM to MS
7. Several parcels change from C and MMU, to CM
8. Add all unincorporated ACFL parcels to the UGA
9. Expand UGA to include Signal Hill properties

Page 338 of 395



Comprehensive Plan **Future Land Use Map** (FLUM)
Amendment Requests
STAFF RECOMMENDATIONS

The City of Anacortes is studying the below potential changes to the Future Land Use Map designations during the 2025 Comprehensive Plan Update process. The numbers in the title for each proposal correspond to the numbers on the attached maps.

#1: "Commercial Ave. /37th St." RLD2 to RMD

Applicant	**City**
City File #	N/A
Location	The area bounded by Commercial Avenue to the east, N Avenue to the west, Longview Avenue to the south, and 37th Street to the north; and the parcels on the south side of 37th Street between R Avenue and Commercial Avenue.
Summary	Amend the Future Land Use Map designation of multiple parcels from Residential Low Density 2 (RLD-2) to Residential Medium Density (RMD). Pair with a Neighborhood Commercial overlay for parcels near the Commercial Ave. and 37th St. intersection.
Background	This potential FLUM amendment was suggested by MAKERS and city staff to increase housing options and help provide more opportunities for local services to be accessible within walking distance of residences. There is an existing neighborhood grocery store located on the southeast corner of the intersection of 37th Street and Commercial Avenue. Development in the area consists of primarily single-family homes on lots ranging from approximately 6,000 sq. ft. to 21,000 sq. ft. The initial study area encompassed vacant parcels along the east side of Commercial Avenue, however, further review determined limited development capacity due to presence of open and piped portions of a stream on the parcels.
Analysis	**Consistency with the Comprehensive Plan**

Page **1** of **25**

Page 313 of 395

Draft Documents for Review & Comment

The **2025 Comprehensive Plan Update** includes updates to all of the 2016 Comprehensive Plan elements, and a new Climate element. The city plans a 2-phase public review process that is intended to provide opportunities for community members to help guide the direction of plan updates at the earliest possible stages in the update process.

- Phase 1: The 1st phase (current phase) includes public review and comment opportunities on preliminary draft amendment proposals for each Comprehensive Plan element. Draft amendment proposals will be released for each element over the fall and winter, with comment periods and public hearings held for each.
- Phase 2: The 2nd phase of the public review process is scheduled for spring or summer of 2025 and will include feedback gathered during the 1st Phase to inform the development of a full, cohesive draft updated Comprehensive Plan that includes required updates to all elements, integration of the new Climate element goals and policies, and associated supporting background and environmental information. The complete draft updated Comprehensive Plan will undergo environmental review and be published for additional public review and comment, including Planning Commission public hearing or hearings, deliberations, and recommendation to City Council. City Council will then conducts its review and adoption process.

Comp. Plan Element	Draft Amendments to... (Version)	Written Comment Period* *Send written comments to CompPlan@anacorteswa.gov	Planning Commission Public Hearing
Land Use	**Goals & Policies** ◦ Initial Discussion Version ◦ Planning Commission Recommended Changes Version **Land Use Designations** ◦ Initial Discussion Version ◦ Planning Commission Recommended Changes Version **Future Land Use Map (FLUM) & UGA requests** ◦ Detailed FLUM amendment maps ◦ Petition documents submitted by applicants ◦ Staff recommendations	October 9 - November 13, 2024 (by 3:00 PM)	November 13, 2024 at 6:00 PM
Housing	**Goals & Policies** ◦ Initial Discussion Version ◦ Planning Commission Recommended Changes Version	October 9 - November 13, 2024 (by 3:00 PM)	November 13, 2024 at 6:00 PM

PUBLIC HEARING

NEXT STEPS

- PC recommendation to CC - UGA boundary adjustment requests
- CC decision on whether to continue pursuing UGA requests
- Comments compiled and used to inform next draft (Phase 2)
- DRAFT updates to Economic Development, Capital Facilities, Utilities Elements in early 2025